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Message from the Editor

This publication contains the proceedings of the MTMI-TRU 2010 International Conference being held at Thompson Rivers University, Kamloops, British Columbia, Canada, on June 12-13, 2010. The theme of this conference is "Emerging Paradigms and Practices in Business Management & Technology". The theme is very relevant to the teachers and practitioners of business management and technology in today's dynamic digital world, where change seems to be the only permanent thing. This conference provided a platform for over 100 participants from 15 different countries, for presenting their research work, exchange ideas, information and also helped in promoting understanding and cooperation.

We are honored to have Dr Wes Koczka, Associate Vice President International, Thompson Rivers University, as the key note speaker, truly reflecting the spirit of the conference. This conference supports the 'green cause' and also takes a great leap in application of emerging technologies by facilitating online presentations. It is heartening to note that 50% participants presented their research papers 'online'.

The papers in this publication have been put through a blind review process by three reviewers. We would like to thank all the 20 reviewers from different Universities and institutions from different countries across the globe, for helping us in the review process. We would like to express our heartfelt gratitude to the supporting institutions and individuals. We acknowledge the contribution of Dr Dinesh Sharma of University of Maryland Eastern shore, US, Mr Amogh Prabhu, MBA Student at Thompson rivers University, Dr Kamal Nayan Agarwal of Howard University, US.

We welcome everyone participating in the conference to Kamloops, British Columbia, Canada, and hope that you enjoy your stay in beautiful British Columbia.

Dr Siva Prasad Ravi
Editor
School Of Business and Economics
Thompson Rivers University, Kamloops, Canada

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ABNORMAL RETURNS AROUND MERGER ANNOUNCEMENTS – AN INTROSPECT INTO INFORMATIONAL EFFICIENCY OF INDIAN CAPITAL MARKETS

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ABSTRACT

Mergers and Acquisitions are important tools in the hands of management to enhance the shareholders' value and the managers all over the world have been using it so far India being no exception to this phenomenon as a large increase has been witnessed in merger and acquisition activity in India during post liberalization period. A large strand of literature on mergers and acquisitions studied market reaction on merger announcements, focusing on value creation through mergers and acquisitions. Studies relating to market reaction of mergers report positive returns to target firms and very less or zero returns to acquirer firms (Firth, 1979; Dodd, 1980; Franks et al (1997). Very few studies in India have focused on wealth impact of mergers. The present study contributes to the existing literature by examining abnormal returns to acquirer as well as target companies around merger announcements using event study methodology. The purpose is to find out the empirical evidence whether acquirer and target firms witness abnormal returns around the merger announcement or not using efficient market hypothesis (EMH). The results indicate positive but insignificant returns to acquirer companies and substantially positive and significant returns to target companies. An attempt has also been made to study effect of firm's size and book-to-market ratio on abnormal returns and the results showed significant difference in cumulative abnormal returns of acquirer companies on the basis of size.

INTRODUCTION

Mergers and Acquisitions are important tools in the hands of management to enhance the shareholders' value and the managers all over the world have been using it so far India being no exception to this phenomenon as a large increase has been witnessed in merger and acquisition activity in India during post liberalization period. The period after mid-nineties saw a tremendous growth in mergers and acquisitions all over world which led to many successful mergers resulting in increase in market value of the firm thus validating the value maximization behavior of management. Value maximization theory posits that managers take decisions which are in the best interest of shareholders. Many studies relating to mergers and acquisitions have found the acceptance of wealth maximization hypothesis (Asquith, 1983, Bradley, Desai and Kim, 1988). On the contrary there is equally strong and opposite theory of management's utility maximization postulated by some researchers that had found its way in finance literature due to some major failures in mergers and acquisitions (Firth, 1979). With separation of ownership and control, there exists principal-agent relationship between management and shareholders and managers may act in their own interest instead of acting for the benefit of shareholders resulting in agency costs which may lead to loss of shareholders wealth. The research issue the has drawn the attention of many researchers so far is whether mergers really create value to the shareholders and there is abundance of empirical literature that focused on this issue by capturing the market reaction on merger announcements through widely used methodology i.e. event study methodology.

Impact of merger announcements has been well documented in event study literature through abnormal returns around the mergers announcements. Several studies report large abnormal returns accruing to target firms around merger announcement (Bradley et al, 1988; Franks et al, 1997). While some studies report

positive abnormal returns to target firms and zero or negative returns to acquirer firms, there have also been evidence of positive returns to acquirers firms as well (Dennis and McConnell, 1986).

Table 1
Market Reaction around Merger Announcements

Study	Objectives	Sample& Period	Methodology	Conclusions
Firth (1979) (UK)	To examine the profitability of takeovers	224 bids made in 1972, 73, and 74	Residual Analysis through market model	No gains associated with takeovers
Dennis and McConell (1986)	To study the impact of mergers on various classes of securities	132 mergers during 1962-1980	Market Model	Significant gains to acquired companies.
Bradley Desai, and Kim (1988) (US)	To estimate the synergistic gains from successful tender offers. To examine how these gains are divided into stock holders of target and acquiring firms	236 offers in 1963 to 1984 by firms tested on either NYSE or AMEX.	Event study methodology using market model.	Successful tenders offer increase combined value of target and acquiring firms.
Leeth and Borg(1989) (US)	To examine the impact of mergers on portfolio of target and acquiring firms' common stock	134 Mfg and mining mergers during 1919-1930	Market adjusted return method	No significant gains to acquiring and target firms
Franks et al (1977)	To measure profitability in mergers in Breweries & Distilleries industry	70 mergers in UK during 1952-1977	Market Model	Positive gains to acquirers and substantial gains to acquired
Hazelkorn and Zenner (2004)	Value creation through mergers	1547 merger transactions during 1990-2002	Market Model	Losses to acquirer companies

Table 1 summarizes few studies relating to market reaction around merger announcements. Firth (1979) studied 224 bids by quoted companies in 1972, 73 and 74 with the purpose of examining the profitability of takeovers in UK using residual analysis. The results show that there are "no gains associated with takeovers" however there are small losses. Dennis and McConnell (1986) studied the impact of corporate mergers on various classes of securities by taking sample of 132 mergers during the time period 1962-1980 and reported that common stockholders of acquiring firms earned positive but not statistically significant returns. Bradley et al (1988) examined 236 tender offer during 1963 to 1984 to estimate the synergistic gains from tender offers. Market model was used to estimate abnormal returns to target and acquiring firms. The results reported that successful tender offers increase combined value of target and acquiring firms by 7.4%. Franks et al (1977) conducted an industry study for profitability of UK mergers in Breweries & Distilleries sector during 1955-72. The results indicated positive abnormal returns to shareholders of acquiring firms and substantial gains (26%) to the shareholders of acquired firms. Leeth and Borg (2000) studied the impact of merger announcements on portfolios of acquiring firm and target firm common stock during the period 1919 to 1930 and the findings showed that target firms gained on average 15% abnormal returns in 1920s. Hazelkorn and Zenner (2004) studied 1547 merger transactions announced between Jan 1, 1990 and Jan 1, 2002 by U.S. acquirers. The purpose of the study was to analyse whether acquiring firms create value for their shareholders as result of M&A transaction. To measure the impact of M&A

announcement, excess return of firms stock over the market returns has been calculated. both short run and long-run excess returns are examined, the results show that on an average acquired shareholders suffered losses around 0.5% -0.7% on market adjusted basis around the merger announcement. In India also few attempts have been made to assess the market reaction around merger announcements. Dash (2004) tested the value creation hypothesis of mergers by studying 10 mergers made during 1994-1996 using market model. The sample is divided into related and unrelated mergers. The results showed that there was positive impact of merger during first year after merger but it tends to disappear after 3 years. But the sample was to small to generalize the results. Gupta (2008) studied impact of mergers on share prices of target companies taking a total of 37 merger announcements during the period Jan 1, 2003 to Jan 31, 2007 form the sample. The results showed that there were significant positive abnormal returns on the date of announcement but the number of days with positive returns before the event was less than those after the event indicating that the gains during pre announcement seemed to vanish after the event. This paper is an attempt to examine the impact of merger announcements on shareholders' wealth using Indian database of companies that underwent mergers during the period 2000 – 2006. The purpose is to find out the empirical evidence whether acquirer and target firms witness abnormal returns around the merger announcement or not using efficient market hypothesis (EMH). EMH states that all markets are efficient and it is impossible for investors to earn abnormal returns. (Fama, 1970). According to capital market efficiency theory, markets are said to be efficient if the share prices reveal all the information in the market and no investor can outperform the market based on the past or present information..In other words if the market is there no abnormal returns or zero abnormal returns. The next section presents the hypotheses of the study followed by sample selection process which is presented in section III. In section IV methodology used for the study has been discussed. The results are presented in section V and concluded in section VI.

HYPOTHESES OF THE STUDY

H_{01} The average abnormal returns (AAR) to the acquirer firms around merger announcement are equal to zero

H_{02} The average abnormal returns (AAR) to the target firms around merger announcement are equal to zero

H_{03} The cumulative average abnormal returns (CAAR) to the acquirer firms around merger announcement are equal to zero

H_{04} The cumulative average abnormal returns (CAAR) to the target firms around merger announcement are equal to zero

SAMPLE SELECTION

The sample has been drawn from population of 350 merger announcements made by listed companies in India during the period April 1, 2000 – March 31, 2006[1]. The procedure of sample selection is as follows:

i) All the merger announcements available at prowess database during the period April 2000- March 2006 have been taken.

ii) Announcements for which share price data is available for target as well as acquirer firms for at least 1 year before the announcement are included in the sample.

iii) Multiple merger announcements made by same acquirer company have been treated separately.

Table 2 shows year wise distribution of sample merger announcements. Number of merger announcements shows an increasing trend through six year period of the study. Table 3 depicts the industry wise distribution of sample merger announcements which shows that mergers from most of the major industries are included in the sample.

1. A large number of market-driven mergers occurred in India during this period. Moreover, no such study relating to market reaction around merger announcement has been done in India during this period.

Table 2
Year Wise Distribution of Sample

Year	Number of merger announcements
2000-2001	3
2001-2002	5
2002-2003	6
2003-2004	6
2004-2005	7
2005-2006	9
Total	37

Table 3
Industry Wise Distribution of Sample

Industry	Number of merger Announcements	Percentage (%)
Machinery	3	8.1
Chemicals	10	27.02
Banking Services	4	10.8
Textiles	2	5.4
Metal & Metal Products	2	5.4
Petroleum Products	4	10.8
Diversified	4	10.8
Others	8	21.62
Total	37	100

TOOLS OF ANALYSIS

(A) Estimating Abnormal Returns

The expected returns for a given security have been measured through market model taking 200 days clean period (– 41 to –240 days) share price data[1]. Abnormal return for a particular security is measured as difference between actual return and expected.

$AR_{it} = R_{it} - E(R_{it})$,

where,

AR_{it} = abnormal return on security i for day t

Rit = actual return on security i for day t[43]

$E(R_{it})$ = expected return on security i for day t

To measure the expected returns, the following market model has been used:

$E(R_{it}) = \alpha_i + \beta_i R_{mt} + e_{it}$, for i = 1…….N.

where

α_i = intercept of the regression line

β_i = slope of the line representing sensitivity of return on security to market return

R_{mt} = return on market portfolio[4]

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[1] Clean period or estimation period is assumed to have no effect of the announcement. Normally estimation period should start around 1 or 2 months prior to the announcement.

[3] Actual return on security i for day t has been calculated as $\ell n\ (P_{it}/P_{it-1})$, where ℓn is natural logarithm, P_{it} is adjusted closing price of security i on day t and P_{it-1} is adjusted closing price on security i on day t-1.The return estimates measured through natural log are less volatile as compared to traditional percentage method $\{(P_{it} - P_{it-1})/ P_{it-1}\}*100$, as natural log covers the variation of 2% to 3% in security return originating through market fluctuations.

(B) Estimating Average Abnormal Returns

$$AAR_t = \frac{\sum_{i=1}^{n} AR_{it}}{n}$$

where,
AAR_t = average abnormal returns
n = total number of securities

(C) Estimating Cumulative Average Abnormal Returns

Cumulative average abnormal returns have been calculated as:

$$CAAR_t = \sum_{t=-40}^{+40} AAR_{it}$$

where t is window period

(D) Statistical Significance of Abnormal Returns

The abnormal returns on share prices of each company is first standardized by dividing the abnormal returns by standard deviation of estimated period abnormal returns.

$$SAR_{it} = \frac{AR_{it}}{S(AR_{it})}$$

where

AR_{it} = abnormal return for security i at time t
$S(AR_{it})$ = standard deviation of abnormal returns from estimation period.

$$S(AR_{it}) = \sqrt{\frac{\left(\sum_{t=-211}^{t=-11} (AR_{it} - AAR^*_{it})^2\right)}{199}}$$

where

$$AAR^*_{it} = \frac{\left(\sum_{t=-211}^{t=-11} AR_{it}\right)}{200}$$

To test the statistical significance of abnormal returns of the following z-statistic has been calculated

$$Z_t = \left(\sum_{i=1}^{N} SARit\right) * (N_t)^{-1/2}$$

Statistical Significance of Cumulative abnormal returns has been calculated as follows:

$$Z_T = \sum_{t=-40}^{t=+40} \frac{SAR_{it}}{\sqrt{T * N}}$$

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[4] BSE Sensex has been chosen as proxy for market portfolio. SENSEX is a basket of 30 constituent stocks representing a sample of large, liquid and representative companies. The base year of SENSEX is 1978-79 and the base value is 100. SENSEX is scientifically designed index calculated on a 'free-float market capitalization methodology' which is a widely followed index construction methodology on which majority of global equity benchmarks are based.

RESULTS OF THE STUDY

(A) Average Abnormal Returns to Acquirer and Target Companies

Table 4 presents average abnormal returns (AAR) to acquirer and target companies from day -40 to day +40.The results show that average abnormal returns to acquirer companies on day -1 and day 0 are .57% each which are statistically insignificant and the returns turned negative on the very next day of merger announcement. The shareholders of target companies gained substantially as AAR on day of announcement is reported to be 3% which is statistically significant at 1% level. The percentage of companies with positive abnormal returns on day 0 is 70.73%. Target companies earned positive and significant AAR after the announcement as well on day +1, day +2, day +3 and day +5.The results are consistent with prior studies done in US and UK which reported small or zero gains to acquirer companies and substantial gains to target companies. The percentage of AAR show upward trend and reaches upto 95% as the window is enlarged even though the percentage of companies showing positive abnormal return remains between 40% to 50%. This indicates that few companies report large positive abnormal returns around merger announcement.

Table 4
Average Abnormal Returns to Acquirer and Target Companies firms during Window Period

Acquirer Companies			Target Companies		
Day	**AAR**	**Positive AR (%)**	**Day**	**AAR**	**Positive AR (%)**
-40	0.0029	51.35	-40	-0.9501	39.02
-39	0.0008	59.46	-39	-0.9367	41.46
-38	-0.0028	37.84	-38	-0.8976**	53.66
-37	0.0046	59.46	-37	-0.8808	58.54
-36	-0.0024	51.35	-36	-0.8579	53.66
-35	-0.0026	45.95	-35	-0.8330	48.78
-34	-0.0039	43.24	-34	-0.8083	43.90
-33	-0.0001	48.65	-33	-0.7841	51.22
-32	-0.0058	43.24	-32	-0.7641	46.34
-31	-0.0074	45.95	-31	-0.7475	43.90
-30	-0.0047	35.14	-30	-0.7185	41.46
-29	-0.0025	45.95	-29	-0.6975	31.71
-28	-0.0059	40.54	-28	-0.6652	48.78
-27	-0.0029	45.95	-27	-0.6463	41.46
-26	-0.0042	37.84	-26	-0.6264**	31.71
-25	0.0018	48.65	-25	-0.5914	51.22
-24	0.0000	48.65	-24	-0.5627	53.66
-23	0.0063	48.65	-23	-0.5424	51.22
-22	-0.0002	40.54	-22	-0.5225	39.02
-21	0.0038	45.95	-21	-0.4989	46.34
-20	-0.0035	32.43	-20	-0.4722	53.66
-19	0.0056	67.57	-19	-0.4501	53.66
-18	0.0014	59.46	-18	-0.4318	48.78
-17	0.0036	54.05	-17	-0.3971	53.66
-16	0.0066	62.16	-16	-0.3784	48.78
-15	-0.0018	40.54	-15	-0.3552	58.54
-14	0.0027	54.05	-14	-0.3350	41.46

-13	0.0032	54.05	-13	-0.3076	48.78
-12	-0.0011	43.24	-12	-0.2875	51.22
-11	0.0002	45.95	-11	-0.2646	48.78
-10	0.0044	54.05	-10	-0.2375	41.46
-9	-0.0015	48.65	-9	-0.2108	58.54
-8	0.0026	51.35	-8	-0.1891	46.34
-7	-0.0002	37.84	-7	-0.1639	46.34
-6	-0.0076**	35.14	-6	-0.1431	46.34
-5	0.0012	43.24	-5	-0.1129**	58.54
-4	-0.0029	45.95	-4	-0.1011	34.15
-3	0.0019	56.76	-3	-0.0638	46.34
-2	0.0028	43.24	-2	-0.0397	36.59
-1	0.0057	54.05	-1	-0.0211	46.34
0	0.0057	56.76	0	0.0300***	70.73
1	-0.0013	37.84	1	0.0394**	60.98
2	-0.0088	27.03	2	0.0409**	39.02
3	-0.0032	45.95	3	0.0550***	43.90
4	0.0008	43.24	4	0.0798	39.02
5	-0.0004	45.95	5	0.1041**	39.02
6	-0.0023	37.84	6	0.1445	43.90
7	0.0036	51.35	7	0.1709	56.10
8	-0.0013	40.54	8	0.1879	43.90
9	-0.0053	43.24	9	0.2065	41.46
10	-0.0046	43.24	10	0.2377	39.02
11	-0.0113**	29.73	11	0.2492**	39.02
12	-0.0042	40.54	12	0.2717**	39.02
13	0.0033	40.54	13	0.3099	53.66
14	0.0019	45.95	14	0.3483**	63.41
15	-0.0005	51.35	15	0.3528	41.46
16	-0.0123**	35.14	16	0.3746	36.59
17	0.0080*	64.86	17	0.3975	48.78
18	-0.0063	37.84	18	0.4364	51.22
19	-0.0062	37.84	19	0.4554	51.22
20	0.0013	48.65	20	0.4770	46.34
21	-0.0100**	21.62	21	0.4967	43.90
22	-0.0006	43.24	22	0.5197	41.46
23	-0.0022	43.24	23	0.5402	43.90
24	-0.0026	35.14	24	0.5762	43.90
25	0.0011	43.24	25	0.5980	51.22
26	0.0023	48.65	26	0.6206	56.10
27	-0.0014	48.65	27	0.6431	56.10
28	0.0019	54.05	28	0.6691	46.34
29	0.0006	51.35	29	0.6896	43.90
30	-0.0017	51.35	30	0.7155	46.34
31	-0.0007	51.35	31	0.7390	43.90
32	-0.0006	56.76	32	0.7643	46.34
33	-0.0060*	27.03	33	0.7837	39.02

34	0.0059	51.35	34	0.8062	41.46
35	-0.0047	48.65	35	0.8318	41.46
36	-0.0014	37.84	36	0.8543	36.59
37	0.0043	59.46	37	0.8705	29.27
38	0.0017	45.95	38	0.9099	53.66
39	0.0035	54.05	39	0.9428**	53.66
40	-0.0076*	40.54	40	0.9503	41.46

(B) Cumulative Average Abnormal Returns

The cumulative average abnormal returns (CAAR) to acquirer and target firms are presented in Table 5. Cumulative average abnormal returns are obtained by cumulating average abnormal returns to during different window periods. The cumulative average abnormal returns to acquirer companies are positive returns in shorter windows but negative returns in larger windows. The results of market model show that CAAR of 1% has been reported in one day window and it was reduced to 0.4% in 2 day window further reduced to 0.2% in 3 day window. The CAAR became negative in larger windows. The cumulative average abnormal returns to target companies showed substantially positive and statistically significant CAAR. The market model finds 4.83%, 4.95% and 4.06% CAAR in 1 day, 2 day window and 3 day window. These returns are statistically significant at 5% and 1% level thus rejecting the null hypothesis of zero abnormal returns to target companies during the announcement.

Table 5
Cumulative Abnormal Returns to Acquirer Firms

	Acquirer Companies		Target Companies	
Window	**CAAR**	**t-stat**	**CAAR**	**t-stat**
1 day window	0.0101	1.1922	0.0483**	4.3108
2 day window	0.0040	0.3714	0.0495**	3.4163
3 day window	0.0027	0.2095	0.0406**	2.3716
5 day window	0.0014	0.0868	0.0104	0.4857
10 day window	-0.0108	-0.4850	0.0136	0.4599
15 day window	-0.0181	-0.6693	-0.0045	-0.1235
20day window	-0.0199	-0.6382	0.0070	0.1686
30 day window	-0.0408	-1.0739	0.0040	0.0793
40 day window	-0.0632	-1.4426	-0.0032	-0.0550

(C) Company Wise distribution of Cumulative Abnormal Returns (CAR)

Most of the studies relating to short run market reaction of mergers focused on average impact and no study attempted to look into the variations in abnormal returns among the sample companies except Hazelkorn and Zenner (2004) which reported a wide variation in stock returns of acquirer companies. An attempt has been made to study the company wise distribution of cumulative abnormal returns (CAR) which has been measured by cumulating the abnormal returns of each company. CAR for different windows have been calculated and the results are shown graphically in Figure 1 and Figure 2.

Figure 1 presents distribution of CAR of individual acquirer companies in different windows (1 day, 2 day 5 day and 10 day window). It is evident that large fraction of companies show CAR between -5% to 0% range, during 1 day as well as 5 day window. Six companies reported CAR between the range of 5% to 10% in 1 day window and an equal number of companies reported CAR between the same range in 10 day window. No company reported more than 20% CAR is one day window. In 2 day window and 5 day window 8 companies reported CAR less than – 5% but more than -10% while 9 companies reported CAR in this range in 10 day window. The number of companies that generated CAR more than 20% is 2 each in

case of 5 day window and 10 day window. No Company reported less than -20% CAR in 1 day and 2 day window. Very few companies reported CAR which exceeded 20% or were below – 20% is 5 day CAR and 10 day CAR.

Figure 2 presents CAR of target companies estimated through market model. The CAR of target companies reported extreme cases as 6 companies reported CAR less than – 20% in 5 day window and 9 companies in 10 day window. Very few companies reported CAR between 1% to 2%. 37% of total companies in the sample reported CAR above 10% in 1 day window and 10 companies reported CAR between 10% to 20% in two day window.The number of companies reporting CAR above 20% is 5 in 1 day window and 2 day window and it rose to 8 in 5 day window and 9 in 10 day window. The number of companies reporting CAR more than 10% is 15 in one day window and 13 each in two day, 5 day and 10 day window indicating higher abnormal returns to target companies around the merger announcement.

Figure 4.7

Company-Wise Distribution of CAR of Acquirer Companies

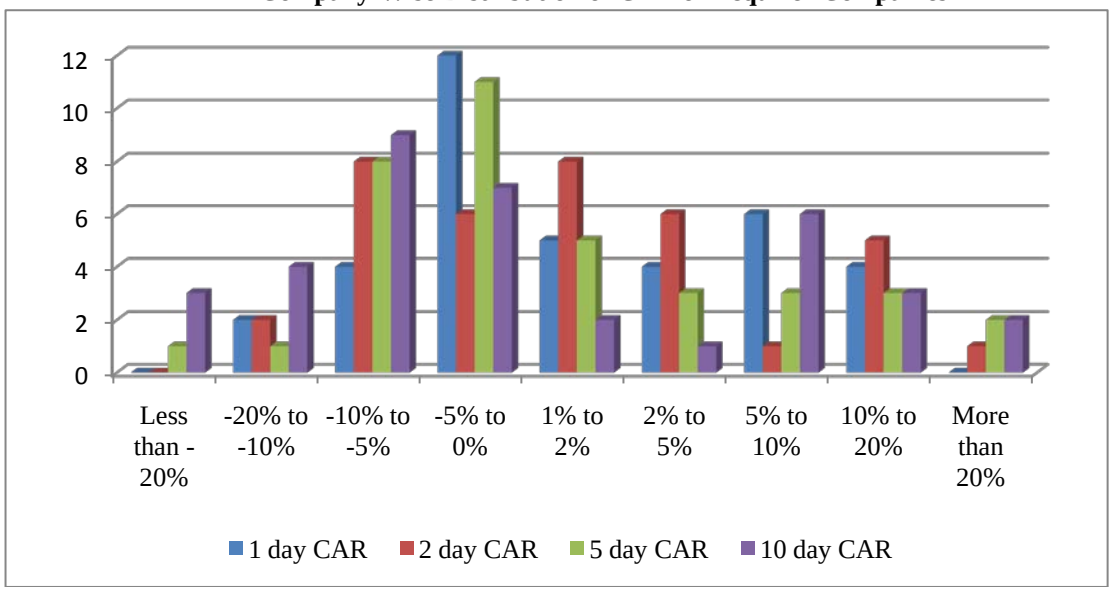
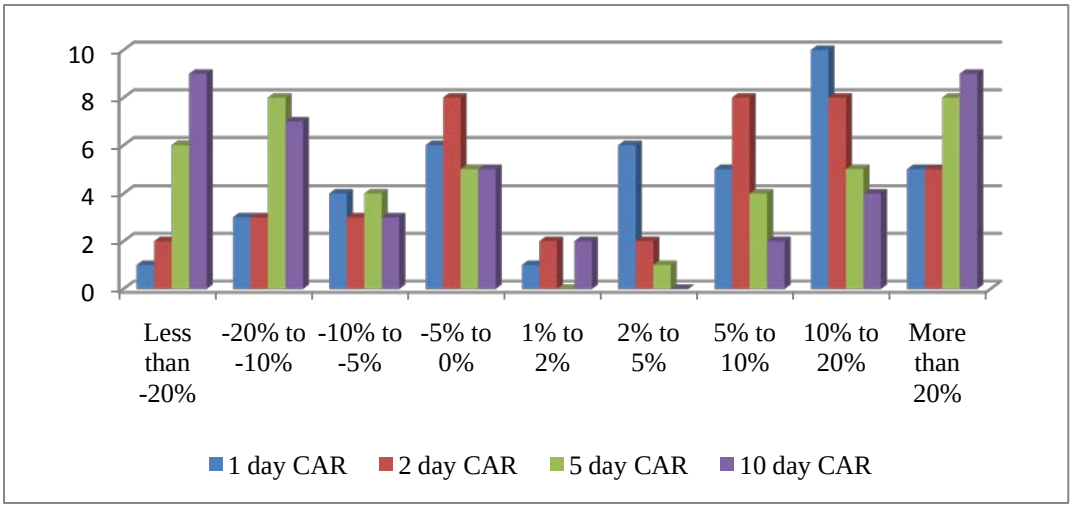


Figure 4.10

Company-Wise Distribution of CAR of Target Companies



(D) Size, Book-to-market ratio and Abnormal Returns

In order to examine whether there is any difference in abnormal returns of the firms of different size or book-to-market ratio, the sample firms are classified into four quartiles on the basis of market capitalization and book-to-market ratio. The companies have been arranged in descending order on the basis of market capitalization and book-to-market ratio of one year prior to the merger announcement and the difference between average cumulative abnormal returns of top quartile and bottom quartile have been measured. Paired t-test has been applied to test the statistical significance of the mean differences of CAR of different windows. The results are presented in Table 5 and 6. Table 5 depicts the difference of CAR of top and bottom quartile on the basis of size. It has been observed that there is a positive but not significant difference between CAR of acquirer companies in 1 day and 2 day window. However in 5 day window and 10 day window large positive mean difference has been reported which is statistically significant at 5% and !% level respectively. The mean differences of top and bottom quartile on the basis of book-to-market ratio are shown in Table 6. A small difference of .81% and .22% has been reported for 2 day and 5 day window for acquirer companies which are not statically significant. The difference of target companies is negative but insignificant.

Table 5
Firm's Size and Abnormal Returns

		Acquirer		Target	
		Mean Diff	**t-test**	**Mean Diff**	**t-test**
Pair 1	CAR 1day	.0403	1.126	.1378	.969
Pair 2	CAR 2day	.0527	1.180	.2160	1.119
Pair 3	CAR 5 day	.0921	2.070	.5065	1.414
Pair 4	CAR 10day	.1092	2.687	.6976	1.175

Table 6
Firm's Book-to-market ratio and Abnormal Returns

		Acquirer		Target	
		Mean Diff	**t-test**	**Mean Diff**	**t-test**
Pair 1	CAR 1day	-.0395	-.810	-.0382	-.573
Pair 2	CAR 2day	.0081	.149	-.0526	-.605
Pair 3	CAR 5 day	.0022	.035	-.1114	-.660
Pair 4	CAR 10day	-.0712	-1.080	-.1041	-.481

SUMMARY AND CONCLUSION

The results of event study reflect the market reaction of acquirer and target companies during merger announcement. The average abnormal returns to acquirer firms show small gains around merger announcement but substantially positive gains to target firms. The cumulative average abnormal returns to target companies are positive and statistically significant in1 day, 2 day and 3 day window. The results are consistent with Bradley et al (1998), Frank et al (1997). The company wise distribution of CAR of acquirer companies showed a wide variation with large number of acquiring companies reporting CAR within the range of -5% to 0%. However there are some acquirer companies that reported substantially positive CAR in all windows. On the other hand among the target companies, large number of companies showed CAR

within the range of 10% to 20% and 20% or more. The impact of size and book-to-market ratio has also been examined but it is found that there is no difference between abnormal returns on the basis of book-to-market ratio but positive and significant difference among acquirer companies in 5 day and 10 day window on the basis of size. It may be interpreted that market reacts positively to the news of merger announcement by large acquirer companies as it sends a positive signal about the growth strategies of acquirer firms through mergers.

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NEW REGULATORY FRAMEWORK FOR FINANCIAL REPORTING IN INDIA

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ABSTRACT

Purpose *– This paper aims to bring the need for significant changes in the regulatory framework for financial reporting in India after the convergence with International Financial Reporting Standards (IFRS) by 2011.*
Design/Methodology/Approach *– The paper begins with an introduction of existing system for financial reporting in India. Followed by a literature review including the concepts, need and benefits of IFRS, it gives some information about the timeline for IFRS conversion project. The paper also evaluates the existing Indian generally accepted accounting principles (GAAP) & U. S. GAAP and IFRS.*
Findings *– The convergence of Indian GAAP with IFRS would pose various challenges on the tax and regulatory front, which companies, investors and regulators will have to grapple with. It is expected to have a significant impact on all stakeholders, such as chartered accountants, regulators, financial analysts, economists, investors, industrialists and accounting professionals and so on. There are numerous standards that have conceptual differences, which require changes in regulations. The finding mainly defines the responsibility of internal auditors, Regulators, Chief financial officers of the company as a catalyst to implement IFRS.*
Originality/Value *– This paper contributes to different stakeholders in the process of regulatory restructuring and strengthening the overall health of the Indian economy. The paper suggests the certain regulatory amendments, which are needed in Financial Reporting in India after adopting IFRS.*

Key words*: Financial Reporting, Regulatory Framework, Indian GAAP, U. S. GAAP and IFRS.*

INTRODUCTION

A strong regulatory framework is the key to build the underlying trust of the investors in the information present in the financial reporting and thus contribute towards the better economic development of any economy. As India is going for convergence of its national accounting standards with International Financial Reporting Standards (IFRS) from 1st April 2011, there is an immediate need for the impending changes in the standards laid out by the regulators to ensure the quick and smooth transition process. Before going for the need for changes we have tried to present the concepts of IFRS and the current regulatory framework in India in this paper.

Existing Regulatory Framework in India

Accounting Standards in India are not only issued by a single entity but there are different regulators for different sectors of the economy. The Companies Act of 1956 lays down the financial reporting requirements for all companies. All companies are required to comply with the national accounting standards issued by the Institute of Chartered Accountants of India (ICAI) and any deviation from these standards must be disclosed and explained. The Central Government enforces the Companies Act through the Ministry of Company Affairs (MCA), the Company Law Board, the Regional Directors, and the Registrars of Companies (RoC). The MCA has the mandate to monitor general purpose financial reporting.

Listed companies in India are required to comply with the Securities and Exchange Board of India (SEBI) requirements as outlined in the SEBI Act and the Securities contracts (Regulation) Act. The Reserve Bank of India (RBI) is legally empowered by the Banking Regulation Act of 1949 to regulate reporting of banks and financial institutions. Insurance Regulatory and Development Authority (IRDA) empowered by the IRDA Act regulate the financial reporting practices for insurance companies. All the above mentioned regulatory entities covered under the Companies Act i.e. RBI, SEBI & IRDA are also required to make compliance with ICAI-issued accounting standards and the Authority is empowered to impose sanctions for noncompliance.

LITERATURE REVIEW

From the earlier literatures such as the concept paper of IFRS published by ICAI and other related papers we have an understanding of the concepts and there is a need for adopting IFRS and its current status in different countries. International Financial Reporting Standards are issued by IASB. It is a set of international accounting standards stating how particular type of transactions and other events should be reported in financial statements. Prior to IFRS, International Accounting Standards (IAS) was used. Currently 29 IAS and 8 IFRS are effective. The aim of the IASB is to issue principle based standards that can be applied across the globe. Over the years, the use of IFRS has increased throughout the world. More than 100 countries now require or allow the use of IFRS, and many other countries are replacing their national standards with IFRS, for example, Israel (2008), Brazil (2010), Canada (2011), Japan (2011) and Korea (2011). By 2011, the number of countries requiring or permitting IFRS is expected to reach 150.

NEED AND BENEFITS OF IFRS

The main motive behind implementing IFRS in India is to design and maintain a common standard format of financial reporting in compliance with the rest of the world. As most of the world would move to IFRS by 2011, India should not stay behind. IFRS will enable Indian entities to have access to international capital markets without having to go through the cumbersome conversion and filing process that is currently required by various stock exchanges across the world for financial information. This will reduce the cost of raising the funds and to reduce the accountant's fees by avoiding the preparation of dual financial statements. IFRS can be called as a global language for accounting, which will remove the information barriers there by reducing the risk premium charged by markets for raising the funds. Convergence to IFRS, by all group entities, will enable company managements to get all components of the group on one financial reporting platform. This will eliminate the need for multiple reports and significant adjustment for preparing consolidated financial statements or filing financial statements in different stock exchanges. IFRS provides more comparability among sectors, countries and companies. Due to its universal appeal it can both improve and initiate new relationships with investors, customers and suppliers across the globe since financial statements in accordance with IFRS cut across borders. Most of the papers that have evolved in India till now have only brought out the concept, benefits and changes in the accounting standards after adopting IFRS. There is a gap in the research for understanding the foremost important impact on the regulatory bodies in India without whose consent the whole procedure for implementing IFRS will fail. So we have tried to bring some impact and the need for changes in the regulatory framework by this paper.

IFRS-Indian scenario

The ICAI has announced convergence with IFRS issued by IASB from accounting periods commencing on or after April 1, 2011. All listed entities and public interest entities such as banks; insurance entities and large sized entities are required to adopt IFRS. Entities need to apply accounting policies in its IFRS financial statements that are in compliance with IFRS principles/norms, effective as of the balance sheet date of the first IFRS financial statements with March 31, 2010 as a comparative year. The date to follow IFRS is actually 2010 since comparatives of previous year also have to comply with IFRS.

India will follow the Transition in a phased manner due to the lack of skilled manpower and the challenging obstacles in the regulatory framework. On the first phase all Companies under BSE Sensex, NSE Nifty, companies whose shares or other securities are listed on stock exchanges outside India, companies whether listed or not and which have a net worth in excess of Rs. 1,000 Crores will adopt IFRS from April 1, 2011whereas Companies, whether listed or not which have a net worth exceeding Rs. 500 Crores but not exceeding Rs. 1,000 Crores will adopt IFRS from April 1, 2013 and finally listed companies which have a net worth of Rs. 500 Crores or less will converge towards IFRS from April 1, 2014.

Difference between IFRS, US GAAP, Indian GAAP

We have Identified and analyzed some basic differences in the above three principles used for the financial reporting.

IFRS	US GAAP	Indian GAAP
Comparative		
One year comparative is required for all the numerical information in the financial statements with limited exceptions in the disclosures.	Comparative financial statements are not required.	One year comparative is required for all the numerical information in the financial statements with limited exceptions in the disclosures
Preparation and Presentations		
Financial statements are presented in a consolidated basis.	Similar to IFRS	Financial statements are presented in single entity parent company (stand alone basis)
Components of Financial Statements		
Comprises of Balance sheet, Profit and Loss A/c. Cash flow statement, changes in equity and accounting policy and notes to Accounts	Comprises of Balance sheet, Profit and Loss A/c. Cash flow Statement (except for certain entities) changes in equity and accounting policy and notes to Accounts is required	Comprises of Balance sheet, Profit and Loss A/c. Cash flow Statement (if applicable), and Notes to Accounts
Balance Sheet		
No particular format, a current/ non current presentation of assets and liabilities is used.	The presentation of a classified Balance Sheet is required with the exception of certain industries	As per Format Prescribed in Schedule VI for Companies, adherence to Banking Regulation for Banks etc.
Income Statement		
No particular format prescribed	The income statement can be presented in a single step where Where all expenses are classified by function and then deducted from total income to get PBT or a multiple format separating operating and non operating activities before presenting Income before tax.	As per Format Prescribed in Schedule VI
Depreciation		
Over the useful life of the asset.	Similar to IFRS, However according to US GAAP, it does not require a component approach for Depreciation as IFRS	Over the useful life of the asset, or Schedule XIV rates Whichever is higher

Dividends		
Liability to be recognized in the period when dividend is Declared.	Similar to IFRS	Recognized as an appropriation against the profit, and recorded as liability at BS date even if declared subsequent to reporting period but before the approval of Financial statements
Reporting Currency		
Requires the measurement of profit using the functional currency. Entities may, however, present financial statements in a different currency.	Same as IFRS but mainly focuses on the currency in which majority of transactions are denominated and settled.	Schedule VI to the Companies Act, 1956 specifies Indian Rupees as the reporting currency.

Impact of IFRS on different regulations and entities

There are a number of challenges that India is likely to face while dealing with convergence with IFRS. The first and foremost challenge is that of maintaining consistency with the legal and the regulatory requirements prevalent in India. As per the study done by the ICAI only two of the existing Indian accounting standards are in compliance with IFRS. All other standards will require amendment in varying degree to achieve convergence with IFRS.

The subjects where changes in legal framework is required, are form and substance of financial statements, Current/ Non-current vs. Schedule VI presentation, Depreciation on revalued assets needs to be routed through income statement under IFRS Companies Act disallows such a treatment. Preference shares are classified as debt instruments and not equity, certain instruments may have debt and equity features, No gain or loss on buy-back of shares etc.

Companies Act: The requirements of Schedule VI of the Act, which currently prescribes the format for presentation of financial statements for Indian companies, is different from the presentation and disclosure requirements under IFRS. Also Schedule XIV of the Act provides minimum rates of depreciation - such minimum depreciation rates are also inconsistent with the provisions of IFRS. The rules included in Companies Act, which have accounting impacts, such as- Dividends determined in accordance with Companies Act, Managerial remuneration, Thresholds determined in accordance with the Act on debts assumed etc.

Income Tax: Computation of taxable income is governed by detailed provisions of the Indian Income Tax Act, 1961. Convergence with IFRS will require significant changes/ clarifications from the tax authorities on treatment of various accounting transactions For example; consider unrealized losses and gains on derivatives that are required to be marked-to market under IFRS. Different taxation frameworks are possible for the tax treatment of such unrealized losses and gains that are to be addressed in line with the convergence time frame.

SEBI: The Securities and Exchange Board of India has also prescribed guidelines for listed companies with respect to presentation formats for quarterly and annual results and accounting for certain transactions, some of which are not in accordance with IFRS e.g. Clause 41 of the Listing Agreement permits companies to publish and report only standalone quarterly financial results, however IFRS considers only consolidated financial statements as the primary financial statements for reporting purpose.

Banks: The impact of IFRS on Banks will be very significant in India mainly in the areas of loan loss provisioning, financial instruments and derivative accounting, which in turn will directly affect the key parameters such as capital adequacy ratios and the outcome of the valuation metrics that analysts use to measure and evaluate the performance. In addition to Indian GAAP, banking companies are currently required to adhere to accounting policies and principles that are prescribed by the Reserve Bank of India (RBI). For example, the RBI specifies financial reporting policies for provision for loan losses and investments. Adoption of IFRS will require a significant change to such existing policies and could have a material impact on the financial statements of banking companies. Banking companies that are currently using accounting models that require limited judgment (for example, due to prescribed loss / provision rates) would face significant challenges in incorporating some of the revised accounting models into their financial reporting systems.. The regulatory review process would need to be adjusted to acknowledge the inherent judgments involved in the application of IFRS. Use of fair values would introduce additional volatility in reported capital with its consequent impact on capital adequacy. IFRS prescribes an impairment model that requires a case by case (for significant exposures) assessment of the facts and circumstances surrounding the recoverability and timing of future cash flows relating to a credit exposure. Current Indian GAAP / RBI guidelines require a limited use of judgment and are mechanistic in nature with prescribed provisioning rates.

Insurance Companies: Under the IASB's plans, insurance companies would have to use a new accounting model to measure their Insurance liabilities at a 'current exit value.' This will require them to value liabilities using explicit and unbiased predictions of future cash flows that are probability weighted and discounted to take into account the time value of money and the risks inherent in the cash flows being valued the measurement models that it proposes are likely to be very different from those currently in use in most insurance companies. The major challenge will come in implementing and in understanding the impact of a new standard on systems, data, pricing and capital management. Regulator may have to decide change in classification of financial assets, if any, and may consider introduction of the tainting provision. With regard to 'Reclassification' of financial instruments, the Regulator may have to decide whether such a provision is required the need for wider and more extensive discloser, together with audit requirements, is likely to enhance the quality and depth of external review and is consistent with IAS Core Principles. Areas warranting particular attention include: The extent of disclosures relating to participating policyholders as a form of related party, The extent to which supplementary information such as source of earnings /analysis or surplus or embedded value should be included or if to be included voluntarily the extent of the disclosures that should accompany such information. IRDA has to change some key insurance accounting practices currently followed in the country and there is congruence on imparting more transparency for the benefit of policy holder and industry, the firms should segregate returns and assured sum in accounting in deposit-linked products. "Similarly, in embedded derivatives accounting, the derivative part should be independently found out, to run a liability adequacy test." As of now there is no proper provisioning to know the liability adequacy of an insurer on taking a policy from a particular company

Investors: Convergence with IFRS makes investors confident who want to invest outside their country as it develops a better understanding of the financial statements globally.

Industry: The Industry will be benefited in attracting more foreign investors. On the other hand burden of preparing dual statements is reduced leading to low cost for the industry.

Accounting Professionals / Charted Accountants: They have to go through huge training and learning process but after that they will be able to sell their expertise in various parts of the world. By which their recognition will increase worldwide. Further it will increase their revenues.

Corporate World: Convergence with IFRS would raise the reputation and relationship of the Indian corporate world with the international financial community. Moreover, the corporate houses back in India would be benefited because of Lower cost of capital, supports raising capital overseas. Convergence with IFRS improves the risk rating and makes the corporate world more competitive globally as their comparability with the international competitors' increases. IFRS reporting provides an impetus to cross-

border acquisitions, enables partnerships and alliances with foreign entities, and lower the costs of integration in post-acquisition periods.

Economy: Moreover the international comparability also improves benefiting the industrial and capital markets in the country. Enhanced worldwide comparability for investors leads to more efficient capital allocation and enhanced credibility of local markets to foreign investors and make company-friendly Indian securities market for foreign listings.

Regulators: It would be beneficial to regulators too; as the complexities associated with the need to understand various reporting formats would be reduced.

Role of Internal auditors, regulators and CFOs in the implementation of IFRS

Along with the help of Regulators, Internal auditors and CFOs can play a key role in the conversion process. Due to its pervasive impact on the organizations in the internal control environment and Sarbanes –Oxley documentation process, Internal Auditors should ensure the preparedness of the organization for the same, ensuring proper controls for continuous monitoring of IFRS regulatory changes and reviewing and managing the expenses in the budget for the same. It is the responsibility of the CFO to bring all stakeholders together early in the process, obtain buy-in from the board and the audit committee, assess the accounting principles selected by industry peers put together a winning team and coordinate the company smoothly through the transition. A key decision to be made by the CFO is the approach the company will use for its conversion project.

CONCLUSION

The earlier we clear all the ambiguities, the smoother will be the transition and we will have time to bridge the gap, and try to reap all the Benefits of IFRS. But for the same speed is of great essence for the implementation. Therefore all parties concerned with financial reporting need to share the responsibility of international harmonization and convergence.

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THE PROSPECTS AND USER PERCEPTIONS OF M-BANKING IN THE SULTANATE OF OMAN

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ABSTRACT

Mobile commerce known as M-commerce is an emerging discipline that involves mobile device, wireless networks and Internet technologies. M-Commerce refers to the different types of business transactions that are conducted on mobile devices using wireless networks. Mobile banking or M-banking is also equally refereed as mobile E-banking. It is considered to be the latest gateway in electronic banking that provides a platform for doing banking transactions using mobile telecommunication devices. The aim of this paper is to investigate the level of adoption of Information and Communications Technology (ICT) in the banking sector and to assess the prospects of M-banking in Oman. The findings shows that most of the banks and the telecoms operators have the strengths to offer better qualities of electronic and mobile services to the residents of Oman. Currently, the banks are trying to offer one form of M-Banking or the other, but the weaknesses are the level of patronage and fewer services. The level of patronage is low and it requires concerted efforts of the telecoms operators and the financial institutions to fast-track the development of M-Banking services to the people. It is expected that recent development of 3G (Third Generation) network will boost M-Commerce activities in the sultanate of Oman but may require further investment in the quality of cell phones and mobile network.

Keywords*: M-Banking; M-commerce; E-commerce; ICT, and 3G (Third Generation network)*

INTRODUCTION

The telecommunication Industry has witnessed considerable advances in the last one decade. The major changes has come in the delivery of the content, applications and services to the mobile and other wireless communication devices. M-Commerce is an emerging area which refers to Mobile Commerce and defined as the use of a wireless terminal like a cellular telephone, smart phone or Personal Digital Assistant (PDA) and a network to access information and conduct transactions that result in the transfer of value in exchange for information, goods and services and is likely to put at test the regulatory mechanism that are in place to deal with the traditional transactions. United Nations Conference on Trade and Development (UNCTAD) defined M-Commerce as buying and selling of goods and services using wireless hand-held devices. M-Banking is equally referred to as mobile e-Banking. It is defined as the newest channel in electronic banking that provides a convenient way of performing banking transactions, which is also known as "pocket-banking" (Charles, 2006).

M-Commerce refers to the different types of business transactions that are conducted on mobile devices using wireless networks. M-banking is also equally refereed as mobile E-banking. It is considered to be the latest gateway in electronic banking that provides a platform for doing banking transactions presenting M-banking as the medium of providing financial services using mobile telecommunication devices.

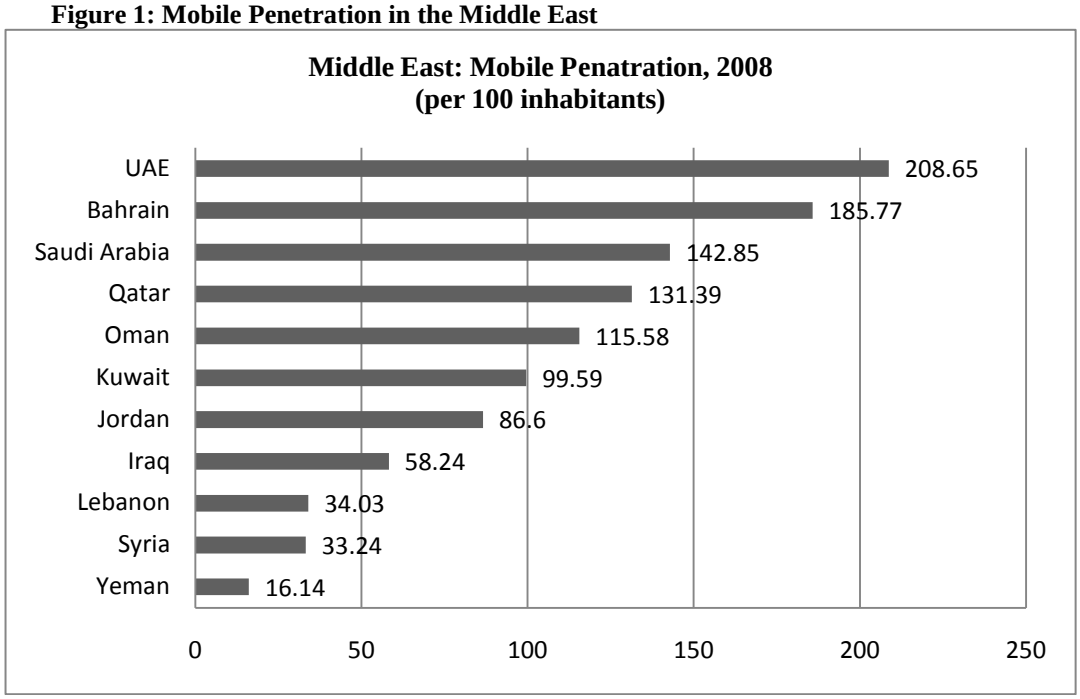
The major difference between the electronic and mobile business transaction highlighted by the prefixes "e" and "m" is that the electronic medium offers "anytime access", while mobile offers "anytime and

anywhere access" for business transactions (Tiwari et al.,2006). The other major differentiating factor is that electronic transactions are limited to computer networks that are fixed in nature, while mobile transactions refers to computer networks that support both stationary and wireless connectivity. M-Commerce feature can be highlighted as absolute, immediacy, real-time, localization, proactive functionality (through SMS), and simple making sure procedure (based on a subscriber identification module (SIM) and personal identification number (PIN) (Tiwari et al.,2006).

Mobile Services in Oman

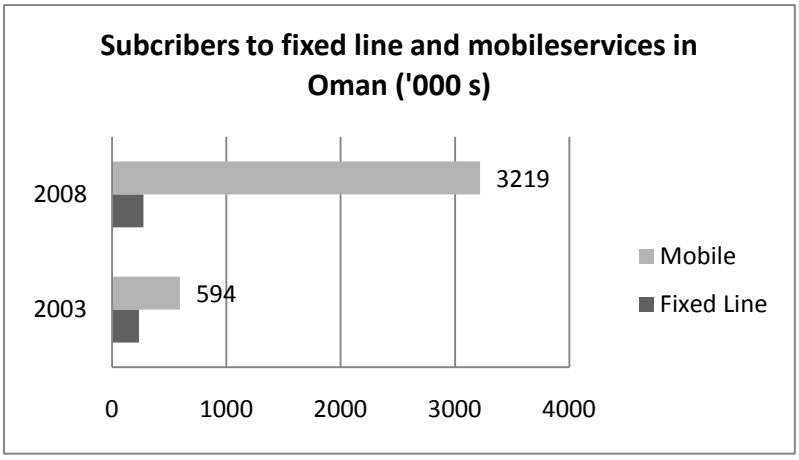
Mobile commerce is one of the promising areas that involve mobile devices, wireless networks and Internet technologies. The Sultanate of Oman has also experienced a phenomenal growth of the telecommunication industry and it is among one of the fastest in the Arab world. The Omani telecommunication industry is dominated by two major companies- Oman Mobile and Nawras, but in the last one year three more companies have entered in the market i.e. Mazoon, Friendi, and Renna. All these companies are offering 3G+ services which offer the high speed broadband internet services, wide area wireless voice telephony and data transfer services. This trend has immensely helped some of the major sectors of the economy like telecommunications, banking and e-commerce specially.

Figure 1: Mobile Penetration in the Middle East



Source: ITU World Telecommunication Indicators Database

Figure 2: Fixed line and Mobile subscribers in Oman



According to ITU (2009), the Sultanate of Oman had 3.2 million mobile subscribers in 2008 with a growth rate of 40.2%. Mobile penetration in Oman is approximately 115.58% which has witnessed a high degree of mobile penetration in the past few years (see Figure 1). In the time span of 5 years marked between Year 2003 and Year 2008,

number of mobile subscribers has increased more than 5 times reaching 3.2 million. However, fixed line subscribers grew only by 38,000 during that period (Figure 2).

Source: ITU World Telecommunication Indicators Database

These major developments in the field of telecommunications technology has helped the growth of M-Commerce technology where business can be conducted electronically anytime anywhere. Riding on the success of the E-Commerce, Mobile commerce is considered to be the next technological evolution because of the rapidly changing needs of the customers. Customers are more demanding now a days, keeping in view their lifestyles, they need faster and more reliable wireless technology. M-Commerce is the right solutions for this demand as it makes traditional E-Commerce task to be performed easily through cell phone or PDA's over wireless networks.

Mobile Operators in the Sultanate of Oman

Oman Mobile is the leading telecom service provider with market share of 60% (See omantel.com). The basis for this is that it has the maximum network coverage, several schemes which gives the customers value for money and a range of wireless and data services to the users of the network having an advanced 3G+ network. The other leading service provider Nawras has also giving a tough fight and has also introduced 3G+ platform for its consumers which is supposed to boost the M-Commerce operations in the Sultanate. Currently almost all the banks are providing some form of E-banking and M-Banking such as Internet access, account information and funds transfer etc.

Table 1: Mobile Operators and its Services in Oman.

S/L	*Operators*	Service Rendered
1	Oman Mobile	SMS Service, SMS Chat, SMS English Dictionary, Call Forwarding, Call Baring, Call waiting, Caller Line Identification, Multiparty Conferencing, Voice Messing Services, Auto Fax/Data, Paging, International Calls, International roaming, SMS2TV, SMS2Radio, 3.5G Mobile TV, Mobile Broadband, Video Calls, Voice Mail, MMS services, Wireless Internet, Ibhar-WiFi, International MMS, Ring tons, True tons, Games, MMS cards, Wallpapers, Screensaver, Educational Portal SMS, My TravelMate, CallME, Sercvice, Short Code Directory, Secondary Result by SMS, Money Transfer, OM chat, Smart Investor, SMS parking, Jobs Search, Sews Service.[Oman Mobile, 2010]
2	Nawras	Nawras Mobile email, Nawras Wireless Data Link, Bulk SMS services, Mobile Fax Services, E-Billing, E-newsletter, Mobile TV, Mobile Data Access, Nawras Internet, Nawras 3G+, Broadband Internet, Mobile info Browsing, Video Calling, Video monitoring, E-Billing, Web SMS, International Roaming, International SMS and Picture SMS (MMS), SMS Parking, Nawras SMS Chat, SMS2Email, SMS2TV, WebSMS, Voice Mail, Voice Services, Save contacts, Call baring and forwarding, Call waiting, Line Identification [Nawras, 2010]

LITERATURE REVIEW

Mobile commerce is considered to be an extension of E-Commerce that provides user to interact with other users or businesses using the wireless platform as anytime & anywhere accesses. The vibrant Omani market, with high level of technological acceptance provides an encouraging environment for M-Commerce growth. However, there has been no significant research done in this field in the sultanate of Oman.

Charles et al., (2007) conducted a study on the M-commerce in the banking sector of Nigeria. The paper deals with the issue of adoption of ICT in the banking sector using SWOT analysis. It was found out that all banks in Nigeria offer e-banking and around 52% of them also offer some form of M-banking services. The potential is great for M-Commerce but due to lack of infrastructure support the implementation is not smooth.

Coursaris & Khaled (2003) studied M-Commerce in Canada focusing on the issue of wireless privacy. An analysis of the Canadian Mobile market has been done with respect to both E-Commerce and M-Commerce followed by discussion of the needs and concerns of Mobile customers. The study is focusing on the privacy concern which arises because of the wireless interaction between the two parties and presents a framework for this. Also the responsibilities of the interacting parties for increasing the privacy have been highlighted.

Tiwari, Buse, and Herstatt (2007), in their study titled, "Mobile Services in Banking Sector: The Role of Innovative Business in Generating Competitive Advantages" have empirically assessed the customer acceptance of the M-Commerce in Germany. The study found that the highest users of mobiles are the top management of the corporate, self employed, salaried persons, students and others. It was found that Government employees were found not supporting mobile banking. Some of the reasons that came in favor of mobile banking is its ubiquity, overview of bank account and immediacy. However the concerns of the users were mainly regarding the insecurity and high cost.

E-Banking and M-Banking Services in Oman:

Table 2 gives an account of the present status of e-banking services in the sultanate. It is found that almost all banks more or less are providing banking services using ICT platform for efficient and effective delivery of services.

Table 2: E-Banking and M-banking Products and Service in Oman.

S/N	Bank Name	E-Banking Services	Internet banking Services	M-banking services
1	Bank Muscat	-Platinum credit cards, Debit cards – Visa electron, Classic credit card, Gold credit card, Corporate executive cards, Student card, Picture card, Prepaid card, Basma rewards program	-Online banking	-Call Center -SMS Intimation Service -Mobile Banking - Mobile financial Information
2	National Bank of Oman (NBO)	-Special Offers, Al amiyal Card, NBO-Oman air card, NBO-Credit cards, NBO-ATM cards, NBO-Master cards, Primary card, Supplementary card	-NBO- web shopper card -Online Banking	Call Center SMS Banking
3	Oman International Bank (OIB)	-ABC Plus Visa Electron Debit Card, Visa platinum card, Visa Master Card - Gold Card, Visa Master Card - Classic Card, Visa Cyber Card – Al mubashar, Visa Business Card	-Online Banking	-OIB's Phone Bank Services -Al-hodhod SMS Banking services -Mobile financial information
4	Dhofar Bank	-MasterCard Platinum (VVIP) -MasterCard Standard / VISA Classic -Master card / VISA Gold -Al Noor Interest Free Credit Card -CHIP Card -VISA Electron Debit card	-Ecomcard -Online Banking	-Mersal SMS Banking -Phone Banking -Call Center
5	Oman Arab Bank	-Classic card, Gold card, Platinum card, Visa electron	-Online services -Internet shopping card	-Call Center -SMS (Tawasul) Banking services
6	Abu Dabi Bank	-Classic card, Gold card, Platinum card	-Online Services -Internet Card	-Call Center -LUUP Mobile Banking

7	Sohar Bank	-Visa electron, Classic card, Excel Gold card, Excel Platinum card	- Internet Banking	-Call Center -Mobile Banking
8	Ahli Bank	-Ahli Visa Credit Cards	-	Call Center
9	HSBC	HSBC Credit Cards, Gold card, Classic card, Platinum card	-Personal Internet Banking	Call Center Phone Banking Services

Source: Information collected directly from all the mentioned banks' official website.

Application of Mobile Commerce

The commercial business transactions, which till now were being offered only on electronic medium, are now being offered on the fast emerging mobile platform. This has been due to the exponential rise in the number of mobile devices all over the world with one-third of the world population having access to it has boosted M-Commerce (Tiwari, 2006b).

Some of the mobile applications are presented by Tiwari are modified and compiled in table 3 which is as follows

Table 3: M-Commerce Applications and Services

S.L	M-Commerce Applications	M-Commerce Services
1	Mobile Banking (M-Banking)	Mobile Accounting , Mobile Brokerage Mobile Financial Information
2	Mobile Entertainment (M-Entertainment)	Mobile Gaming, Downloads (music and ring tones) Downloads (video and digital images) Location-based Entertainment Service
3	Mobile Information Services	Current Affairs, Travel Information & Tracking Services, Mobile Search Engines and Directives Mobile Offices
4	Mobile Marketing (M-Marketing)	Mobile Couponing, Direct Marketing , Mobile Newsletters, Organization of Mobile Events
5	Mobile Shopping (M-Shopping)	Mobile Purchasing of goods
6	Mobile Ticketing (M-Ticketing)	Public Transport, Sport and Cultural Events, Air and Rail Ticketing, Mobile Parking
7	Mobile Health (M-Health)	M-Diagnosis, M-Prescription, M-Referencing M-Appointment
8	Mobile Payment (M-Payment)	M-Purse, M-wallet, Micro payment & Macro payment
9	Telematics Services	Remote Diagnosis and maintenance of Vehicles, Navigation Services, Vehicle Tracking and Theft Protection, Emergency Services

METHODOLOGY

The paper is an attempt to assess the level of Information and Communication Technology adoption by the banking industry and to assess the prospects and user perceptions of M-Banking in the Sultanate of Oman. Two hundred fifty (250) questionnaires were administered to businessmen, banks academics and students out of which one hundred and ninety six (196) were returned. The data collected using questionnaires were analyzed using SPSS software.

In this study two research tools were put to use. The first one is the exploratory review of secondary data obtained through internet and other secondary sources available such as report from the concerned banks and telecom services providers as well as information available on their websites. The second one was survey questionnaire that were distributed to access user perceptions of Mobile banking in the Sultanate of Oman.

DATA FINDINGS AND ANALYSIS

Table 4 gives an account of the demographic profile of the respondents on the basis of their gender, age and educational status.

Table 4: Demographic Profile of Respondents

		Frequency	Percentage
Gender	Male	42	21.4%
	Female	154	78.6%
	Total	196	100.0%
Age Group	18-30	180	91.8%
	31-40	8	4.1%
	41-50	4	2.0%
	Above 50	4	2.0%
	Total	196	100.0%
Educational Background	High School	52	26.5%
	Diploma	92	46.9%
	Degree	10	5.1%
	Higher Degree	42	21.4%
	Total	196	100.0%

From the table it can be observed that the total respondent were 196 in number out of which 42(21.4%) were male and 154(78.6%) were female. This indicates that the female are more active in all the organizations in Oman. The age group analysis shows that the majority of the respondents are in the age group of 18-30 years which accounts for whopping 91.8%. The respondent in the age groups of 31-40, 41-50 and 50 above years were only few and stood at 4.1%, 2% and 2% respectively. This shows that the users of the modern gadgets are young. The analysis of the educational status tells that majority of the respondent were Diploma holders which was 46.9%, followed by High school 26.5%, Higher degree 21.4% and degree holder only 5.1 percent. It can be deduced from this that major chunk of the respondents were well educated and the total Diploma, Degree and Higher Degree constituted for 73.4% of the total.

Table 5: User Intention and Availability of Banking Services in Oman

		Frequency	Percentage
Intent to use mobile for Banking Service	Yes	82	41.8%
	No	114	58.2%
	Total	196	100.0%
Available Banking Service	Mobile Banking	30	15.3%
	SMS Banking	96	49.0%
	Not Sure	70	35.7%
	Total	196	100.0%
Ubiquitous	Yes	86	43.9%
	No	110	56.1%
	Total	196	100.0%
Fast Reaction	Yes	108	55.1%
	No	88	44.9%
	Total	196	100.0%
Viewing Account Statement	Yes	52	26.5%
	No	144	73.5%
	Total	196	100.0%
Paying Bill	Yes	84	42.9%
	No	112	57.1%
	Total	196	100.0%

Currently there are two the types M-Commerce services provided by the banks in Oman such as M-Banking and SMS Banking. From the analysis of table 5, it came out that 41.8% of the responders acknowledged that they use their mobile for banking services while 58.2% are not using theses service. It also shows that responses regarding the awareness of the respondents about the availability of types of mobile banking services, 49% respondents were aware about the SMS banking services while 15.3% think that mobile services are available and 35.7% are not sure about any kind of mobile services available in Oman. Table 5 list the advantages of M-banking such as ubiquitous 43.9%, fast reaction in market development 55.1%, paying bills 42.9% and viewing the account statements 26.5%.

Table-6, asses the number of respondents having a mobile or not and 96.9% own a mobile phone while only 3.1% do not have mobile phones. This shows that the mobile users are huge in numbers. The table also

gives an account of the types of phones used by the respondents. 46.9% use cell phones, 49% use smart phones and rest use 4.1% use Personal Digital Assistants (PDAs). It is indicating that only 50% respondents access the web using their mobiles showing that some of them have WAP facility embedded in their devices.

Table 6: Usage of Mobile Phone

		Frequency	Percentage
Own Mobile Phone	Yes	190	96.9%
	No	6	3.1%
	Total	196	100.0%
Type of Mobile Phone	Cell Phone	92	46.9%
	Smart Phone	96	49.0%
	Personal Digital Assistant (PDA)	8	4.1%
	Total	196	100.0%
Access Web through Mobile	Yes	98	50.0%
	No	98	50.0%
	Total	196	100.0%

Table 7: Threats to M-banking

		Frequency	Percentage
Security Threats	Yes	118	60.2%
	No	78	39.8%
	Total	196	100.0%
Complicated	Yes	32	16.3%
	No	164	83.7%
	Total	196	100.0%
Expensive	Yes	88	44.9%
	No	108	55.1%
	Total	196	100.0%

Table 7 shows the respondents perception of threats of using M-Banking, which include security of transactions and unavailability of basic infrastructure. Security threat was the major concern of the respondents which stood at 60.2%, while 16.3% considered it as complicated to use and 44.9% felt it to be costly to use. It was also noted during the study that cost of the mobile services is very high in Sultanate of Oman as compared to other developing countries of the world.

CONCLUSION

All the banks in Oman use the ICT for prompt delivery of banking services like credit cards for e-payments, internet banking and mobile banking services. But M-Banking activities are limited to mobile finances information like Balance Enquiry, Mini Statement, Cheque Book request, Request to stop all ATM Cards, Exchange rates (Indicative rates), Credit Card Balance Enquiry, Salary Credit, ATM Withdrawal, Point of Sale (POS) Transaction, Fixed Deposit Renewal, Loan Overdue, Cheque bounced, Speed Transfer Transaction - Accepted / Rejected, Customer deliverables acceptance acknowledgement (Debit Card and Pin, Credit Card and Pin, Internet Banking Pin, Call Center Pin, Cheque Book).

The banks and telecom companies are well equipped to offer quality electronic and mobile services. Presently most of the banks are offering some form of M-banking but the services are very few. Although most of the banks are working on to provide other M-banking services on priority basis. However, some coordinated approach has to be adopted by the financial services providers and telecommunication companies, so that M-banking services can be implemented. The 3G network which is already in place will definitely provide support in increasing M-Commerce activities in Oman. It will further boost with the availability of advanced mobile devices which provide a platform for easy and secure wireless financial transactions.

M-Commerce has numerous opportunities for expansion in Oman keeping in view the development of the institutions which are responsible for its growth. However, at the same time the threat perception such as security of transactions, complexity of operations and high cost of services which is major issue highlighted by the users also needed to be addressed to put the users of M-Commerce at ease.

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ETHICS IN FINANCIAL PLANNING INDUSTRY

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ABSTRACT

Ethics in financial services is a topic that has gained increased attention due to the recent global financial crisis. The damage done to the global economy has been attributed to the lack of ethics in the financial sector. This could happen because the advisors placed their interests higher than those of their clients.

The paper thus seeks to discuss the lack of concern for ethics in the financial planning industry and how the compensation structure gives rise to unethical behavior.

INTRODUCTION

The financial services industry comprises of several commercial banks, securities and investment firms, mutual and pension funds and insurance companies. The purpose of the financial companies is to allocate savings efficiently to those parties who use funds for investment in real assets or financial assets. The financial planners are thus able to provide a vast array of financial services to individuals, businesses and governments (Frederick, 2002). The services made available to these entities are demanded globally and the financial firms respond to that demand. Thus, the role of the financial services firms is to act primarily as financial intermediaries and it is in keeping with this objective in mind that they use their capital in order to provide their services (Frederick, 2002).

Financial companies are thus supposed to be the backbone of the financial system and they are supposed to have a fiduciary responsibility towards their customers (Duska, 2009). While providing their services, the firms sometimes act as agents or fiduciaries with respect to their clients. While at other times they also act as sellers when in a buyer-seller relationship. Thus, a broker who is authorized to trade on behalf of a client's account is termed an agent, whereas a broker who makes a cold call to a prospective client is called merely a salesperson. As a result, there are several ethical disputes that result from misunderstandings about the nature of a financial service provider's role (Frederick, 2002).

Besides, the financial markets are vulnerable to unfair trading practices (fraud and manipulation), unfair conditions (of an unlevel playing field) and contractual difficulties (forming, interpreting, and enforcing contracts) (Frederick, 2002). This is owing to the fact that the financial companies have chosen exclusive pursuit of profits as a primary reason for their existence in the financial markets. Thus, when their purpose gets distorted due to greed and when the fundamental role of serving clients is abandoned for the sake of self-profiteering, the entire system gets corrupted and financial instruments get misused (Duska, 2009).

The governments all over the world have therefore established federal securities laws and encouraged self-regulation of exchanges in order to achieve fair and orderly operation of markets by which the twin goals of fairness and efficiency get well balanced (Frederick, 2002). However, despite these advances, the system does get abused on several occasions. The paper therefore aims to discuss the ethical issues surrounding the financial planning industry.

ISSUES RELATED TO THE FINANCIAL PLANNING INDUSTRY

1) **Conflicts of Interest:**
   Financial planners are known to have conflicts of interest due to the unique nature of their relationships with their clients. The planners can unscrupulously earn their client's trust during the planning phase of the process and easily abuse the same trust during the implementation phase. It is therefore incumbent upon the client to protect his own financial interests (Waymire, 2004).

2) **Disclosure:**
Planners rarely offer any form of disclosure about their potential conflicts of interest. The client is therefore forced to request for a disclosure statement. These disclosure statements have to include all the necessary basic information (Waymire, 2004).

3) **Objectivity:**
The client has to question the objectivity of the financial planners who work for commissions and are compensated by third parties. The client needs to ask if the advisor's principal goal is to produce a quality plan or is it to maximize the amount of commission that he could earn from his client's assets. In case the client believes that his advisor intends to rip him off, then the client would run a substantial risk of using recommendations that have little or no long-term value (Waymire, 2004).

4) **Investment Products:**
When advisors work for commissions there is always the possibility that their recommendations are not in the client's best interest. The advisors may recommend low-quality products so that they can receive the maximum amount of compensation. There is also a chance that these low quality products can also include proprietary and third party products (Waymire, 2004).

5) **Licensing, Certifications and Associations:**
When a client selects a financial planner, he desires to have an experienced and knowledgeable professional whose principal goal is to help his client develop a roadmap for his financial future. One way that the client can increase his odds of selecting the right professional is by reviewing his license, certifications and association memberships. This type of planner's evaluation will help the client in selecting a professional who could produce quality plans and help him avoid those advisors whose principal motivation is only the sale of financial products (Waymire, 2004).

6) **Planning Licenses:**
There are no licensing requirements to be a planner. As a result of this, any professional can call himself a planner. Owing to this lack of regulation, individuals keep changing their job titles of agents and financial representatives to planners. The professionals only need to print new business cards (Waymire, 2004).

7) **Fee-Based Registration:**
Registration is determined by the advisor's method of compensation. The compensation structure could take the form of fee, commission or a hybrid structure. Professionals who sell their planning and investment services for fees are termed as Registered Investment Advisors. Just as it is applicable to the consultants, this registration is issued by the SEC or the state in which the advisor resides (Waymire, 2004).

8) **Securities Licenses:**
Planners may hold a Series 6 license which can enable them to market financial products for commissions. A Series 6 license helps a sales professional who is offering a planning service to gain access to his client's assets. Planners may also be Series 7 and 65-licensed, which would help them to sell securities and financial products in exchange for commissions. In some states in the U.S., these licenses even give advisors the permission to market their financial services in exchange for fees (Waymire, 2004).

9) **Certifications:**
Just as in the case of any other profession, a financial advisor needs to commit the time, energy and money to get him certified. A certified advisor is a safer bet for the client than the one without any certification. A certified professional can also give his client superior quality of service. This is owing to the fact that the advisor is better educated and has cleared the competency test to obtain the certification (Waymire, 2004).
There are four financial planning designations that are most recognized in the industry. The Certified Financial Planner (CFP) is the most popular financial planning certification. Others include Personal

Financial Planner (PFP), Personal Finance Specialist (PFS) and Chartered Financial Consultant (ChFC) certification (Waymire, 2004).

10) **Associations:**

As the planners are dedicated to their profession and their own personal development, they also need to belong to certain professional associations. The best among them are the associations that publish ethical standards for planners and provide numerous learning opportunities. Most of them have continuing education requirements through which professionals maintain membership of the association. Thus, by virtue of being a member of an association, the planners get to enhance their knowledge and learn to develop more sophisticated solutions for their clients (Waymire, 2004).

There are several noteworthy associations. The association with the highest professional standards is the National Association of Personal Financial Advisors (NAPFA). NAPFA has 900 members who provide financial advice to their clients.

Another association is the Financial Planning Association (FPA). It is one of the oldest and largest planning associations with 29,000 members. The FPA has a very strong membership base and it promotes competence, integrity, relationships and stewardships. Besides, it also offers numerous courses, conferences and seminars to expand the knowledge of its members (Waymire, 2004).

COMPENSATION STRUCTURES

The compensation structure can easily help determine the nature of the financial planner. There are different types of compensation structures in place for different types of financial planners.

Some financial planners charge a fee commensurate with their time and billing rates. However, most of them charge a commission at the time of the implementation phase during the sale of their financial products. Besides, there are also those financial planners who have designed a hybrid compensation structure so that they could make the best out of the combination of the above two structures (Waymire, 2004).

Based on the above discussion, the types of financial planners can be divided into four different groups:

1) **Fee- Only Planners:**

Fee-only planners work solely for the fees and do not accept commissions for their services. They mostly quote a flat fixed or hourly rate. A client prefers to pay a fixed fee, as it will enable him to know his out-of-pocket expense in advance. Thus, an upfront payment of fee is more preferable as the client is cognizant of his advisor's fee beforehand (Waymire, 2004).

Planners mostly ask for hourly fees when it is not possible or difficult for them to estimate the number of hours it would take to perform the task and deliver on their promise of achieving a desired rate of return for the client (Waymire, 2004).

Advantages: The client pays his fees only for what he needs. He also knows upfront how his costs would be calculated and what his costs are likely to be (Jaffe, 2010).

Disadvantages: There are a few financial advisors who work on an hourly basis. These are the type of advisors that typically give their clients the basics, but let them implement the program itself. This model is not suitable if the client would like to turn an "action plan" into a real action. In this case, the hourly fees are often jacked up, simply because a financial advisor would prefer to have an ongoing relationship. This is done so that the perceived cost benefit of paying in the above manner disappears. Thus, in this case, paying a fee for assets under management turns out to be the most efficient and cost effective means of getting advice (Jaffe, 2010).

Possible conflicts of interest: The advisor could invent plenty of ways to stretch the hours, and the client will be made to pay up unnecessary costs that could have been built into a flat fee. Overall, however, payment of a flat fee or an hourly wage has the fewest potential conflicts of interest (Jaffe, 2010).

2) **Fee and Commission Planners:**

The second type of planner is the fee and compensation based planner who seeks to obtain the best of both the worlds with the help of his client's savings. The advisor would normally want to charge a nominal fee for his plan and at the same time earn commissions through the sale of financial products at the time of the implementation phase of that plan. This strategy is used by many planners on their

gullible investors. These investors are an easy target. The advisors are confident in the fact that their investors can be deceived easily and they would be able to get away with their deceptive tactics when they are relied upon by their clients. The clients therefore need to exercise tremendous caution while dealing with these kinds of planners (Waymire, 2004).

The planners who demand a combination of both types of compensation usually refer to themselves as "fee-based". These advisors are substantially different from the "fee-only" advisors. The clients need to be aware that the fee-based planner expects to receive commissions, whereas the fee-only planner does not (Waymire, 2004).

Planners also devise ways to offset their nominal fees with income derived from commissions. For example, the planners charge a nominal fee of $10,000 from their client for their service and receive $5,000 in commission for the deal of a product. The professionals reduce the cash fee to $5,000 by reducing the original $10,000 fee by the amount of the commission. However, the client still ends up forking out $10,000. Advisors have found adopting this method to be an ethical technique by which they can avoid double-dipping. The phenomenon of double-dipping occurs when commissions form an inevitable byproduct of the advisor's recommendations (Waymire, 2004). Here, a financial advisor places commission accruing products into a fee-based account and then profits from both the commission and the fee. For example, an advisor purchases a front-end load mutual fund for a fee-based account that also compensates the advisor with a hefty commission (Investopedia, 2010).

Advantages: Commission sales can be made available to all the clients. There is little to no consideration paid on how little money the client has to work with. If the client needs someone to process his transaction for him, he can just pay the fee and possibly even bargain it down before investing (Jaffe, 2010).

Disadvantages: As the advisor gets paid only when the client acts on his advice, the client may be getting a more of a salesman quality advice than a professional advice for the long-term from the investment advisor. For example, the brokerage firms are filled with young talents anxious to make their bones, but the rate at which these advisors change their career paths is high. Even if the advisor stays put, he only has an incentive to work with his client when he can sense a forthcoming sale. The client may talk to an advisor one day, he may come up with a decision on an investment or a portfolio to buy, and after that he may not be able to get much ongoing advice from his advisor if the advisor doesn't sense that he can make another sale and capture another commission (Jaffe, 2010).

Possible conflicts of interest: The basic problem here is that, an advisor's best interest is served only after he sells his client something or mobilizes him into buying something. The advisor holds and builds the bulk of his client's financial life and does not buy it. Moreover, many commissions lie hidden inside the financial products like insurance policies. The advisor talks about the benefits of buying a certain financial product to his client, but does not necessarily disclose properly the method or the amount that he gets paid. Also, a commission salesperson may get an incentive or a higher commission to sell products from specific companies, like those of house mutual funds or mutual fund issues that pay a bigger front-end sales charge. Such types of higher payouts may unduly influence the advisor's thinking. Some fund houses offer other types of share classes, for example, for retirement plan investors or for their own payment plan with the broker-dealers. The investor has to be sure what amount the different plans would cost him. Finally, many advisors put their client's funds in no-load funds, wherein there is no sales charge. Here, the investors should be informed that their respective advisors would get their commission. Even though the advisors may not get paid directly from the fund company, they are paid a percentage of the assets that they manage for their clients (Jaffe, 2010).

3) **Asset-based planners:**

This is a new type of service combination wherein the advisor's compensation structure is based on the value of the client's asset amount. This structure has already started to prove popular. Under this structure, the client receives both planning and consulting services for an all-encompassing fee quoted as a percentage of the value of the assets under management (AUM). This proves to be an attractive package in a scenario wherein the professional has planning and consulting expertise (Waymire, 2004). A modified version of this model would be to work with a team of professionals that includes an advisor who specializes in planning and another one who specializes in consulting. The total fee charged to the client would be reflective of the combined value of the services of the two professionals (Waymire, 2004).

Advantages: The interest of the advisor is aligned with that of his client. If a client is able to achieve great results, then the advisor is able to earn a lot too, because client's success implies that there is a bigger pool of assets to charge fee upon. Thus, there is no sales charge and the entire sum of client's wealth goes to work and the fee is earned on that asset amount over time (Jaffe, 2010).
Disadvantages: If the client does not have a big sum of money to work with, then he will have a hard time finding fee-only advisors who would like to take him on as their client. Most advisors want to have all of their client's available resources under management, which may entail selling investments that the client has, rather than handing over some of the client's money to the advisor. Thus, a fee-only advisor can become disinterested over time, as he gets paid regardless of whether the client acts upon his advice (Jaffe, 2010).
Possible conflicts of interest: The focus of the advisor is on getting the assets through the door, and thereby their advice may skew in that direction. In a situation where a client receives an inheritance and wants to know if he should pay down his mortgage or invest the proceeds, the advisor's compensation level will go up if the client invests the money and will stay flat if he chooses to pays off his debt (Jaffe, 2010).

4) **Fee-Offset planners:**
In this situation, the advisor accepts commission and fees from third parties in addition to fees charged against his client's assets. When the client makes a move that generates a third-party commission, he gets a rebate equivalent to some or all the compensation amount that the advisor receives. However, this arrangement is not common in the industry (Jaffe, 2010).
Advantages: The client achieves the best of both the worlds here. He pays for unbiased advice through the fee-only arrangement. But in case the move generates returns, then his asset-management fee is reduced. It thus keeps the advisor interested in his client, in both cases when the advisor is selling something to the client and also when the advisor is simply giving advice to him (Jaffe, 2010).
Disadvantages: The fees in this case are sometimes a bit higher than in a fee-only arrangement. This is because the advisor may be incurring costs - order processing, sales quotas, etc. as a result of working with the third parties who generate commission. Some advisors also do not give their clients a 100 % rebate on the commissions that they receive (Jaffe, 2010).
Possible conflicts of interest: As the advisor keeps some of the commissions with him, the client cannot assure himself that the original advice that he received was unbiased. This removes much of the advantage that the client was seeking when he had signed up when he had decided to go down this route (Jaffe, 2010).

SCOPE OF DUTIES OF FINANCIAL ADVISORS

Ray (2009) has listed the following duties which the financial advisor is required to perform:

Duties of Financial Advisors

1) **Know Your Client (KYC):**
The most important part of the duty of an advisor is to know his clients. This encompasses knowing not just their identity and place of employment but also understanding the needs of their clients, the financial and personal situation of the clients, the risk tolerance of their clients and anything else that would assist in making financial decisions (Ray, 2009).
Usually this requirement is fulfilled with the help of an Investor Profile questionnaire wherein the client has to answer approximately ten questions about his income, investment knowledge and risk tolerance and ultimately a score is derived based on this information. This information helps to determine the client's risk level (Ray, 2009).
Investors, however, always tend to believe that they can handle more risk than they really can and often they do not really understand the risk. The advisor should educate the client about the risk and take the whole situation into account while making investment recommendations (Ray, 2009).

2) **Stay in Contact with Clients:**
The situation of the client keeps on changing with time. For example, the client may have a child or have bought a house or lost a job or has become ill. As things keep changing, the risk level of client keeps changing. The situation has to be reassessed if the client has a child. This is because the client

now has more obligations and expenses, and therefore, the risk level may have to be reduced. Therefore, the advisors have a fiduciary duty to stay in touch with their clients in order to ensure that the investments are suitable and relevant for the client at all times (Ray, 2009).

What is a Financial Advisor Allowed to do?

1) **Investment Recommendations:**
   A financial advisor can make investment recommendations, contingent on obtaining the license by him. If a financial advisor happens to be just a mutual fund licensee, he can only make recommendations on mutual funds. However, most financial advisors are licensed through IIROC (Investment Industry Regulatory Organization of Canada) as full Investment Representatives. This means that they can advice their clients on all types of securities i.e. mutual funds, stocks, bonds etc. but not options and futures. The advisor may also be licensed to sell insurance products (Ray, 2009).

2) **Perform Transactions:**
   Advisors can make transactions on their client's accounts, with their own consent. This can be applicable for buying and selling of securities. The actions of the broker are dependent on the nature of the agreement that has been signed. Thus, depending on the agreement that has been signed, a written authorization may not always be necessary to make the transactions. In this case, a simple phone instruction can be sufficient (Ray, 2009).

3) **Refuse Orders:**
   An advisor could refuse to execute certain buy orders of a stock under exceptional circumstances. Investors may hear of a hot stock and call their advisor to make the transaction almost every time. In these cases, the advisor should realize that these purchases are speculative in nature and outside of the client's risk profile. Under these situations, the advisor *has a duty towards his client to* advise *him against the transaction.* Even if the investor insists, he should refuse the clients order outright as it could put the investments and advisor at a considerable risk. Refusing the orders would usually result in frustrated clients and lost revenue with a potential of losing a client (Ray, 2009).

What Advisors are not allowed to do?

1) **Unsuitable Recommendations:**
   Financial advisors are not allowed to make unsuitable recommendations to their clients. The sole reason for this is that it is unethical and illegal. All recommendations are required to fit within the investor's risk profile. Investors should be presented with all the risks associated with the security as that would help them take an informed decision (Ray, 2009).

2) **Unauthorized transactions:**
   Advisors are only allowed to make transactions on their client's account *with their permission.* In recent times, unauthorized transactions have been the major reason for lawsuits involving advisors and their clients. An advisor cannot buy or sell securities *without* the consent of his client. It is therefore important that a client should check his statements consistently and contact his advisor in case he has any questions. In some cases, it could be just a misunderstanding which may be easily rectified (Ray, 2009).

3) **Misleading Information:**
   A financial advisor has to provide his clients with accurate information before making an investment decision. This also includes presenting all possible risks of the investment to the client. Sometimes, advisors may not take the time to explain the risks of a certain investment product accurately to their client. When it comes to mutual funds, the advisors just hand out a prospectus in order to fulfill their legal obligation and think that they are done with their job (Ray, 2009).
   However, a good advisor takes the time off to educate his client of the potential risks of the investment that he is about to enter into. This could cause the investor to reject the offer. As per the regulations, advisors cannot provide misleading information regarding an investment to do the sale (Ray, 2009).

THREE BROAD ETHICAL THEMES

An understanding for the need for ethics in financial services industry can be developed around the following three broad ethical themes despite the diverse nature of financial roles and activities:

1) **Ethics in financial markets:**
   Financial markets assume certain moral rules and expectations of moral behavior to hold true. The basis for this assumption is a prohibition against fraud and manipulation. The regulators have a vested interest in seeing that the rules and expectations for the markets are fair. It is with the help of regulations aimed at fairness that a level playing field can be created (Boatright, 1999).
   There is always a possibility for the playing field in financial markets to become unbalanced due to many factors. These factors include unequal information, bargaining power and control over vast resources. In addition to making one-time economic exchanges, participants in markets also engage in financial contracting whereby they engage themselves in long-term relations. These types of contractual relations typically involve the assumption of fiduciary duties or obligations on oneself to act as agents. Financial markets are thus vulnerable to unethical conduct due to the opportunistic behavior by fiduciaries and agents. Finally, the market transactions between two parties also affect other market participants. This holds amply true for investment decisions made by corporations and financial institutions. Thus, fairness in financial markets comprises of some consideration for the social impact of the financial activity. Thus, the financial decision makers should take on the responsibility to attempt to balance the competing interests of various parties (Boatright, 1999).

2) **Ethics in the financial services industry:**
   The financial services industry is the most visible face of finance and it is this aspect that affects ordinary citizens most directly. As an industry, the financial services industry has an obligation to develop products that would fit the needs of people and to market these products in a responsible manner. Care should be taken to ensure that deceptive or coercive sales tactics are not used (Boatright, 1999).
   Additionally, organizations that provide financial services typically deal with individuals as clients. A firm's reputation for ethical behavior is crucial in gaining the confidence of its clients. Apart from this, the financial firm owes certain duties to its clients. For example, a stockbroker or an insurance agent should be more than just an order-taker or a peddler as in a buyer-seller environment. Thus, a person who is offering to employ special skills and knowledge for the benefit of others is a fiduciary or an agent. He has to carry an obligation to subordinate his own interests to those of his clients. To sum it up, the main duties of professionals are to perform services with competence and due care, to avoid conflicts of interest, to preserve confidentiality and to uphold the ideals of his profession (Boatright, 1999).

3) **Ethics in organizations:**
   The vast majority of people in finance are employees of an organization and they and their organizations encounter a full range of ethical problems in their day-to-day business. The ethical problems include personal ethical dilemmas. An example of this could be an analyst in a brokerage firm who is pressured to withdraw his sell recommendation for the stock of a company which also happens to be a client of the firm (Boatright, 1999).
   Similarly, individuals who are aware of unethical or illegal activities face the difficult dilemma of blowing a whistle. Also, as finance is getting more global, people in finance face the problems that result from different practices and standards adopted in other regions of the world. Organizations facing all such problems must develop procedures and policies that address the issue of reporting alleged misconduct (Boatright, 1999).

CORRUPTION IN FINANCIAL SERVICES

Corruption in financial services is known to be an endemic problem. Corruption in financial planning has evoked a lot of attention after the recent uncovering of the fraudulent scheme operated by Bernard Madoff. According to Duska (2009), corruption can be seen as a state of affairs that can occur when an individual, entity, or a system does not perform as it was supposed to perform.

The primary purpose of the financial advisor is to give advice. This includes determining and serving the needs of the advisee and not that of the advisor. A person or an entity can use the knowledge of the financial markets so that he is able to make predictions about the future capability of instruments and what he could do with them. This knowledge is very vital for the financial advisor. However, this knowledge can be used by the advisor positively or negatively. The investor community prefers to have an advisor who is capable of guiding them with regard to investment decision making with integrity. It also demands that the cleverness or skill of the advisor is aligned with the ethical pillars of his profession. As a result, the advice that is designed to serve the interests of the advisor more than the advisee is not advice but corrupt behavior. Giving advice that is geared to enrich the advisor more than the advisee is not advice, but corrupt behavior (Duska, 2009).

Thus, the advisor uses his words to deceive the person for whose interests the advisor has a duty to look after. Naturally, the basic responsibility to serve the investor community has been undermined by the excessive pursuit of self-interest that the advisors have engaged in. Thus, the pursuit of self-interest has turned into selfishness, which is manifest in the unconstrained pursuit of self-interest at the expense of and without any concern for others (Duska, 2009).

CONFLICTS OF INTEREST

Conflict of interest is defined as a situation in which the personal interest of the fiduciary or agent interferes with the ability of the person to act in the interest of the other person (Frederick, 2002).

The relationship between a financial advisor and his client is riddled with conflicts of interests all along the way. This is because the advisor wishes to make the most for himself with the help of his client's wealth and therefore engages in dubious practices. The process usually starts with the advisor posing himself in front of his client as an expert and from there he continues through the sales process with the aim of winning his prospect's trust. Eventually, he concludes the relationship by frequently producing mediocre results on his client's assets. Thus, the conflict of interest is a very common occurrence with the financial advisors as most advisors put their own interests and those of their companies well ahead of their clients (Waymire, 2004).

Thus, a broker may be tempted to do churning of the client's portfolio regularly by executing multiple trades or by trading with unusually high commission levels for the purpose of generating more commission and thereby more income for himself. Similarly, an insurance agent may engage in churning by advising his client to exchange an old life insurance policy for a new one in spite of knowing that there is little additional benefit for the client. But here, the agent could generate handsome amount of commission for himself. Thus, there are clients who suffer considerable amount of losses from frequent trades done by their brokers. However, the clients who gain rarely complain about a broker's churning practices. This problem gets compounded by the fact that it is extremely difficult to determine whether a broker executed unwise trades solely with the motive of earning commissions or was it a well intended decision to engage in aggressive trading that proved bad (Boatright, 1999).

Conflict of interest is thus the major source of unethical conduct by fiduciaries and agents. For example, a conflict of interest may occur when a brokerage firm offers a higher commission while selling in-house mutual funds. The above conflict arises because the broker has an incentive to sell funds as it would help him earn more in commissions. But this may not be in the best interest of their client. Thus, the issue of whether the mutual fund managers should be permitted to trade on their own account has recently come under a lot of debate. Besides, it is also incumbent upon fiduciaries and agents to preserve confidentiality of information and not use their client's information to their own benefit (Frederick, 2002).

OBLIGATIONS AND RESPONSIBILITIES OF THE FINANCIAL ADVISOR

The obligations and responsibilities of a financial advisor are as follows:

1) An investment advisor is supposed to act in a fiduciary capacity with his clients.
2) The advisor should disclose all possible conflicts of interest to his client as and when they arise.
3) The advisor should not disclose any confidential information of his client to the public, except where it may be required by the law to do so.
4) The advisor should keep his client informed about all material information about himself as well as the terms of his contract with the client. The client also needs to be told about any affiliation with other entities that the client may not approve of.

5) The advisor also needs to disclose to the client the size of the commission or any reward that he may receive if the client were to choose the recommended security.
6) The advisor should also disclose to his client any reward or commission that he is entitled to receive in case the client avails the services of the broker recommended by the advisor.
7) The advisor is also supposed to abide by the rules and regulations set out by the professional associations and other institutions of which he is a member (SEBI, 2007).

RECOMMENDED CODE OF ETHICS

1) **Put the client first:**
The client's interest has to be the top most priority. Doing this is characteristic of one's professionalism. By doing this, the financial planner would act honestly and will not place his personal or his firm's interest before his client's interests (FPAA, 2008).

2) **Demonstrate Integrity:**
The advisor needs to provide his professional services with integrity. Integrity is a quality that requires honesty and sincerity in all professional matters. The financial planners are accorded positions of trust by their clients. Here, the ultimate source of trust is the financial planner's personal integrity. The legitimate differences of opinion can be accommodated. However, integrity cannot co-exist with deceit or subordination of one's principles. Integrity requires that the financial planners observe both the letter and the spirit of the ethics of their profession (FPAA, 2008).

3) **Be Objective:**
The financial planner needs to provide his professional services objectively. Objectivity requires honesty and impartiality that is intellectually bound. Objectivity requires financial planners to ensure the integrity of their service, management of conflicts and exercise of sound professional judgment, regardless of the services delivered or the capacity in which a financial planner functions (FPAA, 2008).

4) **Be Fair:**
The financial advisor should be fair and reasonable in all his professional relationships with his clients. He should make suitable disclosures and manage conflicts of interest with his client by way of constant communication. Fairness requires that the clients have to be provided with whatever is due to them and all such other things that constitute a professional relationship. Fairness also includes honesty and disclosure of material conflicts of interest. Besides this, it also involves managing one's own feelings, prejudices and desires so that a proper balance of interests could be achieved. Fairness is thus treating others in the same manner that one would like to be treated (FPAA, 2008).

5) **Act Professionally:**
The advisor should act in a manner that demonstrates an exemplary professional conduct. Professionalism requires that the advisor behaves with dignity and shows respect and courtesy to his clients, fellow professionals and others in his professional activities. Besides, he also has to comply with appropriate rules, regulations and professional requirements. Professionalism thus requires that the financial planner works individually and in co-ordination with his peers to enhance and maintain his profession's public image and its ability to serve the interest of the society (FPAA, 2008).

6) **Be Competent:**
Competence implies that an advisor should maintain the abilities, skills and knowledge necessary to provide professional services competently. It requires attaining and maintaining an adequate level of knowledge, skills and abilities in the course of provision of professional services. It also includes the advisor's ability to recognize his limitations. Thus, competence requires the financial planner to make a progressive commitment to learning and toward professional improvement (FPAA, 2008).

7) **Protect Confidentiality:**
The advisor should protect the confidentiality of his client's personal information. It requires that the client information be protected and maintained in a manner that allows access only to the personnel who are

authorized. A relationship of trust and confidence with the client can be built only based on the understanding that the client's information shall not be disclosed to anyone (FPAA, 2008).

8) **Be Diligent:**
The financial advisor should provide professional services to his clients diligently. Diligence requires that the advisor fulfill his professional commitments in a timely and thorough manner. At the same time, the advisor is required to carry out due care in planning, supervising and delivering professional services (FPAA, 2008).

CONCLUSION

The profession of financial planning loses its value when unscrupulous financial planners advice their clients with the purpose of fulfilling their selfish objectives. These planners not only harm their own reputation but sully the image of the entire profession in the minds of the people.
The importance of ethics needs to be constantly reinforced in the minds of the planners by frequently conducting seminars and conferences. The planners are mostly guided by their desire to milk their clients and not actually guide them in adding value to their lives. This phenomenon is more damaging in the case of retirement schemes and other long term investments, wherein it is too late before the client gets to know the outcome of the plan that was recommended to him in the past.
Given the grueling performance pressures that the planners are under, their behavior begins to resemble more that of a salesperson than that of a professional planner. They tend to lure their clients into investing in schemes that they have a vested interest in. This occurs mostly due to the intense competition in the industry. Thus, in order to mitigate the undesired effects of competition within the industry, the regulators should take a pragmatic stand by dissuading market participants from engaging in such unethical behavior.

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ISLAMIC BANKING AND ITS POTENTIAL IN CANADA

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ABSTRACT

Although Islamic banks have been growing over the last thirty years, Islamic banks have been perceived more positively during 2008 in view of the major challenges faced by many conventional banks arising from the credit crunch. The credit crunch helped in distinguishing Islamic banks from the conventional banking system. Islamic banks have not, like many conventional banks, been exposed to losses from investment in toxic assets or become dependent on wholesale funds, as they are prohibited from these activities. Islamic banks, like conventional banks, need to have appropriate capital and adequate access to liquidity and manage risks appropriately. This includes managing their exposure to bad debts arising from the general downturn in business.

Many people are interested in the phenomenon of Islamic banking and in the question of how it differs from conventional banking, yet, despite the expansion over the last thirty years, Islamic banking remains poorly understood in many parts of the Muslim world and continues to be a mystery in much of the West and United States. My objective of writing this paper is to provide a brief analysis of the workings of Islamic banking. Due to the growth and development of Islamic banking over the last thirty years the term Islamic banking and finance is today well know among the major business schools and financial institutions, but there is a lack of knowledge about its operations and advantages. The aim of this paper is to introduce the concept of Islamic banking its philosophy and the regulatory authority for Islamic banking. I further move in explain the global market of Islamic banking and the potential of Islamic banking in the Canadian market. Due to the time constraint I will not be able to get into a deeper analysis of the potential of Islamic Banking in Canada, I will do a diagnosis of the population demographic in the Canadian market, see the growth and change in this demographic over a few years of up to 2017. Over the years there has been wide spread increase in the number of institutions offering education of Islamic finance globally and United Kingdom institutions are at the forefront of providing qualifications for the global industry in Islamic finance. While conducting my research I could only locate one college that showcases an educational program for Islamic finance in the Canadian market. This college is based in Toronto, Canada and its name is The Centennial College's. This college is due to commence a course on "Introduction to Islamic Finance & Investment" and this is the first time the course will be delivered. The course this college offers in association with Chartered Institute for Securities & Investment (CISI), UK.

WHAT IS ISLAMIC BANKING?

Islamic banking is a faith based and socially responsible brand of banking. It is faith based because it bases its financing models, its operations, and the moral and ethical values of its staff, management, board of directors, and shareholders on Islamic values. The banking system is governed based on Islamic values. It is socially responsible because it applies the values of social responsibility of all those associated with it according to Islamic values. For example, the Islamic banks looks at money not as a ''thing'' that can be rented at a price the interest rate, but they look at money as a measuring tool to measure the success or failure of investing. In this system the banks take a boarder prospect of things, the banks are also concerned with the type of investment in which the funds of the bank are being invested. For example, Islamic bank do not invest in alcohol related businesses, gambling and related businesses, immoral activities, or in businesses that are not environmentally and socially responsible. Islamic banks do not finance speculative

activities that are focused on making money out of money, based on speculations in the different financial, commodities, and real estate markets. The banks believe in community development and are socially responsible. Many may think that Islamic banking is for the Muslims only and that Islamic banking is a gateway to the significant wealth amassed by the oil producing countries in the Gulf. This is not true, Islamic banking can be identified as a faith based socially responsible approach to banking. It is a service that aspires to serve all people of all faiths and backgrounds. Islamic banking is a system that is not built on renting money at a price called the interest rate, but on renting a tangible asset, such as homes, tools and equipment, and businesses, it is an asset based banking system. In Islamic banking the profits and losses on a physical investment are shared between the creditor and the borrower according to a formula that reflects their respective levels of participation or as agreed upon by the parties to the contract, before entering into an agreement the parties to a contract must agree to their terms and conditions. In Islamic finance, interest bearing contracts are replaced by a return bearing contract, which often takes the form of partnerships. The profit and loss sharing concept implies a direct concern with regard to the profitability of the physical investment on the part of the creditor, so in this case the bank has to many its due diligence to inspect if the funds it is giving to its clients will help them in attaining sufficient returns, they will also carefully monitor the industry where these funds are being invested to see the economic impact of the investment. The conventional bank is also concerned about the profitability of the project, because of concerns about potential default on the loan. However, the conventional bank puts the emphasis on receiving the interest payments according to some set time intervals and so long as this condition are being met the bank's own profitability is not directly affected by whether the project has a particularly high or a rather low rate of return. In contrast to the interest based system, the Islamic bank has to focus on the return on the physical investment, because its own profitability is directly linked to the real rate of return.

PHILOSOPHY OF ISLAMIC BANKING

Islamic banking has been conceived as banking in relation with the ethics and value system of Islam. Islamic banking is usually referred to the term "interest free banking" denoting a number of banking instruments or operations which avoid interest which is a narrow perspective of the concept of Islamic banking. Islamic banking is a more elaborate term, which is expected not only to avoid interest based transactions, but also to avoid other unethical practices and to participate in achieving the goals and objectives of an economy. In Islamic banking all financial transactions must be representative of a real transaction for the sale of goods, services or benefits. It also prescribes a moral and behavioural standard that is almost common in all civilized societies of the world.

Islamic finance is broadly based on some prohibitions and encouragements. The prohibition of interest and permission to trade is the most important element that drive the financial activities in an Islamic economy towards asset backed businesses and transactions. By this it implies that all financial transactions must be representatives of real transactions or the sale of goods, services or benefits. In addition, Islam has also prescribed a moral standard that is almost common in all civilized societies of the world. The structure of Islamic finance revolves around the prohibition of any return derived on a loan or debt and the legality of profit. Interest is an increase taken as a premium from the debtor. It represents the return on transactions involving exchange of money for money, or an addition, on account of delay in payment, to the agreed price on sale. The Shari'ah has prohibited it as it generates imbalance in the economy. As all transactions involving interest payments are strictly prohibited, debt contracts cannot be sold at a premium or discount, and exchange transactions of money or goods representing money like gold and silver must be equal for equal and hand to hand.

In the context of Islamic finance, a loan will be considered only a monetary or financial transaction where only funds exchange hands with a guarantee for repayment in full without any return for the creditor. It will not be considered an investment. Investment in the Islamic context is not merely a financial or monetary transaction in which the transfer of funds is the only activity. Investment will be considered only if it becomes a part of real activity or is itself a real activity. Thus, purchasing a bond issued by a government or corporation or making a deposit in a conventional bank in the form of a loan will not be considered investment, because they are merely financial transactions and no real activity is involved. However, if the funds are used to purchase real goods or services and then sell them on at a profit, this use of funds will be treated as investment. But using the funds borrowed on interest for buying or building a physical asset is

not a permissible activity. Similarly, buying and selling a financial document will not be an investment because no real activity by the holder is involved in this exchange. As such, while earning on loans is prohibited by virtue of it being interest, any return on investment is permissible and allowed. In loan transactions, the exchange must be of equal amounts. If the borrowed commodity is fungible, as currency notes are, exactly it's like is to be repaid; and in the case of non fungible goods, the loan contract will be made in terms of money.

In addition to the negation of interest, Islamic finance does not approve involvement in excessive risk taking or any games of chance that also lead to exploitation and loss to both or any of the parties to the contracts and to human society as a whole. One should sufficiently know what one is giving and what one is getting in exchange in a contract. This implies that certainty about the subject matter and its exchange value, transparency, disclosure and free consent of the parties for entering into the contract are the important factors in Islamic business and finance. Based on the above philosophy of Islamic finance we can arrive at a number of principles and rules which are essential for the formulation of Islamic banking.

REGULATORS OF ISLAMIC BANKING AND THE INTERNATIONAL ISLAMIC FINANCIAL INSTITUTIONS

At the micro level at individual banks, the institutions that wish to offer Shari'ah compliant products have to have a Shari'ah Supervisory Board. It is the responsibility of the Shari'ah Supervisory Board to review and approve financial practices and products for compliance with Islamic principles. These boards comprise of learned Islamic scholars who have attained proper Islamic designations to approve the various products designed by the banks. At the macro level, given the markets where Islamic institutions initially developed, and the fact that the largest proportion of the market still remains in those jurisdictions, it is unsurprising that the major regulatory institutions are located in countries like Bahrain and Malaysia. Every system has its institutional requirements and Islamic banks are no exception. They need a number of supporting institutions to perform various functions. In the last thirty years, Islamic banking institutions all over the world have tried to benefit from the institutional framework that supports conventional banking which is not generally geared to meet their specific needs. Building a proper institutional set up is perhaps the most serious challenge for Islamic finance in the coming years. The process of institution building for the Islamic financial industry is already under way and has gained momentum in the last few years, yet a lot of ground still needs to be covered. In recent years a number of initiatives have been taken to strengthen the Islamic financial architecture. Under the leadership of the Islamic Development Bank and with active support from international institutions such as the World Bank, IMF and the Basle Committee, several international Islamic financial institutions have been established. Major international infrastructure institutions have been established to date to support the Islamic financial industry.

GLOBAL MARKET FOR ISLAMIC BANKING

Globalization has significantly influenced different aspects of our life economically, politically and financially. The positive side of globalization is the movement of technology and human capital among the countries, while the negative side is lack of governments' ability to control their economy and determine the capital flow. On the financial side, the increase in oil prices flourished the investments in GCC countries and encouraged their governments to support the Islamic banking system. Currently, Islamic banks exist in Muslims countries as well as some European and American countries. "The global market for Islamic financial services, as measured by Shari'ah compliant assets, is estimated to have reached $729bn at end-2007, 37% up from $531bn in 2006" (IFSL, 2009) . Islamic commercial banks accounted for the bulk of the assets with investment banks and Sukuk issues making up most of the remainder. Key centres for Islamic banking concentrated in Islamic countries including Iran, Saudi Arabia, Malaysia, Kuwait, UAE and Bahrain. "The UK, is in the 8th place, and is the leading Western country with $18bn of reported assets, largely based on HSBC Amanah" (IFSL, 2009).

Several factors had contributed to the growth of Islamic Banking such as the economical growth of GCC countries as a result of the oil discovery and the establishment of the Organization of Petroleum Exporting Countries (OPEC). This unexpected resource of income changed completely the life style in the region and provided the foundation for Islamic Banking. In addition, Saudi Arabia took the lead among the Islamic

countries to promote the spirit of Islam through financial support to the Muslim communities in the form of establishing Islamic universities, institutes, and Islamic centers to strengthen the Arabic and Islamic identity. During that time, two Saudi-funded financial firms have been founded to support the international development of Islamic banking. In addition, the central banks in GCC countries and especially in Bahrain, urged the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) to set up the accounting and auditing standards for Islamic Banks to protect these investments.

Islamic Banking is currently most developed in Malaysia, Iran and the majority of countries that form the Gulf Co-operation Council (GCC). However, Islamic finance is moving beyond its historic boundaries in these countries into new territories both within and outside the Arab world. Islamic banking has been introduced to markets in other Arab countries such as Egypt, Turkey, Lebanon and Syria. It has also been started in other Asian countries such as Indonesia, which has the largest indigenous Muslim population in the world, and China. Islamic banking has also been accepted by the Western countries in Europe and North America. Countries such as the US, France, Germany and the UK each have indigenous Muslim populations of between one and five million. Moreover, the customer base in Western countries is not necessarily restricted to Muslims other customers are attracted to Islamic banking by the ethical and environmental basis of Islamic finance.

WESTERN MARKET

Given the added complexity and uncertainty, it may be asked why non-Muslims would agree to use Islamic finance structures. The principal answer is that Islamic finance provides an opportunity to tap into the significant funds of Islamic investors seeking Shari'ah compliant investments. In addition, Islamic finance can be combined with conventional funding sources and export credit agency (ECA) support. For example, Dubai's Emirates airline recently closed an innovative transaction combining Islamic investment with ECA support. Islamic finance has continued to expand both geographically and in product richness despite the difficult conditions in the global financial markets and the regional uncertainties. Retaining 'conventional style' documentation and a bankable governing law together with a greater consistency in approach among the Shari'ah boards seem to be key aspects in the growth of Islamic finance. The Islamic Financial Services Board, an association of central banks, monetary agencies and governmental organisations1, was established on 3 November 2002 to develop universal Shari'ah compliant finance standards and harmonise practices in the Islamic financial services industry. Once viewed as the realm of a small number of specialised institutions, Islamic finance has now moved into the mainstream, with specialised regional Islamic institutions experiencing a significant growth and global banks such as HSBC, Citibank and UBS coming into the market. Following the lead set by the UK, other countries, such as Japan and France, are looking to make the appropriate regulatory and legal reforms that would facilitate provision of Islamic financial products.

ISLAMIC BANKING IN UK

While London has been providing Islamic financial services for 30 years, it is only in recent years that this service has begun to receive greater profile. An important feature of the development of London and the UK as the key Western centre for Islamic finance has been supportive government policies intended to broaden the market for Islamic products. A key aspect of supportive government policy has been the establishment since 2003 of an enabling fiscal and regulatory framework in the UK for Islamic finance. There have been a number of initiatives which are intended to form part of a continuing process the removal in 2003 of double tax on Islamic mortgages and the extension of tax relief on Islamic mortgages to companies, as well as individuals, reform of arrangements for issues of bonds so that returns and income payments can be treated 'as if' interest. This makes London a more attractive location for issuing and trading Sukuk. Initiatives by the Financial Service Authority to ensure that regulatory treatment of Islamic finance is consistent with its statutory objectives and principles.

London is seeking to consolidate its position as the gateway to Islamic finance in Western Europe. Recent developments in the UK illustrate how Islamic financing is becoming 'mainstream' and is recognised as an alternative method of financing to conventional bank financing. In particular, commercial banks have begun offering Shari'ah compliant mortgages in order to attract Muslim customers, while the UK

government has amended the tax laws to clarify the way in which certain Islamic structures will be treated. In 2003, HSBC was the first mainstream UK bank to offer mortgages in the UK designed to comply with Shari'ah using the Ijara structure, shortly followed by the launch by United National Bank Limited of its first Islamic product in the UK, the UNB Islamic Mortgage, also based on the Ijara model.

HSBC's structure involves the bank purchasing a house and then leasing it out to the customer. The customers' payments include a contribution to the purchase price, a rent for use of the property and insurance charges. At the end of the finance term, when all the payments have been made, the customer can exercise a right to have the property transferred into its name. This structure was greatly facilitated by the UK government's decision in April 2003 to remove double stamp duty on home purchases under Shari'ah-compliant borrowings (previously stamp duty would have been charged on the purchase of the property by the Bank and then again on the purchase by the customer). The UK Islamic mortgage market is now undergoing significant growth. In recognition of the growing importance of Islamic methods of financing in the UK, the Finance Act 2005 introduced provisions to clarify the tax treatment for what it defines as 'alternative finance arrangements'. The intention is to put these arrangements and the people who use them on an equal footing with conventional finance arrangements and their users.

GLOBAL ISLAMIC STRUCTURED PRODUCTS

There has been a diversification of Islamic structured products, including real estate, aircraft financing, shipping and trade, as well as project finance. Islamic finance structures are increasingly used in the field of aircraft finance and are not restricted to lessees based in Islamic countries. These structures provide an opportunity to tap into the significant funds of Islamic investors seeking Shari'ah compliant investments and can be combined with conventional funding sources and ECA support (Dubai's Emirates airline recently closed an innovative transaction combining Islamic investment with ECA support). In addition, the aviation industry is in principle Shari'ah compliant and the financing is asset based, making it a good choice for Islamic investors. Emirates have frequently used Islamic leases to finance its fleet expansion. Other Asian carriers such as Thai Airways, Syrian Air and Royal Brunei Airlines have also leased aircraft under Islamic style leases.

POTENTIAL OF ISLAMIC BANKING IN CANADA

In Canada, shari'ah based banking is available, but on a limited basis. Many Canadian banks realize that they have been slow to catch up with the pace of Islamic banking and are not able to provide structured products to the Muslims in the country and to the people in the oil rich Middle Eastern region, while many other major banks from United States and Europe have been able to quickly design Islamic shari'ah compliant products to meet the needs and requirements of the Muslims in their region and the investors in the Middle East. The market for Islamic banking product is not only limited to Muslims but there is a growing need witnessed for ethical products and the Islamic banking products are accepted by people from other religions as well. "In February 2008, Royal Bank of Canada hired Zaher Barakat, who teaches Islamic banking and finance at Cass Business School in London, as head of financial products for the Middle East. RBC is planning to enter the Islamic finance market" (Royal Bank of Canada plans to enter Islamic finance market, 2008).

In Canada, the Muslim community has been steadily increasing and is estimated to reach over 1,101,800 people in 2011. Despite this growth, there are hardly any Canadian banks that offer Shari'ah compliant products and services. Once considered a predominantly Christian country, Canada is in for a dramatic shift in the religious composition of its population when it reaches its 150th birthday. Statistics Canada forecasts major changes to the religious landscape of the country by 2017. Projections of the size of religious groups suggest potentially important challenges for the future as governments across the country examine issues associated with the place of religion in schools and in public institutions. Going forward statistics Canada predicts that in the greater Toronto area, approximately one out of six residents will be either Muslim or Hindu and the two groups combined will pass the one million mark. In the nation's capital, much like in Montreal the Muslim population will be greater than all other religious groups combined as it will near the 100,000 mark.

Year	Muslim Population	(% of Total)
2001	579,700	1.89%
2006	783,700	2.49%
2011	1,101,800	3.32%
2017	1,421,400	4.11%

Muslim Population By City	
Montreal	Population
2001	96 200 (out of 3.4 Million)
2017	227 400 (out of 3.8 Million)
Toronto	
2001	258 500 (out of 4.8 Million)
2017	657 000 (out of 6.3 Million)
Ottawa-Gatineau	
2001	39 000 (out of 0.82 Million)
2017	96 000 (out of 1.13 Million)

Source: Statistics Canada, Projections 2001-2017

As per the estimates provided by Statistics Canada, there is going to be a major shift in population growth in Canada and the estimate number of Muslims is expected to rise in Canada. Based on this fact we see a huge potential for Islamic Banking in the region. There should be a wide spread increase in the number of institutions offering education of Islamic finance and the institutions should be at the forefront for providing qualifications for the global industry in Islamic finance.

To test the demand for Islamic Banking one cannot just go by the number of Muslims in the country. We will have to conduct a thorough research analysis of the understanding and need of Islamic Banking in Canada. Due to the restriction on time I will not be able to conduct this research. Going ahead I would suggest the Canadian banks to quickly adapt to the requirement of Islamic banking and add an additional service to provide Islamic banking as an alternative to their conventional banking system. By doing so the banks will be able to gain access to the people within the community who are interested in such services and the banks will also be able to target other potential client in the Middle East region. The banks could initially start with a range of products, in terms of providing financing facilities the banks could start by providing project financing, credit cards, house financing or car financing. The banks could also raise funds by issuing sukuk Islamic bonds.

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A STUDY ON THE EFFECT OF DEMOGRAPHICS ON THE CHOICE OF INVESTMENTS AND ABILITY TO TAKE RISK

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ABSTRACT

It has been observed that over the last decade the Income of the third world countries such as India, China and Indonesia has grown at a high pace. As the wealth of the people increases they will have confidence in the markets and start investing in financial products. This research paper deals with the investment decisions of all individuals across different income groups, age, gender etc. and tries to identify the affect of demographic factors on the decision making investors.
The study aims to find out if the demographic factors of an individual namely his age, income, gender, savings, source of income and investment experience have any effect on the patterns of investment and hence affect his risk taking ability. Advanced quantitative techniques have been used to investigate the data and judgment has been given on the basis of statistical output.
The results would help the managers in the Wealth Management process in advising their clients better regarding investments that are most suitable according to their demographics and personality type. The study provides evidence that the investment choice depends on and is affected by the demographic variables.

INTRODUCTION

India, China and Brazil showed the highest growth in the number of HNI's in the year 2007 (The world wealth report 2008). The growth in the exposure that these markets have still remains untapped as they have only 3 percent exposure to equities. As the wealth of the people increases they will have confidence in the markets and start investing in financial products.

In the 1970s and early 1980s, researchers found enough evidences that the markets are efficient and investment decisions are taken rationally. However, over a period of time there have been major challenges to the rationality assumption. Such challenges, coming from behavioral finance, continue to advance the argument that the traditional finance theory's predictive power is no match to what investors observe and experience in the markets, in reality. Behavioral finance is a new emerging science that exploits the irrational behavior of the investors. According to the behavioral economists, individuals do not function perfectly as the classical school opines. Weber (1999) makes the observation, "Behavioral finance closely combines individual behavior and market phenomena and uses the knowledge taken from both psychological field and financial theory". The key result of a behavioral finance-enhanced relationship will be a portfolio to which the advisor can comfortably adhere while fulfilling the clients' long-term goals. This result has obvious advantages which suggests that behavioral finance will continue to play an increasing role in Wealth Management

The study aims to find out if the demographic factors of an individual namely his age, income, gender, savings, source of income and investment experience have any effect on the patterns of investment and hence affect his risk taking ability. Quantitative techniques shall be used to investigate the data and the decision will be given on the basis of the analysis. The results would help the people involved in the Wealth Management process in advising their clients better regarding investments that are most suitable according to their demographics and personality type.

OBJECTIVE

The objective of this paper is to investigate how the investment choice is affected by the demographics of the investors, once we study the choice effecting variables, we will use past data and monitor what have been the returns achieved from such proportion of investments and we shall determine the ideal portfolio and mix in the portfolio. Such knowledge will be highly useful for financial advisors as it will help them to advise their clients regarding investments that are appropriate with respect to their demographic profiles.

LITERATURE REVIEW

A number of studies have been conducted to study how risk tolerance varies with the individual demographics, such as, gender, age, education, income, etc. Most of these studies have, however, concentrated on exploring the gender differences in investment choice. Harlow and Keith (1990) found that women prefer low risk bets when asked to make choices in an experimental market environment, involving auctions and lotteries (Olsen and Cox, 2001).

Experimental evidence suggests that women may be more risk averse towards gamble (Hershey and Schoemaker, 1980). Large-scale one-on-one attitude surveys by the Investment Company Institute and SRI International in the year 1996 and 1997 respectively, also revealed that women tend to prefer lower risk assets than men. (Olsen and Cox, 2001). Women hold less risky assets than men (Jianakoplos and Bernasek, 1998) and they also choose less risky alternatives (Powll and Ansic, 1997). Women exhibited less risk-taking behavior than men in their most recent, largest and riskiest mutual fund investment decisions (Dwyer et al., 2002). Women are more risk averse than men in gambles, investment frames with possibility of loss and gamble frame with no losses (Eckel and Grossman, 2003).

Brynes and Miller (1999) have studied and investigated the relationship between risk and gender and concluded that women tend to take less risk than men (Olsen and Cox, 2001). Women are less likely to invest in riskier but high return assets than men (Mc Donald, 1997). However, the empirical investigation of gender difference in risk taking is inconclusive (Charness and Gneezy, 2004).

While most research conducted prior to 1980 concluded that gender difference clearly exists, more recent research studies yield mixed results (Changanti and Parasuraman, 1996; and Powell and Ansic, 1997). Males and females are equally successful in taking decisions under conditions of risk (Hudgen and Fatkin, 1985). They are equally effective in the leadership role (Eagly et al., 1995) and are equally capable of processing and reacting to information (Stinerock et al., 1991).

As businessmen/women, many studies have found similar level of performance for women-owned business as those which are owned by men (Kalleberg and Leicht, 1991; and Fischer et al., 1993). In an abstract lottery choice, Schubert et al. (2000) framed choices as either potential gain, or potential loss. They found that women are more risk averse than men in domain of gain, while men are more risk averse than women in the frame of loss domain. Women fund mangers—both domestic and international—hold portfolios which are marginally riskier than those of men, and their returns also outperform those of men (Bliss and Potter, 2001). Women were found to be less risk averse than men when the gambles were framed as insurance (Duda et al., 2004). Although, the impact of gender on risk taking is significantly weakened when investor knowledge of financial markets and investments is controlled in the regression equation, the greater level of risk aversion among women, which is frequently documented in the literature, cannot be completely, explained by knowledge disparities (Dwyer et al., 2002)

In the Indian context, Gupta (www.info.gov.hk/gia/general/bandhk/1118105.html) has indicated that from the angle of investor protection, the regulation of the new issue market is important for several reasons. The number of small investors in new issue market is massive. Most of new investors make their first entry into equity investments via the new issue market. So retaining common investor confidence in primary markets is important. Madhusoodan (www.nyse.com/press/NT00545421.html) has indicated that in the Indian stock market, higher risk is not priced, hence investment in higher risk instruments is of no use. Kakati (www.investorclaims.com/html/bokermisconduct.html) has indicated that Indian IPOs are under priced in the short run and overpriced in the long run. Selling after allotment, around the listing month, is the cause

of major return differences between IPOs performance in the short run and long run. Gokaran has studied the financing patterns of the corporate growth in the country. The study indicated that equity markets suffer serious inadequacies as a mechanism for raising capital. Murali (www.ssrn.com) has indicated that new issues market (NIM) focuses on decreasing information asymmetry, easy accessibility of capital by large sections of medium and small enterprises, national level participation in promoting efficient investments, and increasing a culture of investments in productive sector. In order that these goals are achieved, a substantial level of improvement in the regulatory standards in India at the voluntary and enforcement levels is warranted. The most crucial steps to achieve these goals would be to develop measures to strengthen the new issues market.

In the today's competitive world the financial planners are heavily dependent on the information technology to serve the clients effectively and efficiently. The usage of the information technology increases and is critical with the size of the financial firm as its applications are extended to the areas such as pay roll, accounting, marketing, and operations. This article proposes focuses on the development of the technology tools and developing a new research discipline like financial planning informatics to support the unique needs of the financial planners. Information is the result of processing, manipulating, and organizing data in a way that creates new knowledge (Rahman 2006).

A number of studies have been conducted to study how risk tolerance varies with the individual demographics, such as, gender, age, education, income, etc (Schooley & Worden, 1996; Shaw, 1996; Xiao & Noring, 1994; Watson and Naughton, 2007). Most of these studies have, however, concentrated on exploring the gender differences in investment choice. The impact of other demographic factors, such as, age, education, income, occupation and dependents on investment choice has not been investigated by many researchers. But whatever studies have been done suggest that they (other demographic factors) affect individual's investment decisions.

Risk tolerance, a person's attitude towards accepting risk, is an important concept which has implications for both financial service providers and consumers. For the latter, risk tolerance is one factor which may determine the appropriate composition of assets in a portfolio which is optimal in terms of risk and return relative to the needs of the individual (Droms, 1987). In fact, the well-documented home country bias of investors may be a manifestation of risk aversion on the part of investors (see Cooper, and Kaplanis, 1994 and Simons, 1999).

For fund managers, Jacobs and Levy (1996) argue that the inability to effectively determine investor risk tolerance may lead to homogeneity among investment funds. Further, Schirripa and Tecotzky (2000) argue that the standard Markowitz portfolio optimization process can be optimised by pooling groups of investors together with different attitudes to risk into a single efficient portfolio that maintains the groups average risk tolerance.

Although a number of factors have been proposed and tested, a brief survey of the results reveals a distinct lack of consensus. First, it is generally thought that risk tolerance decreases with **age** (see Wallach and Kogan 1961; McInish 1982; Morin and Suarez 1983; and Palsson 1996) although this relationship may not necessarily be linear (see Riley and Chow 1992; Bajtelsmit and VanDerhai 1997). Intuitively this result can be explained by the fact that younger investors have a greater (expected) number of years to recover from the losses that may be incurred with risky investments. Interestingly, there is some suggestion that biological changes in enzymes due to the aging process may be responsible (see Harlow and Brown, 1990). More recent research however, reveals evidence of a positive relationship or fails to detect any impact of age on risk tolerance (see Wang and Hanna 1997; Grable and Joo 1997; Grable and Lytton 1998, Hanna, Gutter and Fan, 1998; Grable 2000, Hariharan, Chapman and Domian, 2000; and Gollier and Zeckhauser, 2002).

A second demographic which is frequently argued to determine risk tolerance is **gender** and Bajtelsmit and Bernasek (1996), Palsson (1996), Jianakoplos and Bernasek (1998), Bajtelsmit, Bernasek and Jianakoplos (1999), Powell and Ansic (1997), and Grable (2000) find support for the notion that females have a lower preference for risk than males. Grable and Joo (1999) and Hanna, Gutter and Fan (1998) however, find that gender is not significant in predicting financial risk tolerance.

Education is a third factor which is thought to increase a person's capacity to evaluate risks inherent to the investment process and therefore endow them with a higher financial risk tolerance (see Baker and Haslem, 1974; Haliassos and Bertaut, 1995; Sung and Hanna, 1996). Shaw (1996) derives a model which suggests an element of circularity in this argument however, as the relative risk aversion of an individual is shown to determine the rate of human capital acquisition.

Income and wealth are two related factors which are hypothesised to exert a positive relationship on the preferred level of risk (see Friedman 1974; Cohn, Lewellen, Lease and Schlarbaum 1975; Blume 1978; Riley and Chow 1992; Grable and Lytton 1999; Schooley and Worden 1996; Shaw 1996; and Bernheim et al, 2001). For the latter, however, the issue is not clear cut. On the one hand, wealthy individuals can more easily afford to incur the losses resulting from a risky investment and their accumulated wealth may even be a reflection of their preferred level of risk. Alternatively, wealthy people may be more conservative with their money while people with low levels of personal wealth may view risky investments as a form of lottery ticket and be more willing to bear the risk associated with such payoffs. This argument is analogous to Bowman's (1982) proposition that troubled firms prefer and seek risk.

Investigation of the investment decisions made by married individuals presents a unique challenge to researchers as the investment portfolio of the couple may reflect the combined risk preferences of the couple (Bernasek and Shwiff, 2001). The available evidence suggests that single investors are more risk tolerant (Roszkowski, Snelbecker and Leimberg, 1993) although some research has failed to identify any significant relationship (McInish, 1982; Masters, 1989; and Haliassos and Bertaut, 1995).

METHODOLOGY

The study employs primary data collected by communicating with the respondents with the help of a structured questionnaire. Before undertaking the survey, a pilot test of the questionnaire was done with 40 respondents. Their views were incorporated in the final questionnaire and desired results were obtained. The study is based on responses obtained from the respondents belonging to a wide cross section. The total sample consisted of about 150 people, Males/Females from Salaried/ Self Employed, were split from different Age groups of Less than 35, 35-45, 45 and above.

Investment Experience (Measured in the No of years) and the savings of Individuals post investment was also observed. The study employed non-probabilistic sampling method to select the respondents. The sampling method used can best be described as a mix of judgmental and convenient sampling.

The questionnaire (Annexure) consists of a risk profiling exercise combined with the demographic characteristics required about the investor. Later a combination of cluster analysis along with a couple of other tests like LOGIT, PROBIT etc will be used.

DATA ANALYSIS

The risk taking ability of the respondents was found by looking at the patterns and similarities that could be found and understood in the data. Techniques of Regression and Logit tests are used. Then the demographic characteristics of the people to their risk taking ability and any similar patterns are also identified.

From the final questionnaire we got to know the risk profile, demographic profile, choice of investments, other habits and observations etc. Later any patterns and similarities were looked at in the data. The analysis was done using Logit tests identifying probabilities, Multi logistic regression, Man- Whitney U test and chi square.

The following hypotheses were formulated to study whether the choice of Investment depends upon variables, such as, gender, age, income, educational qualification and occupation. The hypotheses are stated as follows:

Ho.1: *There is no significant difference between the males and females in their choice of investment avenues.*
Ho.2: *There is no significant difference among the investors belonging to different age groups in their choice of investment avenues.*
Ho.3: *There is no significant difference between the investors of different occupations in their choice of investment avenues*.
Ho.4: *There is no significant difference between the investors having different investment experience in their choice of investment avenues.*
Ho.5: *There is no significant difference between the investors having different savings post investment in their choice of investment avenues.*

Logit Regression

Using the data, we have calculated if the respondent is a risk taking or a risk averse investor. His risk taking behavior is taken as a Dependent variable. The various independent variables include Age, Gender, No of dependents, Income; savings post investments, investment experience etc. The model studies the change in the dependent variable due to change in all these independent variables.

We use ungrouped method of Logit regression as we observe that these variables are independent and are not very much correlated with each other; hence they show lesser chance of hetroscedasticity with each other. The significance of the logistic regression coefficients of the independent variables is tested using Wald's Statistic.In order to do this the null hypothesis considered is that a particular logit coefficient is zero which is the ratio of unstandardized logit coefficient to its standard error. The Wald statistic and its corresponding p probability level is part of the SPSS output. The independent variables may be dropped from the equation if their effect is not significant by the Wald statistic. We observe that the regression equation is significant at 10% with **Wald value** of 2.959.

It was observed that among the independent variables the Age, gender and Investment experience are considered to be significant with a Wald value of 18.571, 3.47, 3.457 respectively they are also significant as they fall in significance level of 10%. However No of dependents, the Income and savings post investment are not significant enough and they are not at a significant level too with more than 10% significance level.

It is observed that the number of dependents or siblings of a person does not define his risk taking ability and capacity, same is the reason for the person being salaried or being self employed for his living. There is no pattern observed for the level of savings that person has after his investment habits. Hence it can be said that the risk taking capacity can be mainly judged by his Age, Gender and Investment experience.
The logit can be converted easily into an odds ratio simply by using an exponential function. The original odds are multiplied by e to the bth power, where b is the logistic regression coefficient, when the given independent increases by one unit. The ratio of odds ratio of the independent is the ratio of the relative importance of the independent variables on the dependent variables. The value of ratio for income 1.083. Hence a unit change in income affects the change in risk taking ability by 1.083

Further in the regression equation the variable Age is highly significant with the score of 21.443 in the equation, so is gender and investment experience. The equation has a overall statistics of 28.953 with a appropriate significance level.

R Square in logistic regression

R2 – measures attempts to measure strength of association. For small examples, for instance, an R2 – like measure might be high when the goodness of fit was unacceptable by model chi- square or some other test.
Cox and Snell R square is used to in the interpretation of multiple R square based on the likelihood, but the value lesser than1 is, the better. Here the value is 0.230. Nagelkerke's R2 divides Cox and Snell's R2 by its maximum in order to achieve a measure that ranges from 0 to 1. Therefore Nagelkerke's R2 which is here 0.310 is generally higher than the Cox and Snell measure but will tend to run lower than the corresponding OLS R2 which is 133.048. Nagelkerke's R2 is the most-reported of the R-squared estimates.

CONCLUSION

The insight of how an investment choice gets affected by the demographic variables helps the financial advisors to advise their clients better. The clients, on the other hand, on being advised regarding the investments that suit their profile, will not only rate such an advice higher but will also appreciate it. This study thus, will certainly improve the mutual trust between the advisor and his client. Similar studies with diverse samples will help in understanding the investment psychology better.

From the research we observe that the risk taking ability can be mainly judged by his Age, Gender and Investment experience. That is if the person falls in a specific age category, the financial planner cab be readily prepared for the desires level of risky portfolio to be offered to the client. It has been noticed from the data that mostly people with high age are risk adverse on the contrary young people like to take very high risks and invest in aggressive stocks and speculative instruments. Men have been observed to be more risk taking and aggressive than most females. And people who have experience of trading in the financial markets also determine the level of risk they like to take.

It is observed that the no of dependents or siblings that a person does not define his risk taking ability and capacity initially we thought that people who have more no of siblings would like to take less risk however same has not been observed in this case, same is the case for the person being salaried or being self employed for his living. Similarly no pattern has been observed for the level of savings that person has after his investment habits and the level of risk that he like to take.

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ECONOMIC RECESSION AND ITS IMPACT ON SMALL BUSINESS IN INDIA

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ABSTRACT

Economic recession originated in USA as a result of downfall of real estate sector, ultimately engulfed the whole of the global economy. Although, the impact of recession was severe on the economies of developed nations such as USA, Japan, Germany, UK etc. developing economies such as India and china were not exceptions to this historic phenomenon but the impact on Indian economy was minimal with a slight debacle in the growth rate.

Complete business/industry is in doldrums situation and this situation persist for a longer duration will create small business to vanish as they have lower stability and to run smoothly require continuous flow of liquidity which is desired for the smooth running of the economy. Small business enterprises felt the brunt of the global recession in the form of deceleration in exports and imports liquidity crunch in the market adversely affected the SBEs.

In the face of global recession, small business need to remain competitive and then are many ways in which they can do so. Seeking ways of lowering market costs by switching to online initiatives or sourcing more favourable printing rates, turning to more economical staff, training methods such as video training, and locating good deals on web development as just some of the initiatives that can be taken, but there are lots more for the taking with a bit of efforts, it shouldn't be too difficult to keep ahead of the game.

INTRODUCTION

Now a days, recession has become a global socio-economic phenomenon. It started from wall street (U.S.A.) and gripped whole of the globe more or less. It is like an epidemic. Whole of the global economy is integrated through a complex web, if a brick falls, the whole house collapse.That is what happened in 2008 when disturbances in financial sector of US shattered the economies of many developed and developing countries It causes all social and economic problems. Shrinking jobs, pay cuts and loss of perks, owing to recession tends to down the mental health of a large sector of world's high profile work force. This is a crisis of consumers' confidence rather than income is triggering consumption cuts. It is an emotional recession, dipping of consumer confidence, to spend less that affect not just business but also themselves. The impact of recession was severe on the economies of developed nations such as USA, Japan, Germany, UK etc. Developing economies such as India and china were not exceptions to this historic phenomenon; however, the impact on Indian economy was minimal with a slight debacle in the growth rate.

The recession is a decline in any country's G.D.P in real terms, or negative real economic growth for two or more successive quarters of a year. But in economics it is a general slowdown in economic activity over a sustained period of time or business cycle contraction .In more specific terms there is a declining trend in G.D.P., employment, investment spending, capacity utilization, household incomes and business profit during recession.

The present paper discusses the real impact of recessionary forces on small business in India .Small business organizations often works in scattered localities with limited resources .However ,they provide employment opportunities to many people and create a base for the expansion of the economy.

CONTRIBUTION OF SMALL BUSINESS IN INDIAN ECONOMY

Global trends have suggested that small business is the biggest contributor to the economy of any country. Small business is big in India too. It is one of the most crucial sectors of the economy in terms of employments generated. As more than 65% of its population lives in rural and semi rural areas, small business is one of the most viable options for the population residing in these areas. After agriculture, small business in India is the second largest employer of human resources. In India an industrial undertaking that has investments in fixed assets which do not exceed more than Rs. 10 million falls under the category of small business. These SBEs are small in size but play a big role in the economic development of developing economy like India. India has adopted the ideal of a socialistic pattern of society with the full employment balanced regional development and self-reliance as the major objectives. These help in surviving in a global recession involves taking a close look at marketing, customer service, diversification, technology and obstinacy to survive.

Small businesses contributed in a lot in the form of help to get the Indian economy survive during global recession. These contributed under the following ways:-

i. To offer exceptional customer services, e.g. sending out regular personal e-mails dealing special offers, taking steps to ensure service delivery is effective, offering flexible payment terms.
ii. Diversify, e.g. offering specialised goods and other business related products or services,
iii. Cutting costs to survive global recession by reducing or eliminating by using inexpensive business tools, such as using emails, documents, spread sheets, mobile calendar, agenda management etc.
iv. Employment- Small scale firms use labour-intensive techniques and, therefore, they have high potential to provide employment to a large-number of people per unit of capital. For every worker employed in large scale industries about three workers are engaged in small scale and cottage industries. Next to agriculture small business constitutes the most popular occupation of people in India. Small firms promote self-employment to agriculturists who remain idle during a part of the year.
v. Balanced Regional Development- small scale industries promote decentralized development and help to remove regional disparities in industrialization. Decentralized development contributes to the process of self-sustained growth and avoids concentration of industries in particular areas. By providing employment in rural areas they help to check migration and overcrowding in urban areas.
vi. Optimization of capital- Small scale firms require less capital per unit of output and, therefore, greater output can be obtained with small investment. The Annual Surveys of industries reveal that fixed capital per employee in case of small scale industry was Rs. 3,706 as compared to Rs. 27,757 in case of large scale industry.
vii. Mobilization of Local Resources- Small scale industries facilitates Mobilization and utilization of local resources and family skills which might otherwise remain unutilized. Small business promotes a new cadre of small entrepreneurs and self-employed and encourages local talent.
viii. Exchange Earnings- First Small scale industries, do not import sophisticated machinery and equipment, secondly these earn valuable foreign exchange through exports of their products. Its exports increased from Rs. 637 crores in 1975-76 to Rs. 2785 crores in 1985-86. It accounts for 40 percents of the exports of non-traditional items and about 25 percent of the country's total exports. About 90 percent of exports are of non-traditional items.
ix. Egalitarian Society- Small scale industries help in reducing concentration of economic power in a few hands. They promote a more equitable distribution of national income and wealth.
x. Feeder to Large industries- Small scale sector is complementary to the large scale industries, Small industries manufacture various types of components, spare, parts, tools and accessories which are required by the large scale sector.

xi. Social Advantage- Small scale units offer opportunity for an independent way of life to people with small means. They offer savings in social overheads like education, housing and medical facilities by taking industry nearer to the people. They help to raise per capita income and standard of living in the country.

IMPACT OF RECESSION ON SMALL BUSINESS

The recession has impacted both large and small scale business. It has both positive and negative impact as far as small business is concerned. Unemployment drives innovation and thereby some small businesses flourish in a recession taking it as good news (Business week 2009) and are called 'counter-cyclical'. These businesses give new relevance to the old saying that 'one man's misfortune' is another's opportunity. While others , if live through the downturn prosper when the economy return to normal. But at the same time, smaller enterprises have a harder time surviving recession, to secure additional funding. Those SBEs having existence from longer time, suffer from lower sales and profit and/or higher expenses.

Access Markets International (AMI) Partners conducted a survey in India which 10% of SMBs indicated intentions of hire additional staff. Although this number is down from the 50% in 2008, it is still quite significant considering the global market's slowdown (AMI- Partners' 2008-09). The survey was conducted in early 2009, and 30% of the respondents expected and economic revival by the end of summer in 2009(AMI- Partners' 2008-09). In a separate survey conducted of 500 small enterprises across industry verticals like textiles, gems & jewellery, processed food, finished leather, chemicals engineering goods etc. by Alibaba.com, 56% of small enterprises interviewed are very optimistic of 2010 being a better year overall in terms of business activity and profitability. 58% are also confident of improvements in their own business performance. 92% believe revenues will increase in 2010 growing at 6-15% (Economic Times, December 11, 2009). While 50% of the small business in India were affected by the recession, over 90% are confident of revenue improvements in 2010 indicating the resilience of SMEs in India. Small businesses contribute 35% to total direct exports from the country, which on one hand offers a huge opportunity to them but also exposes them to the volatility and fluctuation risks associated with international trade. While 61% of SMBs feel globalization has opened up new avenues for their business, the rest are of the view that increased competition has resulted in lowering product prices and profitability. IT industries, financial sectors, real estate owners, car industry, investment banking and other SBEs as well are confronting with heavy loss due to the fall down of global economy. FICCI (Federation of India chambers of commerce and industry) found that inventories industries like garment, gems, textiles, chemicals and jewellary had cut production by 10 percent to 50 percent with the global recession (Verma 2009)

CAUSES OF RECESSION

There might be many causes of recession but the following 10 causes are responsible-

i. The rate of jobless assumes disturbing proportions. It the rate of jobless people is a constant, steep rise in that number everyone month.
ii. Many companies across all sectors start giving depressing sales and profit figures.
iii. Borrowers start Defaulting-when borrowers are unable to pay back their loans on homes, vehicles, business and credit cards.
iv. Credit card purchases shoot up- People no longer have cash to pay for their daily needs and are now resorting to it as the last method to pay their bills.
v. Prices of Essential commodities like-food, fuel and other utilities shoot up and the Govt. seems helpless.
vi. Companies Stop filling vacancies-and might also offer voluntary retirement programs in order to reduce their work forces and cut expenses.
vii. Prices of property and stocks come down vigorously, but nobody buys them.
viii. The country's GDP goes down.
ix. Savings are used for day to day expenses.
x. One starts worrying about all of the above.

ISSUES AND CHALLENGES BEFORE SMALL BUSINESS

SBEs are in an privileged position because they have the ability to be active and flowing in their procedure and practices, compared to large businesses that have many layers of bureaucracy. However, small-scale businesses face many challenges due to their size, and owner need to address these problems and come up with unique solutions for their small business to survive and prosper. Few of the issues are being as challenges by SBEs may be as follows-

i. Difficult to Retain and Attract Customers -

SBEs typically have a more difficult time attracting customers than larger companies. They have smaller marketing and advertising budgets. Also, some potential customers are reluctant to do business with small businesses, especially new businesses without a loyal following, since they believe that these businesses may not be around for a long time or that they will not be able to provide the appropriate level of service. A challenge for small-scale businesses is to make sure that they provide excellent customer service and instill confidence in their customers.

ii. Hard to Retain and Attract Employees -

SBEs also face challenges when hiring employees. It is difficult for many small businesses to campaigns. They also have limited human resources to work on growing the company. Small business owner must find creative ways to use their limited resources to grow the business while running the day-day operations of the company.

iii. Difficult to Grow -

Due to their size, many small-scale businesses find it difficult to grow. They have limited budgets to use for expansion and marketing campaigns. They also have limited human resources to work on growing the company. Small business owners must find creative ways to use their limited resources to grow the business while running the day-to-day operations of the company.

iv. Must Compete Against Bigger Companies -

Possibly one of the biggest challenges facing small-scale businesses is that they have to complete with much larger companies. Larger companies have bigger budgets and can usually provide products and services at much lower costs. A small business must be able to either match the prices charged by larger businesses or provide extra benefits to the customer such as better customer service.

v. Difficult to Finance Expansion –

SBEs face challenges obtaining money for expansions. Larger companies have many more resources available to them to obtain capital to expand, and banks and lenders are much more willing to lend money to a large company with tangible assets that can be used for collateral. Larger companies also have the option of selling shares of stock to the public to raise funds.

REMEDIES

During recession small businesses are use to be constantly under financial attack from all sides, dwindling sales, increasing expenses and customers and employee retention problem. With the help of the following remedies SBEs may come out of the recession stronger than the ever-

i. Make a practical plan – one should make a list of all ones expenses that could be cut down or eliminated and another list of loans or mortgages that are essential to be paid off.
ii. Give your clients the Red Carpet treatments – take care of your loyal clients by praising and rewarding for their loyalty through discounts, loyalty cards and gifts certificates, since they will also bring new clients to your business.
iii. Hold on to your best employees – by giving bonus and a bit of more money if you can afford.
iv. Get Aggressive in marketing, yourself and for your products.

v. Offer special discounts upto a specific time frame.
vi. Use modern technology to save money – it includes using accounting and inventory software for spending less time in balancing the books, run an online business to know numbers of visitors your are getting and where they are coming from.
vii. Innovate – Get feedback from your customers about your present and future products and services they need.
viii. Increase your skills- A recession provide a spare time to increase one's skill level to provide better service to your customers in solving their problems.
ix. Keeping control over inventory.
x. Keeping control over expenses.
xi. Remedies offered by government of India – the government have undertaken several reforms to attract more investors to the small business sector in India. Some of the reforms undertaken include provision of training facilities, availability of machinery on hire-purchase terms, special bonus for setting up small business in backwards areas, tax deduction for small business and assistance for marketing the products in domestic markets and exports.

By using the above remedies one can not only survive the recessionary phase in one' small business, but prosper too once it passes away.

CONCLUSION

In the face of global recession small business need to remain competitive and there are many ways in which they can do so. Seeking ways of lowering market costs by switching to online initiatives or sourcing more favorable printing rates, turning to more economical staff, training methods such as video training, and locating good deals on web development as just some of the initiatives that can be taken, but there are lots more for the taking with a bit of efforts, it shouldn't be too difficult to keep ahead of the game. This is the phase when capital is reorganizing itself to the next boom. It is also the time when one should go for introspection taking into accounts what is good and what is bad. Recession is a natural process of penalizing the industry that is worthless for the society. Only the best and the thing that is of use for the economy survives in the recession. The growing business trend in India indicates that the small business sector in India is poised for much higher things. Investors in this sector must ensure that they make use of all the resources available to reap the benefits. That is why we always ask our investors to invest in the business that is at the heart of economic activity rather than at the external boundary of the economic activity. We should take this recession as an opportunity to build over prosperity and convert it into boon from the bane.

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MANAGEMENT OF DERIVATIVES EXPOSURE

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ABSTRACT

During the last one decade, there has been tremendous growth in the volume of international trade and business due to liberalization, globalization and privatization all over the world. As a result, the demand for financial instruments like equity, debt, derivatives, etc and international money has increased significantly. Nowadays, the derivative trading has become a significant part of the international financial markets. Various overseas exchanges have developed their own derivatives markets, and the global derivatives market has become a reality of this time. Of course, the derivatives are one of the powerful tools for risk management but they may also turn out to be disastrous weapons if not used properly. The paper aims to explain the concept of derivatives trading, factors that influence them, meaning of management of derivatives exposure, etc. Before managing derivatives risk exposure, it is important to understand the various kinds of risks associated with derivatives trading like credit risk, market risk, liquidity risk, etc and how they can be managed using VaR (Value at Risk) concept. VaR methodology has got its own advantages and disadvantages. In order to overcome the weaknesses of VaR method, Risk Management Value Chain is an effective tool to determine whether the present organization structure is suitable for risk control strategy. Thus, while implementing any methodology of risk management, certain factors are to be kept in mind and back-testing plan is to be formulated and implemented for evaluating the performance and its actual experience in the market of risk model.

INTRODUCTION

During the last one decade, there has been tremendous growth in the volume of international trade and business due to liberalization, globalization and privatization all over the world. As a result, the demand for financial instruments like equity, debt, derivatives, etc and international money has increased significantly.

Derivatives are the financial products which derive its value from another underlying instrument or contract. For example, Nifty futures derive its value from Nifty Index. There are variety of derivative products and instruments which are traded in the financial markets, such as futures, options, forwards, swaps, etc. Nowadays, the derivative trading has become a significant part of the international financial markets. During last two decades, trading in different equity derivatives has been started at different exchanges. Various overseas exchanges have developed their own derivatives markets, and the global derivatives market has become a reality of this time. Of course, the derivatives are one of the powerful tools for risk management but they may also turn out to be disastrous weapons if not used properly.

NATURE OF DERIVATIVE TRADING

It is well known that all the derivative tools like futures, options, forwards, swaps and other instruments are dangerous and risky in the manner and their use should be most careful, judicious and proper. The reason why they are risky arises out of the manner in which they are used, their purpose of use and under what framework of control. The factors which influence the trading derivatives are following:

1. Financial derivative markets move at fast pace. Some financial derivatives markets like currency futures and options operate on a 24-hr basis as a result of the integration of various exchanges

across the world. So changes in the prices of derivative products shift on regular basis and overnight. Hence, this market is highly liquid and risky too at the same time.

2. Secondly, derivative transactions are used for purposes like speculation, arbitraging, trading, hedging the risk, etc. These may be either risk reducing device or risk enhancing device. So it is very important to first identify the purpose of the use of derivatives.
3. Few derivatives are quite complicated in nature like collars, exotic derivatives, swaps, floors, and forward rate agreements. These should be designed and structured very carefully. Each instrument has different levels of risks and failure to identify the different levels of risk exposure could result in heavy losses.
4. Once the derivative products are identified and selected, it is equally important to create and implement an independent management function to identify, monitor, control and report all aspects of derivatives products. Such function must be in compliance with all the relevant legal and regulatory practices and standards, including those relating to the disclosure.
5. During implementing any derivative strategy, there needs to be highly competent persons. They need to be proficient in the field of risk analysis and risk management methods.

SETTING THE RISK VISION

Before implementing derivatives transaction, the company's top level management needs to devise stringent guidelines comprising policies, procedures, etc, in order to ensure that there is no ambiguity in the decisions by executives. The financial institutions need to consider the following things in setting the strategic vision regarding derivative trading:

STRATEGIC COMPONENTS IN RISK VISION

1. Setting policies
2. Commercial Objectives
3. Risk tolerance
4. Capital Efficiency
5. Financial capability
6. Enhance competence
7. Reviews

The following set of strategic points which the top level executives should consider:

1. The main reasons and purposes for which the derivatives are to be used.
2. The types of derivatives which are useful for the company.
3. The top level management and its role in relation to control of risk in derivative exposure.
4. The process for approving the use of new derivative instruments.
5. The other alternatives, if any, in case the derivative instruments are not used.

REASONS FOR MANAGING DERIVATIVES RISKS

Handling derivative instruments is just like a nuclear device which needs utmost care. That is why the derivatives risk management and control needs an in-depth knowledge of risks, how they are identified, how they are evaluated and how they can be monitored. Following are the reasons for managing risks and the different risks present in derivatives:

1. **Optimization of capital:** the use of derivative instruments by the banking institutions has become a primary source of source which is a major development. Earning through derivatives is quite risky in nature. And many times, wrong calculation of prices of derivative instruments has created disaster for the creators. However, if used carefully, derivative products provide managers efficient and effective access to techniques for reducing certain risks through hedging and for reducing financial implications, costs and increasing yield on assets as well.

2. **Increase in complexity of financial market:** Nowadays, the business entity operates in highly dynamic business scenario due to which the complexity of financial markets has increased. Changes and developments in one part of the world have the tendency to affect the global firms in different ways. For instance, the increase in US interest rate impacts LIBOR and interest rates in other countries as well. As a result of globalization and liberalization, the domestic markets are directly linked with the international markets. Therefore, any changes in international financial markets create interest to both central banks and regulatory bodies, as well as to the derivatives users.

3. **Technology advances:** Due to advancements in technology, there has been increase in derivatives risks. New information technology and increased sophistication have created complications and insecurity in this financial world.

4. **Market Events:** These days the derivative products are available in all the types like agricultural products, metals, commodities and financial products. The developments and activities are moving at fast pace throughout the world, thereby increasing the market risk. To handle such risks, there are the needs of new derivative products and instruments so that corporate can act effectively.

5. **Changes in accounting practices:** other major tool for managing risk includes measuring derivative values accurately in a volatile market conditions. For that, there is a need of sound statistical tools and techniques. The accounting practices and standards for the derivative transactions are quite new and still in the process of evolution. However, there is no standard accounting practice and principle for derivatives so far.

6. **Regulatory Initiatives:** previously, only the developed countries had the derivative markets but now the developing countries have also identified the significance of derivative markets. As a consequence, the regulatory bodies initiated to establish derivative markets in various fields like metals, agricultural products and financial products. But as derivative markets are quite risky, so in order to prevent misuse there is a need of proper regulation.

TYPES OF RISK IN DERIVATIVE TRADING

Before managing and controlling derivatives exposure, it is important to clearly understand the nature and degree of risks associated with derivatives. The various kinds of risks involved in derivative trading are:

1) Credit risk: It is also known as Default risk. Credit risk is the risk which involves that a counter party will default on its obligations. Many of the derivative transactions are implemented and executed through the OTC (over the counter) and recognized exchanges. In comparison to OTC driver contracts, an exchange traded futures contract is likely to have significantly less counter party risks. The major factors influencing the credit risk are rating systems, scope for credit enhancements, sophistication of users, measurement approach, need for diversified client bases, product characteristics, valuation data, barriers to entry, etc.

The various techniques of credit analysis are those which are used to measure the present and ongoing credit risk that a firm bears at a moment. These techniques are applying options theory to credit default analysis, risk adjusted return calculations, using efficient portfolio theory and aggregating risks into a single measurement by various statistical correlation between individual credit risks. After carefully analyzing the credit risk of the party, next step is to control credit risk.

2) Market risk: Market risk is related to adverse changes in the market price of the derivative. In other words, market risk is one which exposes a firm to uncertainty as a result of changes in different market factors like commodity prices, foreign exchange rates, equity prices, market interest rate, volatility related to options positions, etc. Market risks arise due to factors which are uncontrollable by any party.

3) Liquidity Risk: It refers to the changes or fluctuations in the prices of the derivative instruments which are not easily purchased or sold in the market. Due to various factors, particular derivatives may not be easily sold at a fair price. It is noted that as compared to the exchange-traded derivatives, liquidity risk is

higher at the OTC markets. Elements of such kind of risk arise due to relative ability of a firm to transfer its assets and the mismatch between the bank's cash outflows and inflows arising out of derivative activities.

4) Legal risk: It is the risk which relates to a change in law or any regulatory rule which may cause adverse financial implications on a derivative transaction. The external risk management considers information provided by the global database and the legal and regulatory compliance. And any such new regulatory rule or compliance is instantly incorporated. The top level should be kept informed about the new rules and regulations so that they can take right step at the right time.

5) Operational risks: such kind of risks relates to mistakes, frauds or errors which may happen in carrying out the transactions, placing orders, during payments and deliveries, accounting and tax treatment for derivatives transactions.

6) Model Risk (formal risk): As it is known that derivative products and instruments are priced and valued using specific complex mathematical formulas which are based on various numerous assumptions, especially in the case of options. It has been observed that many times these formulas fail to provide accurate results regarding the prices. It is due to changes in assumptions and other environmental factors or unnoticed mistakes and errors in the models.

Value at risk (VaR) Analysis: Risk Aggregation

Value at risk (VaR) technique has become very popular and standard method in the derivatives market for the measurement of risk and helps to understand the risk exposure of a particular derivative asset.

CONCEPT

VaR is a statistical tool which helps in determining "the highest amount that can be lost with a given degree of confidence". In other words, VaR determines the maximum amount that one can lose from a certain set of derivatives holdings: within a particular time period and with a certain confidence level. The common confidence intervals can be 95per cent, 98 per cent and 99 per cent but it is never 100 per cent. The estimates are based on historical data of fluctuations and volatilities of prices and of the correlation between the prices. For instance, if the prices of 2 derivatives are strongly related then the risk during the adverse movement is considerably high than if they are poorly correlated.

The VaR calculations and the statements are made like, "It is X percent certain that there is not going to be lose more than V rupees in the coming Z days" where
V= VaR of the portfolio
X = confidence level
Z = time period.

Calculation of VaR

In typical VaR calculation, it is compulsory that time period is in days and the volatility of an asset per day. However, in case of options pricing, the time period is one year, which is then converted into volatility per day. For instance, assuming 252 trading days in a year, it follows that

$$\sigma_{yr} = \sigma_{day} \sqrt{252}$$

$$\sigma_{day} = \frac{\sigma_{yr}}{\sqrt{252}}$$

= 6 percent approx.

It means that daily volatility is 6 per cent of the annual volatility. Daily volatility is quite equal to the standard deviation of the return on an asset per day.

The main and basic assumption of VaR calculation is that portfolio returns are normally distributed.

Basic Assumptions of VaR

1. The VaR calculation describes the risk of a portfolio in a comprehensive manner. The portfolio with more VaR is riskier than other and to prove to be justifiable, it needs to produce higher returns as well.

2. After the calculation of VaR, there is another step for understanding risk and for beginning with hedging strategies designed to mitigate risks.

3. The three broad categories of VaR are determination of performance management, capital adequacy and supporting the risks managers. The essence of risk capital is the adequate measure for determining the capital requirements which is essentially important.

4. VaR technique helps in telling the true risk of the firm to the senior level management and also in reducing the troubles faced during the speculative trading using derivatives products.

5. This technique also helps in the fixed income market by calculating the risk that the duration mismatch relates. Hence the risk of lending long and borrowing short can be easily checked using this technique.

Shortcomings of VaR

VaR technique is usually criticized. The weaknesses of this technique are two fold. First of all, there are high costs of operating and maintaining VaR based system including hardware and software, obtaining price data, using expertise analysis, etc. Other than this, the results are not always accurate as it is based on probabilistic estimates, with pre determined assumptions which are not practical.

Moreover, the concept that the portfolio returns are normally distributed may not hold in practice. It is observed that the distributions are generally skewed.

VaR – An evaluation

Despite the fact that VaR technique has certain drawbacks, it is the best available tool for measuring the risk for a complicated and large portfolio. It is one technique which has extremely benefited its users as they are able to determine the level of return at a particular degree of risk. Though it is quite complicated and a hard mathematical too. It is recommended that in order to estimate risk and returns accurately, other techniques be also used in addition to VaR like Monte Carlo Simulation technique. Also the results by using VaR technique should be then adjusted. There are situations when portfolio returns are not normally distributed, in that case, there is no simple relationship between VaR and σ. Yet as long as sufficient precautions are considered and taken in calculating correct VaR, the meaning and its interpretation remains unchanged. For instance, a company holds a long position amounting Rs 10 crore with a daily volatility of 1 %(as based on historic data), then what is VaR over a one day horizon, using 98% as a confidence level? Using Standard Deviation tables, 98 per cent of the distribution falls within 2.05 standard deviation of the mean. In this case, the mean is the volatility of 1%. Therefore, VaR is Rs 10 crore×1%×2.05 = Rs 20.50 lacs. The interpretation is that with 98% surety, the loss from the futures position cannot exceed Rs 20.50 lacs over the next day.

VALUE CHAIN OF RISK MANAGEMENT (VCRM)

It is very important to devise and implement risk control system in an organization after carefully analyzing different risks and the value at risk of different derivative instruments. The term Value Chain of Risk Management includes all the organizational considerations, role of top management, information needs and choice of appropriate model for risk management.

1. Organizational considerations

Before choosing a particular risk control strategy and creating such value chain in an organization, it is essential to first study the organizational structure and its suitability. The main factors which influence the decision are:

a. **Size and structure:** Here, the two types of structures for assessment are fully centralized and regional structure. A fully centralized risk control structure enables to provide complete information on a consolidated basis to everybody involved in derivatives activities. Such kind of structure is suitable for regional and small commercial banking institutions where the business operations are quite homogeneous across the various locations. Calculations relating to limit management model can be easily and fully controlled at the centre.
Whereas in case of regional structure, risk function coexists with centralized function at the centre of the company. Such kind of structure is suitable for large organizations having a wide geographical span of activities.

b. **Functional Environment:** In the light of ever changing course of risk management, it is very important to review the existing functional environment of an organization over a period of time.

2. Role of Top Management

The role played by top management is very crucial in establishing Value Chain of Risk Management as they are primarily responsible for creating and developing integrated risk culture. It is essential to create an environment and culture in an organization where others can assume responsibility for risk factor and establish objectives.

3. Information Requirements

For an integrated risk process, dissemination of information to all the participants is an essential requirement of risk management. For this purpose, two crucial inter-related aspects are taken into account such as tactical vs. strategic user level and timeliness of information. Top management needs strategic level information in order to take strategic decisions. This information moves from top to bottom. These include information relating to matters like profits or losses, risk budget, expenditure levels, trading limits and derivatives performance.
Tactical level information is required by people of supervisory level. There requirements are of detailed information regarding product, incremental risk calculations, pricing, mark to model risk calculations portfolio exposure breakdowns, etc. The important thing in derivative exposure management is that there should be availability of right information at right time to the right person for critical derivative decision making. And it requires availability of real time systems to provide every minute market information to supervisory level for tactical decision making. Hence, there is a tradeoff between cost and benefit and it requires critical analysis to determine the level and intensity of information needed for every derivative products decision.

4. Analytical Choices

The other important aspects for creating risk control system are as follows:

i. **Developing building block approach:** Risk management of derivatives exposure is a complicated task and it requires expertise, adequate information and sources requirement on various aspects like market, credit, liquidity, etc. There are various tools and techniques used for risk control and analysis. So in order to avoid duplication of work in developing risk management approaches, few analytical approaches be followed to act as building blocks on which other complicated analytical methods can be built. These approaches should be flexible enough to be used and applied for different derivatives risks types.

ii. **The risk band:** The main purpose of determining risk band or range connects to the compatibility with two main mechanism of integrated risk system. One is centralized risk management function and other is performance measurement system. Both of them figures out return unit of risk using different methodologies. The important facet in risk Band approach is the knowledge of creating efficiencies and effectiveness measurable bot in time and cost.

iii. **Selecting the Right Model (Methodologies):** In order to ensure success of risk management process, there has to be right selection of methodology or set of methodologies. For this purpose, certain aspects are to be considered like suitability to portfolio composition, flexibility related to different kinds of risks, speed versus accuracy trade off and adequate back-testing.

a) **Suitability -** Whether a particular method will be appropriate or not for managing derivative portfolio exposure, nature of the position and market plays an important part. The following methodologies are suggested for different situations:

1. In case the portfolio position has linearity (delta at constant rate) and normality (prices move randomly), then it is advised to use statistical or parametric model like J.P. Morgan's Risk Metrics approach.
2. In case of non liner position with normal markets, then Monte Carlo simulation technique can be used for valuation calculations.
3. In case of linear position with non normal markets, then historical simulation techniques are suggested.
4. In case when neither the market is normal nor the linear position, then the hybrid models are appropriate by combining the options pricing model with scenario analysis. In such situations, the risk manager has to trade off between computational efficiencies, information requirements and theoretical correctness along with financial cost to be incurred on implementing such models.

b) **Flexibility:** Once the methodologies are finalized on the basis of their suitability, then they should be assessed if they are flexible in terms of risks types and derivative products.

c) **Speed vs. accuracy:** Few methodologies tend to be more accurate as compared to others abut also more computationally intensive and time consuming. For instance, Monte Carlo simulation technique is accurate but has to calculate thousands of simulated risk values, whereas other parametric methods can be operated at a greater speed but with lesser accuracy in certain situations and positions. Therefore, it is essential to make a tradeoff between speed and accuracy while selecting a model.

d) **Back-Testing:** Back testing is crucial for selecting a particular model. If there is no back-testing plan planned and implemented, then quite misleading information may be communicated to the controllers and regulators of an organization. It is required for evaluation of the performance and its actual experience in the market of the risk model. Two factors which are to kept in mind while designing back-testing plan are the choice of time frequency for back-testing the results and establishing what the accepted margin for model error is.

CONCLUSION

It can be rightly said that the planning and constructing derivative strategy is quite complex and delicate task. So the final choice should not be based only on theoretical concepts or models but also apply to real time complex situations.

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AN EMPIRICAL ANALYSIS OF PRICE DISCOVERY AND CASUALTY RELATIONSHIP BETWEEN SPOT INDEX AND INDEX FUTURES IN INDIA

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ABSTRACT

The purpose of the present study is to examine the price discovery between Nifty spot and Nifty futures by taking daily classing values of both the indices from June 12, 2000 to January 31, 2008. The study employs Johansen's cointegration test and Vector Error Correction Model (VECM) for analyzing the long run equilibrium and casualty between spot Nifty and Nifty futures. The findings of the study reveal that, in the long run, both the markets are cointegrated and also there exists a high casualty between the two markets. Further, the results shows that price discovery takes place first in the futures market, i.e., the futures markets slightly lead the spot market during the study period. This may be due to the low transaction cost and the high liquidity prevailing in the future market as compared to spot market in India.

***Key words**: Price Discovery, Cointegration, Arbitrage, Informational Efficiency, VEC Model.*
***JEL Classification**: G16*

INTRODUCTION

The Indian capital market has witnessed a major transformation and structural change during the past one and a half decade as a result of ongoing financial sector reforms. The major objectives of these reforms have been to improve market efficiency, enhancing transparency, checking unfair trade practices and bringing the Indian capital market up to a certain international standards. Because of the reforms several changes took place in the Indian securities market. It includes the empowerment of SEBI as the regulator, creation of the NSE and OTCEI, introduction of on-line trading in BSE and NSE, reduction of the settlement period, opening up of the Indian securities market to foreign institutional investors, etc. Above all the introduction of derivative products is really an important milestone in the history of the Indian capital market.

In India, derivatives were introduced mainly with a view to curb the increasing volatility of the asset prices in financial markets and to provide sophisticated risk management tools leading to higher returns by reducing risk and transaction costs as compared to individual financial assets. A derivate is a product whose value is derived from the value of one or more basic variables, called bases (underlying asset) in a contractual manner. The underlying asset can be equity, forex, interest rate, share price index, oil price, commodities or any other asset. Thus, the price of a derivative is contingent on the price of its underlying asset. Derivatives have several variants. The most common variants are forwards, futures, options and swaps. Derivative products serve the vitally important economic functions of price discovery and risk management. The transparency, which emerges from their trading mechanism, ensures the price discovery in the underlying market. Further, they serve as risk management tools by transmitting risk among market participants.

The purpose of the present study is to examine the lead lag relationship between Nifty spot and Nifty futures by taking daily closing prices of both the indices for a period spnning from 12th June, 2000 to 31st January, 2008. The present study assumes significance in the sense that it enables to determine which market is more efficient in the processing and reflection of new information. Studies on lead lag relationship also provide vital trading clues to the arbitragers, who are formulating their trading strategies

based on market imperfections. Further, most of the studies relating to price discovery function of spot market and futures markets are carried out in the developed markets. It is very useful to extend these studies to the developing markets which have immense potentials for future development.

The rest of the study is arranged as; Section 2 explains the theoretical background of the study, Section 3 presents a brief review of important past studies, Section 4 deals the data and methodology, the empirical analysis, findings and their implications are discussed in Section 5 and, Section 6 presents concluding remarks.

THEORETICAL BACKGROUND

Price discovery and information flow across cash and futures market is an important topic that has receives considerable attention from academicians, parishioners and regulators all over the world. This is mainly due to the fact that the issue is closely related to two important notions in the modern empirical finance theory namely Efficient Market Hypothesis and the arbitrage theory. The EMH argues that in an efficient market new information that is arriving to the market are quickly processed and instantaneously reflect in the securities prices and hence it is not possible to make abnormal profit by formulating strategies based on information asymmetry. Therefore, if the futures market and its underlying assets market are efficient, new information must be reflected in both the markets simultaneously giving no opportunities for profitable arbitrage strategies. However, in reality, stock markets are not efficient and also there exist wide variations between futures market and the spot markets in terms of transacting cost, margin requirements, trading frequencies, regulations, etc. Consequently, very often, one market leads the other for its efficiency to reflect new information. In other words, price discovery will takes place first in more efficient market.

The relation between spot and futures prices can be explained by cost of carry model. As per these model futures prices derive from the prices of the underlying asset from the present to the delivery date of the futures contract. The continuous time representation of theoretical fare value estimate of the futures price is fairly approximate by the net cost of carry madel. Any deviation from this relationship will be eliminated by arbitrage activities. The cost of carry model valuation for a stock index futures is symbolically is stated below.

$$F_T = S_T e^{r(T-t)} - D_{T-t} \qquad , \ , \ , \ , \ ,, \ , \ , \ ,, \ ,,(i)$$

Where

Ft = futures price at time‘t’
St= Spot index value at time’s’
R(T-T)= Dontinuously compounded risk free interest rate
D(T-T)= value of dividend paid on the component stocks during the period.

The cost of carry model is based on the premises that the two markets are efficient and perfectly substitute to each other. Consequently, arbitrage strategies are futile as the new information arrive simultaneously in both the market and is reflected quickly in both futures and spot prices. If this is true, there is no lead lag relationship between futures and spot market. However, the empirical studies give contradictorily evidence as to the lead lag relation between futures and spot market.

Several researchers have questioned the validity of cost of carry model. They pointed out that the model is valued only when the markets are perfect, interest rate are constant and dividend paid by the component stocks of the index are known with certainty They also argue that the observed relation between the price changes in both the market will be noisy due to various market imperfection and not simultaneous. Further, if there are economic incentives for traders to trade in one market over the other, a lead lag relationship between two market are likely to occur.

REVIEW OF ANCESTRAL STUDIES

A number of studies have empirically examined the temporal relationship between the futures and the spot markets. These studies attempt to find the lead lag relation between the futures and the spot market for an asset class and the differential spread of adjustment in the flow of information. In this section, we discuss some of the important studies that have been conducted on the relationship between the spot index and the index futures prices.

Studies by Kawaller el.al. (1987), Stoll and Whaley (1990), Chan et.al. (1991), Brooks et.al (1999) Roope et. al (2002), Abhyankar(1995), So and Tse (2006), Alphonse (2000), Kavussanos and Monikos (2003), Thenmomozhi (2002), Raju and Karande (2003), Gupta and Singh (2006), Bose (2006) and Bhatia (2007) supported the view that the futures market has lead over the spot market i.e. the price discovery is taking place first in the futures market. Their study also reported that the two markets are highly cointegrated leaving no opportunity for significant arbitrage profit in the long-run. It is generally argued that the main reason behind the lead of futures market over the spot market is mainly due to the low transaction cost prevailing in the futures market. The trading cost hypothesis suggests that the market with lowest transaction cost will react rapidly to new information and will lead the price changes in the other market. As the transaction cost in futures market is low as compared to cash market, the investors can easily establish trading strategies based on their expectations and general market trends. Therefore, it is argued that the futures market has an efficient price discovery mechanism than the underlying spot market.

Another argument put forward by researchers in support of the leading role of futures market over the spot market is the infrequent trading of the individual component stocks of the index. The stock index is a weighted average of the closing values of its component stocks. As a result, if some stocks are trading infrequently, the information specific to that stock may not be reflected in the value of index. Consequently, the spot index might not be respond to all information, which is vital or otherwise, specific to infrequently trading stocks. However, an index future is a single claim which does not have the problem of nonsynchronous trading. Therefore, if index futures prices reflect current information, the cash index with some stale prices will lag the futures prices (Harris, 1989). In addition to the trading cost hypothesis and nonsynchronous trading argument, researchers points out that lower margin requirements and high liquidity prevailing in the futures market as compared to spot market may make the futures market more efficient than the spot market in the processing and reflection of new information (Kota and Tokunaga, 1996).

In contrast to the above results and their possible explanations, the studies by Wahab and Lashgari (1993), Turkington and Walsh (1999), Pattarin and Frrethi (2004), and Mukherjee and Mishra (2006) reports that the spot market has a leading role over futures market. They also reported that in some cases, there exists a strong bi-directional relationship between the two markets. Operational inefficiencies in futures market, open outcry system of trading, etc, are sited as the possible explanations for the lag of futures markets.

The price discovery function explains how the information disseminates from one market to another. It has been argued that the lead lag relationship between spot index and index futures prices can be attributed to one or more market imperfection. It includes nonsynchronous trading effect, differences in transaction cost, liquidity differences between two market, short selling restriction, dividend uncertainties, non-stochastic interest rate, different taxation regimes and differences in margin requirements. Most of the studies supported the view that futures market plays a leading role in price discovery function by reflecting new information faster than the cash market. However it should be mentioned that the index futures are less likely to be used as an instrument for exploiting from the specific information as there exist an average effect. An index futures contract enables the traders for exploiting system wide information. Consequently, traders attempting to exploit firm specific information, which reflect in the index through its components stocks, use the index component as their trading instrument. Therefore under such circumstances unsystematic information reflects first in individual stock prices and the spot index before being transmitted to the futures market. Therefore, there is a chance of feedback relation between spot index and futures index. If firm specific information arrives constantly and it is influential, a strong bidirectional lead lag

relation between the two markets will be evident. On the other hand, if firm's specific information is irregular, the feed back relation will be weaker.

The present study analyses the price discovery function between spot Nifty-index and Nifty futures by using closing values of both the indices for a period ranging from twelfth June 2000 to 31 jan-2008.Johanson's co-integration and Error Correction Model have been applied to study the Co-integration and lead lag relation between the two markets.

DATA AND METHODOLOGY

The necessary information for the study has been collected from the National Stock Exchange of India's website. The data consists of the daily closing values of Nifty futures index (FUTDIX) and the Nifty Spot Index (S&P CNX NIFTY) for a period starting from June 12, 2000 to January 31, 2008. During the study period index futures are trading from 9.55 AM to 3.30 PM. The data has transformed into logarithmic scale and analyzed using E-views package. Johansen's (1988) cointegration approach and Vector Error correction Model (VECM) have been employed to investigate the casual nexus between spot and futures prices. A precondition for the test of cointegration is the existence of a stationary data series. Therefore, as a first step, it is necessary to test the stationarity of the data. The common methods which are used for this purpose are;

1) Augmented Dickey Fuller Test and,
2) Phillips-Perron Test

ADF test consist of estimating the following equation

$$\ln y_t = a + b_t + \delta \ln y_{t-1} + d \sum_{i=1}^{n} \Delta \ln y_{t-1} + e_t \qquad , , ,, , , ,,, ,, , \text{(ii)}$$

Here we test under the null hypothesis if S-0 then the series contains a unit root and thus nonstationary. But while testing null hypothesis, one should be aware of not using the normal t- statistics. Dicky and Fuller developed a test statistics known as tau (τ) statistics. So if the computed value of tau in absolute terms is more than the critical value, then one should reject the null hypothesis. In other words, if the computed value is more than the critical value (in absolute terms) at a given level of significance, then the underlying series is stationary,

PP test is an extension of Dickey-Fuller (1979) test. Dickey-Fuller test assumes that the errors are statistically independent and have a constant variance. Phililips (1987), Phillips and Perron (1988) generalized the DF procedure that allows for fairly mild assumption concerning the distribution of the errors. The PP approach is to add a correction factor to the DF test statistics (Perron, 2002).

The test can be shown as follows;

$$y_t = a^* + a_0^* y_{t-1} + \mu_t \qquad , , ,,, , , ,,,\text{(iii)}$$

$$y_t = \tilde{a}_0 + \tilde{a}_1 y_{t-1} + \tilde{a}_2 (t - \frac{T}{2}) + \mu_T \qquad , , , , , ,, ,\text{(Iv)}$$

If the ADF and PP test show that the series are non-stationary in level and stationary in differences, then there is a chance of cointegration relationships between the two variables, which reveals the long run relationships between the series. Here cointegration tests are carried out by means of the method developed by Johansen (1988) and Johansen and Juselius (1990). The Johansen method applies the maximum likelihood procedure to determine the presence of cointegrating vectors in non-stationary time series as a Vector Autoregression (VAR):

$$\Delta Z_t = C + \sum_{i=1}^{K} \Gamma_i \Delta Z_{t-1} + \Pi Z_{t-1} + \eta_t \qquad \text{……… (v)}$$

Where Z_t is a vectors of non-stationary (in log levels) variables and C is the constant term. The information on the coefficient matrix between the levels of the $\prod$ is decomposed as $\prod = \alpha\beta$, where the relevant elements the α matrix are adjustment coefficients and β matrix contains the cointegrating vectors.

There are two test statistics for cointegration under the Johansen method, they are

$$\lambda_{trace}(r) = -T\sum_{i=r+1}^{g}\ln(1-\hat{\lambda}_i) \quad \text{..... (vi)}$$

and

$$\lambda_{max}(r, r+1) = -T\ln(1-\hat{\lambda}_{r+1}) \quad \text{..... (viii)}$$

Where r is the number of cointegrating vectors under the null hypothesis and $\hat{\lambda}_i$ is the estimated value for the i^{th} ordered eigenvalue from the $\prod$ matrix. Each eigenvalue will have associated with it a different cointegrating vector, which will be eigenvectors. A significantly non-zero eigenvalue indicates a significant cointegrating vectors.

Johansen and Juselues (1990) provide critical values for the two statistics. If the test statistics is greater than the critical value from Johansens table, reject the null hypothesis that there are r cointegrating vectors in favour of the alternative that there are r+1 (for λ_{trace}) or more than r (for λ_{max}).

As the third step, if variables are non-stationary and are cointegrated, the adequate method to examine the issue of causation is the Vector Error Correction Model (VECM), which is a Vector Autoregressive model (VAR) in first differences with the addition of a vector of cointegrating residuals. Since Vector Error Correction Model (VECM) can capture both the short-run dynamic and the long-run equilibrium relationship between variables, we use it to estimate the relationship between Spot Nifty, N and nifty Futures, F. It can be shown as

$$\Delta S_t = \alpha_1 + \alpha_S \hat{e}_{t-1} + \sum_{i=1}^{n_i}\alpha_{11}(i)\Delta S_{t-i} + \sum_{j=1}^{n_2}\alpha_{12}(j)\Delta F_{t-j} + \varepsilon_{S_t} \quad \text{..... (viii)}$$

$$\Delta F_t = \alpha_2 + \alpha_N \hat{e}_{t-1} + \sum_{i=1}^{n_3}\alpha_{21}(i)\Delta S_{t-i} + \sum_{j=1}^{n_4}\alpha_{22}(j)\Delta F_{t-j} + \varepsilon_{N_t} \quad \text{..... (ix)}$$

The error correction term, $\hat{e}_{t-1}$ represents the previous period's disequilibrium ($S_{t-1} - \beta_1 F_{t-1}$). The ε_{St} and ε_{Ft} are stationary random process. Besides, we employed Akaike's Information Criteria (AIC) to determine the optimal lag length based on principle of "Parsimony" to avoid the biased estimation.

EMPIRICAL ANALYSIS

A precondition for testing cointegration between spot Nifty and Nifty futures is that all variables are nonstationay. The Augumented Dickey Fuller (ADF) test and Phillips –Perron (PP) unit root test with intercepts and with intercepts and trends are adopted to check whether the variables contain a unit root or not. The optimal lag length is obtained by using Akaike Information Criteria (AIC). Next, the lead lag relationship between spot Nifty and Nifty futures are tested by using Johansen and Jusalius (1990) test procedure. The procedure involves the formulation of an Unrestricted Vector Autoregressive (VAR) in the variables. Since the lag selection has its limitations, the system is constructed with four lag. The Vector Error Correction Model is estimated to capture the lead lag relationship between the spot Nifty and Nifty futures.

The unit root was performed on spot Nifty and Nifty futures for determining stationarity. The results of both the ADF and PP unit root test are reported in Table 1. From Table 1, the results show that Nifty spot and Nifty futures are not stationary in their levels. Therefore, the first differences of the series are tested for stationarity. By an observation, it is clear that both the series are not stationary in their level form because the test statistics of both the ADF and PP are more than their respective critical values. Further, the ADF and PP test when conducted on first differential values of log values of both the indices give a test statistics which is lower than the critical values. Therefore, it is concluded that both the series are stationary at their 1^{st} differences.

Table: 1 Results of Augmented Dickey-Fuller (ADF) and Phillips and Perron (PP) Tests

Indices	Augmented Dickey-Fuller		Phillips and Perron	
	With intercept	With intercept and trend	With intercept	With intercept and trend
Levels				
Futures	0.512795	-2.7553574	0.641071	-2.686240
Spot	0.237379	-2.963316	0.483495	-2.747554
First Difference				
Futures	-18.17195*	-18.28615*	-35.28615*	-35.48340*
Spot	-17.46773*	-17.55650*	-29.3373*	-29.35599*

Since both the values are 1(1) integrated, the long run relationships between spot Nifty and Nifty futures can be tested. Table 2 summarizes the results of cointegration test relating the Nifty spot and Nifty futures index values. The table clearly shows that the presents of significant cointegration relationships between the two variables. Both the λ_{trace} and λ_{max} shows one significant cointegrating rank at one percent level of significance. This shows the presence of long run equilibrium relationship between Nifty spot index and Nifty futures indices.

Table: 2 Johansen's Cointegration Test Results of BSE Sensex and NSE Nifty Stock Indices

Null	Alternative	Eigen Value	Statistic	5 percent Critical Value	1 per cent Critical Value
λ_{trace} test					
r = 0	r > 0	0.51599	96.31837	15.41	20.04
r ≤ 1	r > 1	0.15E-05	0.057334	3.76	6.65
λ_{max} test					
r = 0	r = 1	0.051599	96.26105	14.07	18.63
r = 1	r = 2	0.3.15E-05	0.057324	3.76	6.65

Since the Johansen's test confirmed the presence of long run relationship between Nifty spot and Nifty futures, the next step is to analyze the dynamics of price change in the two markets in response to a deviation from the equilibrium. It is achieved by applying ECM. The rational behind the ECM is that, if two variables are cointegrated then there exist a long run relationship between them, even if they are in disequilibrium in the short run. Therefore, one can treat the error term in the regression of these two variables as equilibrium errors. And by incorporating it in the model, one can calculate the spread with which the variables adjust towards long run equilibrium. According to Johansen, whenever two variables are cointegrated and showing short run adjustments. To bridge the long run disequilibrium, there exists causality between them. The ECM results are reported in Table 3. In the VECM, various lag selection test have been conducted indicating that about twenty five lags can be considered in the estimated model, while such long lag selection may be satisfactory on a pure statistical background, it appears;

The VECM estimates presented in the Table 3 reveals that, there is a slight lead from futures to spot market. In other words, price discovery takes place fist in the futures market. The futures market is more efficient than the spot market as far as the information processing mechanism is concerned.

The results of the study confirmed that, compared to spot market the futures markets incorporate new information more quickly. This may be due to the fact that the futures markets are less restrictive in teems of less transaction cost, margin requirements, etc. Further, unlike index futures contract, the spot index itself is not tradable asset but simply a weighted average of the prices of its component stocks. Consequently, changes in the index reflect the weighted sum of the average of the prices of fifty components stocks, which tend to move much more slowly than the index futures prices in response to the

arrival of the new information. "The final estimates of the speed of adjustment term in the spot return are described as the net return of arbitrage and momentum trading effect. A positive speed of adjustment coefficient indicate that arbitrage trading is more prevalent than momentum trading in the stock market, whenever by buying or selling by other traders causes futures prices to move too high or too low relative to underlying stock price index arbitragers buy the cheaper product. sell the other one, and lock in a gain, in effect transferring the news in futures prices in spot market "(Bose, 2006). In addition, the differences in capital requirements, short selling restrictions in spot market can make trading in futures market more attractive.

Table: 3 Results of Vector Error Correction Model

	C	$\hat{e}_{t-1}$	ΔS_{t-1}	ΔS_{t-2}	ΔN_{t-1}	ΔN_{t-2}	F
ΔS_t	0.000518 (1.63392)	-0.212870 (3.40921)*	-0.147243 (-171206)*	-0.194270 (-2.58726)*	-0461037 4.78437)*	0.068403 0.27534)*	56.30509
ΔN_t	0.00048 (1.75455)	0.000675 (0.01226)	0.115233 (1.55288)	0.094471 (-1.42915)	0.273765 (3.29489)	-0.273765 (3.294894)**	60..32598

The result of this study has important policy implications for market players including the regulatory authorities. The arbitragers, who exploit the markets disequilibrium, have benefit a lot from the studies of this kind. They can formulate and reformulate their trading strategies based on the lead lag relationship between futures and spot prices. The spot market is efficient even if, the study establishes that the futures market has a lead over the spot market in the procession and reflection of new information. The high causality exists between the two market prove this point. Therefore, while formulating regulatory and promotional policies, the regulators must keep in mind the impact of such policies on the long term development of the two markets.

CONCLUDING REMARKS

Using Johansen's cointegration test and Vector Error Correction Model this study evaluated the long run equilibrium and lead lag relationship between the spot Nifty and Nifty futures in the Indian stock market. The study used closing values of S&P CNX NIFTY INDEX and its corresponding futures Index (FUTIDX) for a period of eight years and seven months spanning from 12th June, 2000 to 31st January, 2008. We selected the Nifty futures for analysis as it is the most actively traded futures contracts in India.

The result of the study shows that both the markets are cointegrated in the long run and there exists causality between them. It means that there exists a long run equilibrium relationship between the two markets. Therefore if the prices show a divergence from the equilibrium in the short run, both the markets will adjust in such a way as to correct the disequilibrium in the long run. In this study we found that the futures market has a lead over the spot market for the processing and reflection of new information in the short run. Therefore, the futures market has a predictive power in determining the movement of spot prices at least in the shot run. This results is consistent with the previous studies such as Stoll and Whaley (1990), Chan (19920), Ghosh (1993), Abhyankar (1995), Bose (2006) and Bhatia (2007), However it should be noted that, although futures markets has a lead over the spot market in the short run., both the markets are moving together in the long run. It means that futures market, which lead over spot market is mainly attributed to low transition costs and hig liquidity, are not in a position to maintain its advantages over spot markets in the long run. Again, it should also be noted that efficient arbitragers such as intuitional investors (mainly banks and insurance companies) are not allowed to use equity derivatives in India. This may be another factor that limits the price discovery function of futures market.

Last, it should be bear in mind that the study is based on the classing values of Nifty spot and Nifty futures index (FUTIDX) which has two limitations in terms of non-representativeness and non-synchronicity. Therefore, a study by using high frequency data will provide more accurate results especially in terms of the exact time by which the lead lag relationship between futures and the spot market and which is more

useful to all stakeholders especially to arbitragers. However, the present study broadly specifies the general nature and the relationship that exist between the spot market and its corresponding futures market.

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DOES THE FIRM'S FINANCIAL LEVERAGE AFFECT THE RELATIONSHIP BETWEEN EARNINGS AND EQUITY PRICE?

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ABSTRACT

The purpose of this study is to investigate how the firm's financial leverage affects the relationship between earnings and equity price, i.e., the value relevance of earnings. In particular, we compare the explanatory power (total and incremental) of earnings for equity price between all-equity and levered firms matched by industry. Using a sample of 60 all-equity firms and 184 industry-matched levered firms over twenty-year period (1989-2008), we find that explanatory powers of earnings are larger for all-equity firms than for levered firms. Moreover, all-equity firms show larger total and common explanatory powers, which consider both earnings and book value of equity in explaining equity prices. Overall, our empirical results indicate that the firm's financial leverage is an important factor affecting the relationship between earnings and equity prices.

INTRODUCTION

The purpose of this study is to investigate the firm's financial leverage as an additional contributing factor to the cross-sectional variation in the value relevance of earnings and equity book value. In particular, we examine whether the value relevance of earnings and equity book value is systematically different between all equity firms and levered firms.

In this study, we use two different but complementary approaches to measure differences in the value relevance of earnings and equity book value between all equity and levered firms. First, we examine the overall explanatory power of accounting valuation models using the R^2 as our primary metric for value relevance (Francis and Schipper (1999) and Collins et al. (1997)). Second, we compare the incremental and common explanatory power (R^2) of earnings and equity book value (Barth et al (1998) and Collins et al. (1997).

HYPOTHESIS

Given this well-documented value relevance of earnings and book value of equity, several studies have investigated specific conditions under which book value is more value relevant than earnings, or vice versa. For example, empirical studies show that book value of equity is more value relevant than earnings for the firms with negative earnings (Hayn(1995); Collins, Pincus and Xie (1999)), extreme return-on-equity (Penman (1998)), low return on equity (Burgstahler and Dichev(1997)), deteriorating financial health (Barth, Beaver and Landsman (1998)), and low earnings persistence (Ou and Sepe (2002)).

This study examines the level of financial leverage in a firm's capital structure as additional factor affecting the cross-sectional variation in the relative value relevance of earnings and book value of equity. The level of debt in a firm's capital structure would cause earnings and book value to play differential roles in pricing its equity. More specifically, we expect that earnings would be more important to valuation for high-leverage firms than for low-leverage firms. Therefore, testable hypothesis would be

Hypothesis: Value relevance of earnings is larger for all-equity firms than for levered firms.

SAMPLE SELECTION

Our sample firms were drawn from the COMPUSTAT database. To be included in the sample, each firm must have relevant financial data (earnings, equity book value, number of shares outstanding and year-end stock price) available over twenty year period (1989-2008). The final all-equity sample and matched levered sample include 60 firms and 184 firms, respectively.

The sample consists of 12 industries and there is some clustering in particular industries. For example, durable manufacturers and computers industries account for 31.67% (23.37%) and 21.67% (16.85%), respectively, of all-equity sample and levered sample firms. However, there is no systematic difference in industry distributions between two sample firms. One exception is extractive industries, which accounts for 3.33% of all-equity firms but 7.61% of levered firms.

RESEARCH METHOD

The value relevance of accounting information can be defined as the ability of financial statements to summarize information that affects firm value (Collins et al. (1997); Francis and Schipper (1999)). Although financial statements provide lots of value relevant information, earnings and book value of equity have been considered as two key measures. Following the valuation model developed by Ohlson (1995) and subsequent empirical studies, we operationalize the value relevance of earnings and book value by estimating the following regression model:

$$P_{it} = a_0 + a_1 EPS_{it} + a_2 BV_{it} + \varepsilon_{it} \quad (1)$$

Where: P_{it} = the price of stock for firm i at the end of year t;
EPS_{it} = the earnings per share of firm i during the year t;
BV_{it} = the book value per share for firm i at the end of year t.

Since explanatory power (R^2) is used to measure value relevance of earnings and book value, we have to obtain the incremental explanatory power (R^2) of earnings and book value by estimating the following two equations:

$$P_{it} = b_0 + b_1 BV_{it} + \varepsilon_{it} \quad (2)$$

and

$$P_{it} = c_0 + c_1 EPS_{it} + \varepsilon_{it} \quad (3)$$

The incremental explanatory power (R^2) of earnings and book value can be defined as:

Incremental R^2 of EPS = R^2 of Model (1) – R^2 of Model (2);
Incremental R^2 of BV = R^2 of Model (1) – R^2 of Model (3).

EMPIRICAL RESULTS

Table 1 provides descriptive statistics for selected variables of the sample firms. Also reported are Wilcoxon rank test statistics for the differences in these variables between all-equity firms and levered firms. The average debt to equity ratio (LEV) for the levered firms is 55%. All the variables are larger for levered firms than for all-equity firms, and the differences are statistically significant. For example, equity price (P), earnings per share (EPS) and book value of equity (BV) of levered firms are almost twice larger than those of all-equity firms. ROEs of all-equity firms are not only lower (median values of 8.9% versus 11.7%), but also more fluctuating than those of levered firms as shown in negative mean value and high standard deviation. Levered firms are ten times as large as all-equity firms in size (MV).

<Table 1> Descriptive Statistics of Selected Variables

Variables	All-equity Firms			Levered Firms			Wilcoxon z-statistics (p-value)
	Mean	Std Dev	Median	Mean	Std Dev	Median	
LEV	-	-	-	0.550	1.464	0.200	-
P	17.007	18.552	11.980	29.340	25.036	23.000	16.985 (0.0001)
EPS	0.743	1.433	0.548	1.395	2.217	1.220	14.404 (0.0001)
BV	7.838	12.068	5.168	13.227	12.455	9.923	19.202 (0.0001)
MV	0.757	2.490	0.089	8.518	26.664	0.786	23.459 (0.0001)
ROE	-0.077	3.435	0.089	0.022	1.591	0.117	7.996 (0.0001)

Table 2 presents the results of comparing the explanatory powers of earnings and book value between all-equity firms and levered firms. Shown in the Table 2 are sample mean of different measures of R^2 and Wicoxon test statistics from the results of estimating the regression models (1)-(3) each year for 20 years (1989-2008). The total R^2 indicates that earnings and book value jointly explain 67.1% (50.8%) of the variation in equity prices for the all-equity firms (levered firms), which is lower than 75% reported in the study by Collins et al. (1997) over the period 1983-1993. An interesting result is that total R^2 is larger for all-equity firms than for the levered firms, and this difference is statistically significant.

The results show that there is no significant difference in the incremental R^2 of EPS between all-equity firms (9.6%) and levered firms (11.4%). However, the incremental R^2 of BV is larger for levered firms (12.0%) than for all-equity firms (3.8%), and the difference is statistically significant. This indicates that for levered firms, equity book value alone accounts for 24% (0.120/0.508) of total explanatory power provided by both earnings and book value, while book value alone accounts for only 6% (0.038/0.671) of total R^2 for all-equity firms. This result is consistent with our hypothesis.

<Table 2> R-Square (R^2) from the Regression of Stock Price on Earnings and/or Equity Book Value: All-equity versus Levered Firms

Classification of R-squares [1)]	All-equity Firms		Levered Firms		Differences in R^2 (Wilcoxon z-stat)
	R^2	% of Total	R^2	% of Total	
Total	0.671		0.508		0.163 (3.097)***
EPS incremental	0.096	14	0.114	22	-0.018 (1.231)
BV incremental	0.038	6	0.120	24	-0.082 (3.557)***
Common	0.537	80	0.274	54	0.263 (3.746)***

Wilcoxon z-statistics and p-values are based on 20 yearly R^2 data.

*** Significant at $\alpha<0.01$; ** Significant $\alpha<0.05$; * Significant $\alpha<0.10$;

CONCLUSION

This study investigates the firm's level of financial leverage as an additional contributing factor to the cross-sectional variation in the value relevance of earnings and equity book value. In particular, we examine whether the value relevance of earnings and equity book value is systematically different between all equity firms and levered firms. Using prior empirical results and arguments regarding the distinctive roles of balance sheet, we hypothesize that value relevance of earnings is larger for all-equity firms than for levered firms.

Our empirical results, using a sample of 60 all-equity firms and 184 industry-matched levered firms over twenty-year period (1989-2008), indicate that value relevance of earnings is larger for all-equity firms than for levered firms. Specifically, we find that both total and common explanatory powers of earnings and equity book value are larger for all-equity firms than levered firms. These empirical results indicate that the firm's financial leverage is an important factor affecting the relationship between earnings and equity prices.

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EXPLAINING VARIABILITY IN DIVIDEND PAYMENTS: WHAT MATTERS?

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ABSTRACT

This paper explores the contribution of various financial measures in explaining the variability in a firm's dividend payments. Ordinary least squares analysis of data from 2003 to 2007 shows that approximately 71% {R2 = .707, F(4, 6497) = 3.928E3, p < .001} of the variability in dividend payments is explained by the firm's expected growth rate of revenues, earnings before interest and tax, market debt to capital ratio, and effective tax rate. Tests are also performed to detect multicollinearity among the regressors and autocorrelation and heteroskedacity in the dataset. The computed Tolerance and Variation Factor Inflation reveal that multicollinearity is not a threat to the inferences suggested by the regression results. Likewise, the results of Durbin-Watson and Breusch–Pagan tests indicate that autocorrelation and heteroskedacity are absent from the dataset. The findings support theories in the literature that dividends paid by a firm decrease with higher expected growth in revenues, lower earnings before interest and tax, higher debt service requirements, and higher effective tax rates.

Keywords: *Dividend Payments, EBIT, Market Debt to Capital Ratio, Expected Growth Rate in Revenues, Effective Tax Rate*

INTRODUCTION

Dividends paid to shareholders differ among firms across the board. In the framework of signaling and asymmetric information hypotheses, several explanations regarding the variability in dividend payments have been theoretically discussed and empirically documented in the finance literature. Intuitively, one explanation for the level of dividends paid is that higher expected growth in revenues can influence corporate managers to adjust their investment policies by increasing the retention ratio so that they have sufficient internal funds to take on more investment projects that allow them to meet the revenue generation expectations. A similar concept to this intuition is discussed by Lang and Litzenberger (1989) and John and Lang (1991). These researchers contend that a dividend decrease implies that firms are taking on more investment projects, and a dividend increase indicates that management is cutting down investment projects. Benartzi, Michaely, and Thaler (1997) report the same phenomenon. These authors find that earnings growth rates of dividend increasing firms do not increase, yet decreasing dividend firms experience increased earnings growth rates two years following the announcement of a dividend cut. Grullon, Michaely, and Swaminathan (2002) find that there is a significant decrease in return on assets of firms that raise dividend payout rates. Rozeff (1982) finds that expected future investment is negatively related to dividend payout. Furthermore, Jensen, Solberg, and Zorn (1992) find that managers set dividend levels that allow them to finance expected investments using internal funds.

Actual company earnings are another key determinant of dividend payouts. There is a statistically significant relationship between dividends and earnings (Aharony & Swary, 1980; Asquith & Mullins 1983; Hsu, Wang, & Wu, 1998; Lintner, 1956). Bhattacharya (1979), Miller and Rock (1985) and John and Williams (1985) show that adjustments in dividend payments are linked to changes in earnings. A relationship between dividends and earnings is also reported in other studies (Chen &Wu, 1999; Fama & Babiak, 1968; Watts, 1973, Gonedes, 1978, Lee & Kau, 1987).

The market debt to capital ratio is another possible explanation of the variability in dividend payments. Several papers have found a negative relationship between leverage and dividend payout ratios (Manos,

2003; Nivoix, 2005). This negative relationship is plausible due to the extent that debt and dividends are substitute devices employed by managers to mitigate agency conflicts or asymmetric information problems (Dhillon & Johnson, 1995; Ravid & Sarig, 1991). This implies that an increased market debt to capital ratio reduces dividend payout rates and vice versa.

The tax effect on dividends is also addressed in the literature, with mixed results. Miller and Modigliani (1961) argue that higher dividend tax rates make payouts to stockholders in the form of dividends inferior to other forms such as share repurchases. In other word, paying large dividends is not an optimal policy for firms operating in a regime where tax on capital gains is less than tax on dividend income and where share repurchases are allowed. However, Allen and Michaely (1995) show that firms have rarely repurchased shares but regularly paid dividends. In this case, a dividend tax hike does not influence firms to revise their dividend payout policies and Naranjo, Nimalendran, and Ryngaert (1998) indicate that there is no relationship between the dividend yield effect and the level of tax rate.

As discussed above, the firm's expected growth rate of revenues, earnings before interest and tax, market debt to capital ratio, and effective tax rate are possible determinants of dividend payout. However, a joint estimate of the effects of these variables on dividend payments is not available in the current dividend literature. Therefore, the present study seeks to provide a model which explains the variability in dividends using the firm's expected growth rate of revenues, earnings before interest and tax, market debt to capital ratio, and effective tax rate as explanatory variables. This study adds new knowledge to the dividend literature by offering a model that explains variability in dividend payments and contributes to the further understanding of various factors affecting dividends paid by firms.

DATA AND METHODS

The data were obtained from a publically available set maintained and made available by Dr. Aswath Damodaran of the Stern School of Business at New York University. The particular information used was derived from *Value Line* reports between 2003 and 2007. The data were filtered to eliminate any incomplete records, and a total population of 6502 observations remained. Regressions were run with more variables originally, but the models were refined to eliminate insignificant variables. Dummy variables were included in the original models to determine if there were any differences based on the year, and were all found to be insignificant. Expected growth in earnings per share was also included originally and eliminated as insignificant. This particular result was interesting in that prior research, noted in the introduction above, had found significant relationships between earnings and dividends. The results reported here do suggest a significant relationship between earnings before interest and tax, but not with expected growth in earnings per share. Expected growth in revenues was found to be significant in this model, however. The expected growth figures are provided by *Value Line*, and are the only non-historic figures in the variables used or found to be significant.

RESULTS

As shown in Table 1, approximately 71% $\{R^2 = .707, F(4, 6497) = 3.928E3, p < .001\}$ of the variability in dividend payments is explained by the firm's expected growth rate of revenues, earnings before interest and tax , market debt to capital ratio, and effective tax rate. On average, one percent increase in expected growth in revenues decreases dividends by $380.27. This finding is consistent with other studies documented in the literature that dividend paid by the firm should go down with its higher expected growth in revenues.

A mean increase of $0.13 in dividends is accounted for by a $1 million increase in earnings before interest and tax. This result is confirmed in the literature that there is a positive relationship between earnings and dividends. In addition, dividends, on average, go down by $86.07 for 1 per cent increase in the market debt to capital ratio. The finding adds more information to the literature that there is a negative relationship between the firm's leverage and dividend payment. One percent rise in effective tax rate lowers dividends by an average of $49.02; this information is aligned with the literature that higher tax rates should lower the dividend payout.

Furthermore, tests are also performed to detect multicollinearity among the regressors and autocorrelation and heteroskedacity in the dataset. The correlation coefficients of explanatory variables (See Table 2) show no sign of serious multicollinearity. Additionally, the computed *Tolerance* and *Variation Factor Inflation*, as shown in Table 1, reveal that multicollinearity is not a threat to the inferences of the regression results. Likewise, the *Durbin-Watson statistic* found in Table 1 indicates that autocorrelation is absent in the dataset. Finally, as exhibited in Table 3, the results from *Breusch–Pagan* test indicate that the problem associated with heteroskedacity in the dataset does not exist.

Table 1

Regression Results Obtained from Regressing Dividends (in dollars) on the Following Variables

Variables	Beta	*t*	Collinearity Statistics	
			Tolerance	*VIF*
Constant	61.02	5.97***		
Expected Growth in Revenues (%)	-380.27	-5.32***	.97	1.03
EBIT (in millions)	.13	124.78***	.98	1.01
Market Debt to Capital Ratio (%)	-86.07	-10.54***	.96	1.03
Effective Tax Rate (%)	-49.02	-2.54**	.99	1.00
R^2		.707		
Adjusted R^2		.707		
F-Statistic		3.928E3		
Durbin-Watson Statistic		1.95		

N = 6501
** Significant at the .01 level
*** Significant at the .001 level

Table 2

Correlation Matrix among Explanatory Variables

Variables	Expected Growth in Revenues	EBIT	Market Debt to Capital Ratio	Effective Tax Rate
Expected Growth in Revenues	1			
EBIT	-.06**	1		
Market Debt to Capital Ratio	-.17**	.10**	1	
Effective Tax Rate	-.02*	.01	-.02	1

N = 6502
* Significant at the .05 level; ** Significant at the .01 level

Table 3

ANOVA Results Obtained from Regressing the Model's Squared Residuals on the Explanatory Variables

Variables	Sum of Squares	*Df*	Mean Square	*F*	*p*
Regression	2.286E15	4	5.715E14	617.897	.000
Residual	6.009E15	6497	9.249E11		
Total	8.295E15	6501			

CONCLUSION

The firm's expected growth rate of revenues, earnings before interest and tax, market debt to capital ratio, and effective tax rate are suggested in the dividend literature as likely influences on the level of dividends. Nonetheless, there is not a study in the finance literature that estimates a joint effect of these variables in explaining the variability in dividend payments. As a result, the present study is constructed to provide a model to explain the variability in dividends using the firm's expected growth rate of revenues, earnings before interest and tax, market debt to capital ratio, and effective tax rate as the regressors.

The current study finds that approximately 71% {$R^2 = .707$, $F(4, 6497) = 3.928E3$, $p < .001$} of the variability in dividend payments is explained by the firm's expected growth rate of revenues, earnings before interest and tax, market debt to capital ratio and effective tax rate. The present study adds new knowledge to the body of dividend literature by offering a model that explains variability in dividend payments. The findings support theories in the literature that dividend paid by the firm goes down with higher expected growth in revenues, lower earnings before interest and tax, increased debt service requirements, and higher tax rates.

Tests are also performed to detect multicollinearity among the regressors and autocorrelation and heteroskedacity in the dataset. Correlation coefficients among variables and the computed *Tolerance* and *Variation Factor Inflation* reveal that multicollinearity is not a threat to the inference of the regression results. Moreover, the results of *Durbin-Watson* and *Breusch–Pagan* tests indicate that autocorrelation and heteroskedacity are absent in the dataset.

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IMPACT OF INFLATION ON PERCEPTION OF INDIAN MUTUAL FUND INVESTOR DURING RECESSION --- AN EMPIRICAL STUDY

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ABSTRACT

Inflation has been the buzzword! From the prime minister to the common man all were worried about how fast the rate of inflation has been increasing. Inflation entered into double digits at 11.05 per cent for the week ended on June 7'2008.

Inflation reflects the rate at which the general prices of food and other commodities increase over a period of time. This ultimately leads to a decrease in purchasing power of money and that is what actually affects a common man .The effect of inflation not only leads to hike in prices of commodities and food but also eats away into the returns on the investments of investors and their hard earned money also. During the period of the study it has been observed that all of them were really puzzled as the investments were giving them negative returns. This study has resulted in understanding the effect of inflation on perception of Indian mutual fund investor during the period of recession. This paper is based on the survey conducted in Delhi during 2008-9 showing what were the different alternatives available during that period and how inflation has eaten up their savings.

INTRODUCTION

When current income exceeds current consumption (spending), people tend to save the excess. We can do any of several things with such savings. One possibility is to do nothing-just hold the cash. But this strategy earns a 0percent return; that is, it adds nothing to the original amount. Another possibility is to give up immediate possession of these savings and invest them, with the expectation that a larger amount of funds for future consumption will result. These tradeoffs of *present* consumption for a higher level of *future* consumption are the reason for saving. What we do with the saving to make them increase over time is *investment.*

Investment management is the professional management of various securities(shares, bonds and other securities) and assets(e.g.,real estate, gold), to meet specified investment goals for the benefit of the investors. Investors may be institutions (insurance companies, pension funds, corporations etc.) or private investors (both directly via investment contracts and more commonly via collective investment schemes e.g.mutual funds or exchange tratded funds .

An investment is the current commitment of resources for a period of time in the expectation of receiving future resources that will compensate the investor for

1. The time the resources are committed
2. The expected rate of inflation and
3. The risk that is uncertainty of the future payments.

The investor is trading a known amount of resources (e.g. money) today for expected future resources (e.g. a lump sum of cash or an income stream) that will be greater than the current outlay.

Reasons for investment

Individual invest funds for many different reasons. In general, people invest with one or more of three basic needs in minds: Income, Capital Preservation and Capital Appreciation.

Inflation

Inflation reflects the rate at which the general prices of food and other commodities increase over a period of time. This ultimately leads to a decrease in purchasing power of money and that is what actually affects a common man .The effect of inflation not only leads to hike in prices of commodities and food but also eats away into the returns on the investments of investors hard earned money and hits his pocket too. Due to this they really get puzzled as all the investments were giving them negative returns. There are two inflation rates. The Consumer Price Index (CPI) based inflation rate which arises due to high food price inflation. Analysts believe the RBI can't do much to contain the food price inflation rate which is mainly driven by the supply-related structural issues.
On the other hand, the Wholesale Price Index (WPI) based inflation which covers a much broader range of goods. The RBI and the government's mandated limit for the WPI-based inflation is five to 5.5 percent.

If we take a look at the recent scenario in the Indian financial market then we can find the market flooded with a variety of investment options which includes mutual funds, equities, fixed income bonds, corporate debentures, company fixed deposits, bank deposits, PPF, life insurance, gold, real estate etc. all these investment options could be judged on the basis of various parameters such as- return, safety ,convenience, volatility and liquidity. measuring these investment options on the basis of the mentioned parameters, we get this in a tabular form

Comparison of Investment Option

OPTIONS	Return	Safety	volatility	liquidity	Convenience
Equity	High	Low	High	HigherofLow	Moderate
F.I.Bonds	Moderate	High	Moderate	Moderate	High
Corporate Debentures	Moderate	Moderate	Moderate	Low	Low
Postal Deposits	Low	High	Low	Low	Moderate
Bank Deposits	Low	High	Low	High	High
Life Insurance	Low	High	Low	Low	Moderate
Mutual Funds	High	High	Moderate	High	High
Gold	Moderate	High	Moderate	Moderate	
Real Estate	High	Moderate	High	Low	Low

The Investor Perspective : Funds Vs Other products

OPTIONS	Investment Objective	Risk Tolerance	Investment Horizon
Equity	Capital appreciation	High	Long term
Corporate Debenture	Income	H-M-Low	Long term
Postal Deposits	Income	Low	Medium
Bank Deposits	Income	Generally low	Flexible
Life Insurance	Risk cover	Low	Long term
Mutual Funds	Capital growth income	H-M-low	Flexible all terms
Gold	Capital appreciation	Low	Long term
Real Estate	Capital growth income	Low	Long term

We can very well see that mutual funds outperform every other investment option. On three parameters it scores high whereas it's moderate at one. comparing it with the other options, we find that equities gives us high returns with high liquidity but its volatility too is high with low safety which doesn't makes it

favourite among persons who have low risk- appetite. Even the convenience involved with investing in equities is just moderate.

Now looking at bank deposits, it scores better than equities at all fronts but lags badly in the parameter of utmost important ie; it scores low on return , so it's not an happening option for person who can afford to take risks for higher return. The other option offering high return is real estate but that even comes with high volatility and moderate safety level, even the liquidity and convenience involved are too low. Gold have always been a favourite among Indians but when we look at it as an investment option then it definitely doesn't gives a very bright picture. Although it ensures high safety but the returns generated and liquidity are moderate. Similarly the other investment options are not at par with mutual funds and serve the needs of only a specific customer group. Straightforward, we can say that mutual fund emerges as a clear winner among all the options available.
The reasons for this being:

I) Mutual funds combine the advantage of each of the investment products: mutual fund is one such option which can invest in all other investment options. Its principle of diversification allows the investors to taste all the fruits in one plate. just by investing in it, the investor can enjoy the best investment option as per the investment objective.

II) Dispense the shortcomings of the other options: every other investment option has more or les some shortcomings. Such as if some are good at return then they are not safe, if some are safe then either they have low liquidity or low safety or both….likewise, there exists no single option which can fit to the need of everybody. But mutual funds have definitely sorted out this problem. Now everybody can choose their fund according to their investment objectives.

III) Returns get adjusted for the market movements: as the mutual funds are managed by experts so they are ready to switch to the profitable option along with the market movement. Suppose they predict that market is going to fall then they can sell some of their shares and book profit and can reinvest the amount again in money market instruments.

IV) Flexibility of invested amount: Other then the above mentioned reasons, there exists one more reason which has established mutual funds as one of the largest financial intermediary and that is the flexibility that mutual funds offer regarding the investment amount. One can start investing in mutual funds with amount as low as Rs. 500 through SIPs and even Rs. 100 in some cases.

OBJECTIVE OF THE STUDY

- ✓ To study the factors affecting the investment decision in the Mutual Fund.
- ✓ To study the impact of inflation on the preference of investment in Mutual Funds than other investment products during recession.

RESEARCH METHODOLOGY

The study mainly deals with the perception of Individual Investors towards Mutual funds in Delhi city. The required data was collected through a pretested questionnaire administered on a combination of non probability judgemental quota sampling technique of 500 educated individual investors. Judgemental sampling was for the reason that the actual population of financial market and mutual funds in particular was not available. The survey was conducted during January '07 to September '09 among 500 educated, geographically dispersed individual investors of Delhi city.

Secondary Source: The data had been collected from related Internet websites
The method of data collection was primary i.e. first hand data was collected through fieldwork by administering a schedule of questions.
A schedule of logically sequenced questions was developed with the help of the investment counsellor.
Following were the features of the schedule that was to be formulated : UNDISTINGUISHED ***:***The objective of the study was revealed to the respondents.. *CLOSE ENDED, MULTIPLE CHOICE:* The type

of questions asked were closed ended, multiple choice ones. This was to extract information easily and also for the objective analysis of the findings.

FINDINGS AND CONCLUSION

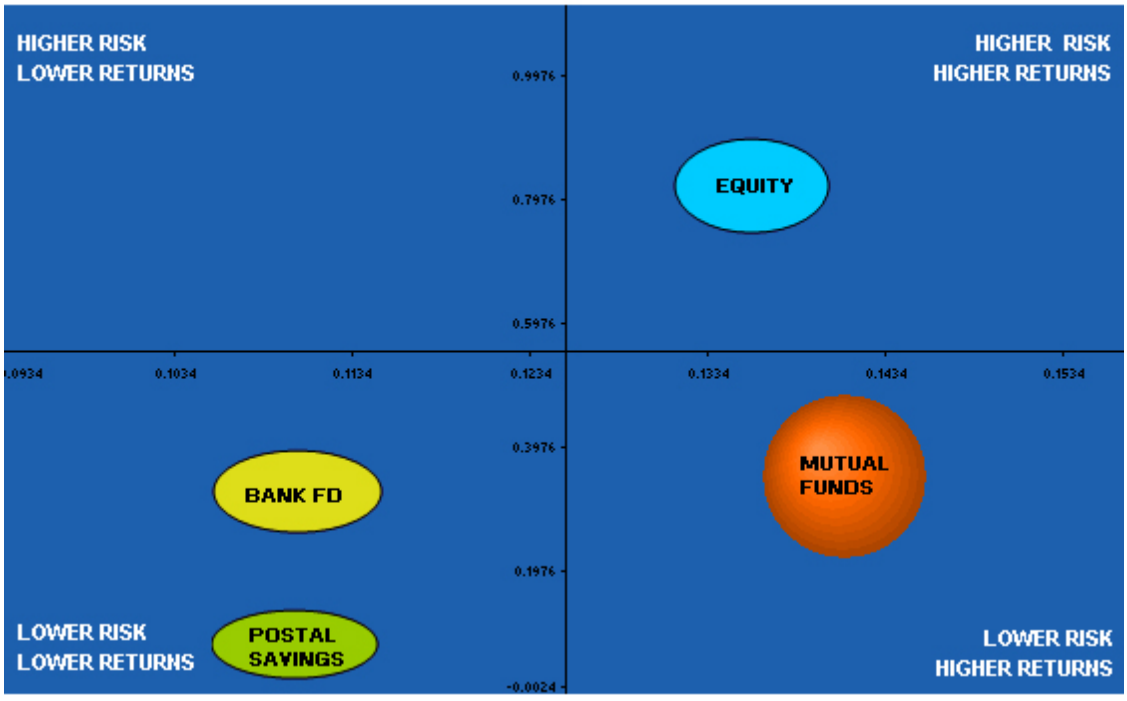
Table 1 Showing results of factor analysis

NAME OF THE FACTOR	VARIABLES ASSOCIATED	VALUE OF ROTATED MATRIX COMPONENT
PRODUCT FACTOR	i) Insurance ii) Bond and Fixed deposits iii) Saving account	0.839 0.674 0.906

PRODUCT FACTOR:
Out of the various investment alternatives investors have chosen three best alternatives i.e. insurance, bonds & fixed deposits and savings accounts. Investors choice for keeping the money in saving accounts is popular amongst the middle income group to maintain liquidity and some have opted for insurance product to provide them retirement benefit and family security. It is one of the safe product of investment during recession with guaranteed return at low risk. In this period rate of interest have also gone up, so most of the investors have invested in this product.

The investor who have high risk appetite have chosen investment in stocks and Equity oriented mutual funds scheme with an ultimate purpose of capital appreciation or growth. On the other investors with medium to low risk takers have invested in debtentures and debt or balanced mutual fund schemes with an objective to earn income in form of return.
Risk averse people have either opted for postal schemes to earn minimum guaranteed return or they have kept their money in the saving bank accounts to provide them with the liquidity.

Risk and Return Matrix



INFLATION AND INVESTMENT UNDER RECESSION

The period of study started in Dec'06 when the share market was at this bullish trend was continued till Jan'08 when the market Sensex was on the Everest peak of 20'465.3 points . Afterwards there was worldwide fallout of the market which was experienced and the Sensex came to the lowest point of 7697.39 points on 27th Oct'08. It was a great depression in the market in one year of 53.15% (appox.). During this period, Wholesale price index (WPI) based inflation for the week ended June 28 '2008 came in at 11% Y-o-Y, this number was more than a 13-year high. Due to this the investors were really puzzled as all the investments were giving them negative returns.

Inflation has been the buzzword! From the prime minister to the *aam aadmi* all were worried about how fast the rate of inflation was increasing. For the record inflation entered into double digits at 11.05 per cent for the week ending June 7'2008. And with crude prices touching new highs inflation was only expected to go higher.

Inflation reflects the rate at which the general prices of food and other commodities increase over a period of time. This ultimately leads to a decrease in purchasing power of money and that is what actually affects a common man. This means that what one can buy for Rs 10 today will cost you almost Rs 17 five years down the line for the same commodity considering inflation rate stays put at 11 per cent.
The effect of inflation not only leads to hike in prices of commodities and food but also eats away into the returns on the investments of one's hard earned money. This again hits ones pocket.
Though the nominal or stated rate of interest looks attractive what really the investor should be interested in is the real rate of return, that is, the inflation adjusted return. One need to know the real rate of return because that is what required to check the true earning potential of the instrument as well as know the purchasing power of investments.

Real rate of return is calculated as follows: Real rate of return (in percentage terms) = [{(1+ rate of return) / (1+ rate of inflation)} 1] * 100.
Also, investor cannot forget the tax component while calculating the real rate of return. Income tax, capital gains tax and all other taxes that we pay also eat up into the money that we earn as returns or profits. Hence, if we deduct tax (percentage is based on individual tax slab) from the returns and then calculate the real rate of return, the returns will go down even further.
With inflation reaching 11 per cent it should not come as a surprise to investors if the returns on their investments especially in debt instruments (like fixed deposits and debt income mutual funds) would be in the negative. This is even without deducting the tax component.
To really understand how inflation nibbles at investors returns .The table given below calculates (using the formula above) returns that investors will get from various investment avenues like fixed deposits, NSC, PPF, post office returns etc.
It considers the recent inflation rate (11 per cent for simplifying calculations instead of the actual 11.05 per cent) in formula above all investments, except those in diversified equity mutual funds and direct investment in shares, have turned negative.

Type of Investments	**Rate of interest**	**Inflation rate**	**Real rate of return**
Fixed deposit	8.5 per cent	11 per cent	-2.25 per
National Saving Certificate	8 per cent	11 per cent	-2.7 per cent
Public Provident Fund	8 per cent	11 per cent	-2.7 per cent
Post office Monthly Income Scheme	8 per cent	11 per cent	-2.7 per cent
Post Office Recurring Deposits	7.5 per cent	11 per cent	-3.15 per cent
Post Office Senior Saving Citizen Scheme	9 per cent	11 per cent	-1.8 per cent
Post Office Time Deposit (5 Years)	7.5 per cent	11 per cent	-3.15 per cent
Kishan Vikas Patra	8.25 per cent	11 per cent	-2.48 per cent

Debt Fund – Income Fund	8.5 per cent	11 per cent	-2.25 per cent
Debt Fund -- Liquid Fund	8 per cent	11 per cent	-2.7 per cent
Debt Fund – Floating Rate Fund	8 per cent	11 per cent	-2.7 per cent
Debt Fund – Gilt Fund	6.5 per cent	11 per cent	-4.05 per cent
Equity Fund -- Diversified Fund	15 per cent	11 per cent	3.6 per cent
Direct Equities	15 per cent	11 per cent	3.6 per cent

In the above table the returns on debt and equity funds are on a ten-year average. The tax component has not been taken into consideration. If tax is taken into consideration the real rate of return will be further down on the negative chart.

The above table is quite depressing. How to beat inflation? As clearly seen from the above table equities and equity linked products can help to beat inflation. However, it must always be kept in mind that in the short term both equities and equity linked products can turn risky.

Equities

This instrument though gives you sleepless nights due to the market risk involved but is one investment avenue which can beat inflation. This is true but only if one can stay invested for the long term. Long term here could be safely assumed as staying invested for at least 8 years or more.

As Warren Buffet, the richest man in the world and CEO and Chairman of Berkshire Hathaway says, 'Time is the friend of the wonderful company, the enemy of the mediocre.'

Return on equity have been taken as 15 per cent whereas in last few months the returns have been negative and in last few years the returns have been almost 30 per cent on an annualised basis. The 15 per cent return is an average one can expect to earn if stayed invested for long term, as volatility gets averaged out over the years generating good returns.

As can be seen from the above table the real rate of return by staying invested in equity for long term is 3.6 per cent, thus not diminishing the purchasing power of investments.

Equity linked products (equity mutual funds)

The same is also true for equity funds. The best bet to select from equity funds would be diversified equity funds as the portfolio is well diversified among different sectors. Staying invested for long term is the key to earning good returns as well as beating inflation. Staying invested for long term averages out the volatility of the stock market and gives a steady return.

Gold

Recent years have seen lot of interest in gold because of the biggest factor is the weakening of the US dollar. Universally, gold is inversely linked to the value of US dollar; hence with weakening of the US dollar demand for gold has increased. Gold has always been stated as a good hedge against inflation. Gold is still a preferred medium of investment due to the fact that it the most liquid asset in the world. The market can meet the demand for gold as it is virtually indestructible and hence all the gold which has been mined till date still exists. Due to this liquidity and the depth of the market gold prices have more or less been stable besides a few ups and downs.

Gold exchange traded funds(ETF) is another good investment avenue. However, gold ETFs are fairly new in India. The first gold ETF was launched in February 2007. For investors who have storage problem and cannot buy gold lump sum gold ETFs are good avenues. But for gold ETF investor require demat and a brokerage account.

Although equities and equity linked investments are the only investment vehicle able to beat inflation only investing in them is also not advisable. Remember the old age: Never put all your eggs in one basket.

The right combination of both the products -- equity and debt -- laced with gold investment is the best way to beat the demon of inflation in the long run.

Mutual Funds can beat inflation

Mutual fund is the best instrument to beat inflation and with the inflation rate hovering around 5 per cent a year on an average, only if one invests regularly in MFs one would be able to create a solid asset after 20 or

30 years. Youngster should start saving from their student days to build a nest egg. Even a regular investment of a small sum of Rs 200 a month through the Systematic Investment Plan (SIP) route for 6 or 7 years would fetch an investor Rs 12 lakh after 20 years subject to an annualised return of 10 per cent.

In today's scenario, the stock market would provide a return of 20-25 per cent annually. When the returns are 20 per cent, the maturity value at the end of 20 years would be doubled to Rs 24 lakh. Investment of Rs 500 every month could get a return of Rs 30- Rs 35 lakh after 20 years whereas the actual investment is only for 6 or 7 years. No other savings could match the return provided by MFs.

If a person earning Rs 40,000 a month now has to get the same money after 20 years, he would need a corpus of Rs 1 crore due to inflation. Many investors putting their savings in bank FDs do not realise the fact that a 10 per cent yield on bank deposits is actually worth only 5 per cent because of the impact of inflation. In savings bank a/cs, the inflation adjusted yield is actually negative!

As far as mutual fund investment was concerned, the investors would be able to earn more money only if they increase their understanding and knowledge of the various funds by reading news articles about them.

Other investment avenues available, said insurance was looked at as an instrument to save income-tax and people were content if it provided a decent return, apart from tax savings. The very purpose of insurance will not be served if one adopted such an approach. ULIP was a combination of term insurance and endowment with the returns linked to stock market returns. ULIPs are being marketed in a grand way. It was necessary that people used the different savings options available - MFs, ULIPs, Mediclaim.

At the end of the day investor must understand that every time is not the festive time as market remains volatile. So they cannot park their money just about anywhere they want to and walk away with some cool return. It's time when they have to check out their risk appetite and the time period they want to stay invested. Because the order of the day "Time is Money".

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FINANCIAL CRISIS AND WALL STREET EXECUTIVES COMPENSATION PACKAGES

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ABSTRACT

This study is focused on the vexed issue of executive compensation. The problem of very high pay outs has been accentuated by the unprecedented financial crisis and record level of unemployment in the West. The objective of the study is to find out, through an analysis of secondary data, whether executive compensations were excessive in financial companies in US that received aid from the Federal Reserve. This paper has analyzed the role of multiple regulators in their attempt to bring paradigm shift in compensation practices. It is seen that the issue of compensation is not just a micro-level decision; it is now a matter of public policy as the risks that executives have taken for short term gains have impacted the entire economy. The issue being sensitive has got political and social overtones. The study has revealed that huge pay packages were doled out to CEO's and other executives in a number of banking companies. Such large pay outs have continued even after obtaining aid from the Federal Reserve by several banking firms. There is also a pointer that huge pay outs have contributed to financial crisis.

INTRODUCTION

High level of salaries and perquisites paid to private sector executives has always been a subject matter of controversy. The corporate undertakings are, on one hand, compelled to pay high salaries to retain talent and on the other, they are also required to keep their wage bill in check. There is a widespread public anger against Wall Street executives who got huge pay cheques and bonuses for taking undue risks and finally ended up in pulling the US economy to the brink of disaster.

Some of these organisations have acquired the status of 'too big to fail'. Hence there is a general perception of State guarantee amongst stakeholders which encourages executives to take huge risks. "Pay structures often spur Chiefs to focus on short term results rather than long term value" (Keller and Stocker 2008).

OBJECTIVES

This paper is essentially exploratory in nature. It's objective is to find out whether the Wall Street executives are paid very high levels of compensation even during and in the immediate aftermath of financial crisis in US. The study is limited to those Wall Street financial services companies which availed federal aid under TARP (Troubles Asset relief Program) Salaries and perquisites received by the executives is to be seen in the context of unprecedented crisis in their firms. It is proposed to analyze in detail compensation received under various heads. The purpose of the study is to understand how far the public anger against Wall Street executives is justifiable.

It may be argued that the issue of compensation of all employees (including executives and CEO'S) is an economic one and is best left to the decision and judgment of individual firm. But when tax payers' money is involved in a big way to bail out these firms, executive compensation will have to be viewed in a more holistic manner. 'Tax payers bear the cost if things go wrong, but stockholders and executives get the benefit if things go right'. (Krugman 2009) The aim is to find out whether and if so to what extent, high salaries contributed to financial crisis in the US. The issue whether short term considerations, often at the cost of long term prospects and stability, were predominant in determining executives pay is also examined. This paper tries to study the issues involved in executive compensation that are closely linked to corporate

governance. The role of the State and regulators are also examined in the context of allegedly high earnings of CEO's and managers. An attempt is made to look at shifts taking place in compensation plans in the overall context of social and political economy.

The US Government and the Federal Reserve and SEC (Securities and Exchange Commission, USA) have responded to this issue (of very high executive pay) by legislation and policy initiatives. It is intended to analyze these measures and understand their utility and efficacy in controlling and regulating executive pay.

METHODOLOGY

The study is based on published secondary data. Care is taken to see that the data used is authentic and cross checked. An attempt is made to collate data in respect of compensation received under various heads, such as cash compensation, incentive payment, bonus, stocks and options, severance pay and gross-ups. The study has also brought out the expenditure incurred by companies for personal use of aircraft by CEO'S. This paper has brought out different shades of opinions of experts in various fields on the question of executive compensation. Findings of the study dwell on larger issues of corporate governance, role of compensation committees and the part played by independent directors.

SCOPE AND LIMITATION

The scope of this paper is limited to studying compensation of 28 companies in financial sector which were given federal aid. What the study reveals may be a pointer to several other private firms; findings of the study, however, are restricted only to the aforesaid companies. In fact, the study is a fact finding mission. It is focused on finding out whether Wall Street bankers did get handsome payouts even during and after the crisis. If the hypothesis (that executives in TARP companies have been paid high compensations) is proved right, it does raise larger issues of ethics, propriety and governance.

There can be a wider debate, which in fact is taking place in the West, on whether or not there should be a cap on executive salaries in the entire private sector.

THE ROLE OF REGULATORS

In the USA, regulators who have announced certain measures to restrict executive pay are the Federal Reserve, Treasury Department and the SEC (Stock Exchange Commission). At the height of financial crisis in the year 2008, several leading firms had to be bailed out by the Reserve. These financial institutions received more than $700 billion of tax payers' monies in the shortest possible span of time. It is believed that the Wall Street executives virtually went on a betting spree and the risks that they took proved simply too high in times of recession. The type of 'engineered' financial products that they developed led the US economy first in to a crisis; subsequently, the crash engulfed the entire global economy.

The Pay Czar Kenneth Feinberg of the Treasury has announced wide ranging pay cuts. He has examined the salary compensation, incentive pay outs as incentives in the form of bonuses, stocks and options of executives in 28 big institutions that received Federal package as a bailout in 2008. (Wiseman, Davidson and Gogoi 2009) They had collectively got about $700 billion as a loan to tide over the crisis.

SALARY-CASH COMPENSATION

As per the ruling of Fienberg, there is now a cap of $5, 00,000 on salary of 90% of the executives in these institutions. Just a few exceptions are made in cases of CEO's with an aim to retain key talent with in the organisation. For instance, the Chairman of the AIG will get $3 million as cash salary. Further, the ceiling would kick in only for the last two months of the year 2009 and through to the next year 2010. However, it has been clarified that there will be no 'claw back' of salaried paid earlier during the year. This means that there is no attempt made to recover salary paid in excess of the cap amount earlier. As a result of this binding directive, base salaries are set to drop by 90% for these executives. (Wiseman, Davidson and Gogoi 2009) Admittedly, this is a huge decrease in compensation for the affected managers. But, in effect,

it will not hit them hard because, they are still allowed to collect incentives in the form of stocks and options.

Executives whose salaries are in excess of the limit of $,5,00,000 shall be paid in the form of company shares; only a third of these shares can be sold in installments starting from the year 2011 after the lock in period. If the bail out loan is repaid, the restriction will not apply. The idea is to relate executive compensation with longer term prospects and performance of the company. Typically, Wall Street executives have focused heavily on the short term profits and huge pay outs in terms of incentives. Cash bonuses are banned and in their place stocks can be issued which must be held by the employees for a longer term.

INCENTIVE PAYMENT

Fienberg has tried to streamline the incentive pay or the bonuses. Firstly, these payments shall be made only to those employees who would provide service to the company for a period of at least three subsequent years after the receipt of award. Secondly, bonuses would be in the form of long term restricted company stock. They can not be encashed till such time that the company does not pay back it's TARP dues. TARP refers to Troubled Asset Relief Programme of the US Federal Reserve under which loans have been extended to several distressed firms.

Thirdly, restricted company stock would not be given to all the employees. Appropriate pre-determined performance goals are to be first set in consultation with Fienberg and only those employees who would perform as per goals or exceed them will be entitled to receive these awards. Further, their performances need to be certified (indicating that the Treasury regulations are fulfilled) by a committee consisting of independent directors. Now, these are stiff conditions. Perhaps, Fienberg should not have gone this far in micro managing troubled firms. But he seems to have been guided by the overwhelming need to tame the faulty ways of corporate executives. "Public outrage is hovering….and I am very sensitive to it". (Fienberg 2009)

OTHER COMPENSATIONS OFFERS

Fienberg has ruled that employer should not contribute to any other non-qualified deferred payment or pension plan. He has capped the Personal expenditure of all employees to a maximum of $25,000 p.a. There could be a few exceptions but even those extra ordinary expenses need to be justified and sanctioned by the Treasury.

A large number of senior executives have been given a very high severance pay package which has come to be known as 'golden parachute'. Now this practice too has come under the scanner of the Treasury. None of the TARP firms will be allowed to increase the amounts payable under this head. All bonuses for 2009 shall be in accordance with these rules.

These are stringent rules and will go a long way in restricting executive pay in US financial sector. At least the method of remunerating executives in these firms is set to change; in fact, they are already evident. President Obama's administration is committed to reform the financial institutions and tame burgeoning executive salaries and perquisites. If one takes a look at the Perks and salaries of these professionals even during the worst crisis, it will be clear that some sort of intervention by the Government was inevitable.

FINANCIAL COMPANIES' CORPORATE PERKS

Executives at the nation's 29 largest public financial companies that have taken government assistance received more in corporate perks and benefits as a group in 2008 than the previous year.

Updated Oct. 19, 2009

			TYPE OF PERK							
Institution	CEO	2007 Total	2008 Total	Pct. change from 2007	Personal use of corporate aircraft	Tax Gross-Ups	Ins. prems., plan-based contribs.	Car, Parking	Personal and home security	Other**
GMAC Financial*	Alvaro G. De Molina	$3,633,516	$4,802,729	32%	$2,259,595	$2,492,842	$26,237	$16,555		$32,192
American Express	Kenneth I. Chenault	$1,074,913	$1,208,242	12%	$414,702		$334,215	$134,299	$246,627	$494
AIG*	Edward M. Liddy	$697,910	$460,477	-34%	$47,578	$180,431	$0	$31,348	N/A	$5,135
Morgan Stanley	John J. Mack	$399,153	$435,097	9%	$377,342		$6,100	N/A	$46,520	$59,485
Bank of New York Mellon	Robert P. Kelly	$377,538	$319,597	-15%	$11,749		$108,764	$185,982	$4,577	$36,432
Popular	Richard L. Carrion	$260,677	$304,146	17%	N/A		$31,938	$64,527	$189,239	$78,398
Bank of America	Kenneth D. Lewis	$212,211	$275,125	30%	$220,267		$22,666	N/A	N/A	$0
Regions Financial	C. Dowd Ritter	$330,116	$272,886	-17%	$48,146	$51,712	$143,786		N/A	$1,555
Comerica	Ralph W. Babb, Jr.	$49,295	$256,763	421%			$19,026	$18,066		$8,525
CIT Group	Jeffrey M. Peek	$148,219	$254,501	72%	$141,032		$11,077	$71,650		$28,000
Goldman Sachs	Lloyd C. Blankfein	$384,157	$235,943	-39%			$65,235	$111,223		$61,003
PNC Financial Services Group	James E. Rohr	$271,909	$232,098	-15%	$39,975	$6,015	$177,083		N/A	$5,052
BB&T	John A.	$242,367	$224,107	-8%			$217,21		$1,838	$9,025

	Allison, IV						7			
Wells Fargo	John G. Stumpf	$409,857	$215,167	-48%			$178,735	N/A	N/A	$29,242
Fifth Third Bancorp	Kevin T. Kabat	$140,400	$208,134	48%			$114,806	N/A		$93,328
Marshall & Ilsley	Mark F. Furlong	$159,343	$174,766	10%	N/A		$70,200	N/A		$18,167
JPMorganChase	James Dimon	$356,330	$151,825	-57%	$53,956		$1,098	$89,020	$7,257	$37,580
Zions Bancoporation	Harris H. Simmons	$93,018	$149,379	61%			$149,278			$19,980
Huntington Bancshares	Thomas E. Hoaglin	$110,064	$148,495	35%	$87,101		$41,414	N/A	N/A	$30,742
Suntrust Banks	James M. Wells III	$169,944	$123,825	-27%	$925	$449	$61,448			$104,566
State Street	Ronald E. Logue	$107,345	$120,824	13%			$39,800	$34,695	$18,329	$219,670
KeyCorp	Henry L. Meyer III	$313,464	$89,604	-71%		$3,984	$66,192		$1,261	$101
Northern Trust*	Frederick H. Waddell	$85,072	$87,066	2%		$13,421	$38,531	$21,613		$18,442
Synovus Financial	Richard E. Anthony	$369,963	$86,661	-77%	N/A	$685	$74,976	N/A	N/A	$11,000
Capital One Financial	Richard D. Fairbank	$69,585	$68,344	-2%			$19,740	$46,278	$771	$7,500
M&T Bank Corp	Robert G. Wilmers	$64,825	$60,128	-7%			$22,548	N/A		$201,054
First Horizon National*	D. Bryan Jordan	$52,362	$30,832	-41%			$8,997	N/A		$21,835
Citigroup*	Vikram S. Pandit	$0	$16,193				$13,800	$2,393		$13,500
U.S.	Richar	$14,170	$15,596	10%	N/A		$9,200	$3,055	$3,341	$0

Bancorp	d K. Davis									
Total		$10,597,723	$11,028,550	4%	$3,702,368	$2,749,539	$2,074,107	$830,704	$519,760	$1,152,003
Average		$365,439	$380,295	4%	$284,952	$343,692	$71,521	$59,336	$51,976	$39,724

*New CEO in 2008, except for Vikram Pandit became Citigroup's CEO in December of 2007.

**Other includes club fees, financial planning, flexible perks, matching gifts, event tickets and dividends.

SOURCE: Equilar (Executive Compensation Research Firm); Securities Filings

As can be seen from the above table, several CEO'S of leading financial institutions have earned huge sums in terms of perquisites. The Chief Executive of GMAC Financial received 32% more perquisites in 2008 ($48 lakhs plus) compared to the previous year. This is quite bad considering that the US economy as a whole and the financial sector in particular was going through one of the worst crisis in history. Worse, as much as $22 lakhs plus (little less than 50% of the total) of the perks was for personal use of corporate aircraft! Examples like these explain the pent up public anger against Wall Street Executives. He also was remunerated to the tune of around $25 lakh by way of gross ups-that is, taxes paid by the company for incomes and perks received by him. (Banham, 2009)

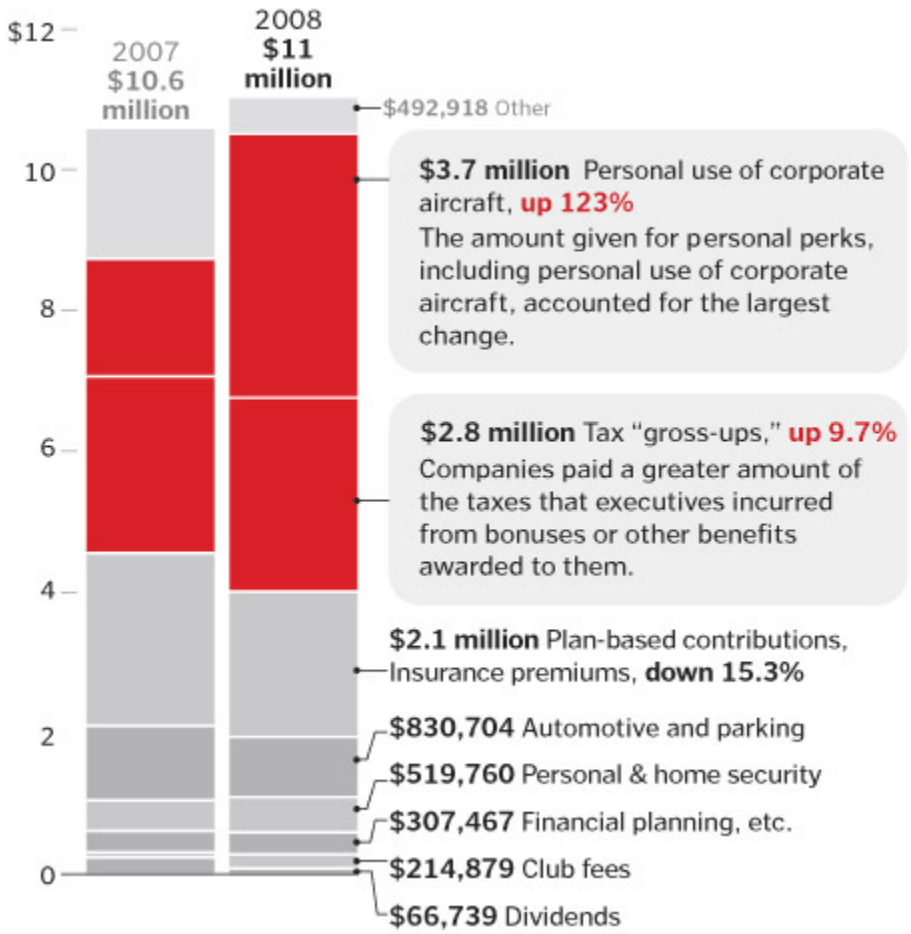
The CEO of Comerica got a whopping rise of over 421% in perks compared with the previous year. Clearly, he tops the table in terms of percentage hike in perks in the year 2008. The CIT Group Chief Jeffrey Peek managed an increase of 72% in his other incomes. Bank of America supreme also benefited by a generous hand out of perks-a 30% rise and nearly $22 lakh for personal of company aircraft. In case of few chiefs, perks income showed a decline; yet the rise in cases of several others can hardly be justified. Overall perks went by an average of 4% as compared with the year 2007. The table and the figures show the callous attitudes of several CEO's even when their firms were in deep trouble.

Bear Stearns provides a classic example of rewarding short term goals. It's CEO James Cayne took $40 million aggregate compensation at the height of real estate boom in 2006. In March 2007, in a proxy statement, the company referred to executive compensation as being fair and reflective of the robust performance in the last fiscal. Yet with in a year thereafter, it announced that due to collapse of sub prime mortgage market, it was selling out to JP Morgan at $2 per share. (Keller and Stocker 2008).

Hence compensation in large banking organisations becomes a policy issue. According to the Federal Reserve, compensation practices in some banks did contribute to safety and soundness of financial institutions. In a survey conducted on behalf of Institute of International Finance, 36 of the 37 large banks surveyed admitted that compensation practices were a factor underlying the crisis. (Tarullo 2009)

FINANCIAL COMPANIES' CEO PERKS

Executives at the nation's 29 largest public financial companies that have taken government assistance received more in corporate perks and benefits as a group in 2008 than the previous year.



SOURCE: The Washington Post - October 20, 2009

As much as $3.7 million was appropriated collectively by executives of TARP companies for personal use of aircraft- a stupendous 123% rise over the previous year! A near 10% rise in 'gross ups' ($2.8million) that is, payment taxes of executives for bonuses and other benefits awarded to them. There is a small reduction of around 15% (to $2.1 million) towards contributions and insurance premiums. Rest of the figures in the chart appears to be small; but if they are aggregated it would be very near to $2 million. (Tse, 2009)

2008 COMPENSATION OF AT SOME FIRMS WHICH GOT LARGE FEDERAL BAILOUT FUNDS

Company	Executive	Base salary	Bonus	Stock awards, other	Total	TARP amount (billions)	TARP repaid (billions)	% of bailout funds
AIG	**Edward Liddy, CEO**[1]	$1	$0	$460,477	$460,477	$69.8[2]	$0	12.2%
	Top 7 executives	$5,120,133	$2,166,563	$42,915,128	$50,201,824			
Bank of America	**Kenneth Lewis**[3]	$1,500,000	$0	$7,503,467	$9,003,467	$45.0	$0	7.8%
	Top 4 executives	$3,100,000	$0	$24,363,339	$27,463,339			
Citigroup	**Vikram Pandit, CEO**	$958,333	$0	$37,279,107	$38,237,437	$50.0	$0	8.7%
	Top 4 executives	$1,725,000	$12,465,000	$41,279,586	$55,469,586			
GM	**Frederick Henderson, CEO**[4]	$1,719,667	$0	$6,993,240	$8,712,907	$50.7	$0.4	8.9%
	Top 4 executives	$3,386,252	$480,000	$5,279,258	$9,145,510			
GMAC	**Alvaro de Molina, CEO**[5]	$1,200,000	$0	$9,062,369	$10,262,369	$12.5	$0	2.2%
	Top 6 executives	$3,128,766	$2,512,500	$19,308,210	$24,949,476			

Source: Equilar, an Executive Compensation Research Firm

As can be seen from the above table, the CEO of AIG received more than 12% of the bail out amount as compensation although he got a nominal $1 dollar as base salary and nil as bonus. Kenneth Lewis of Bank of America was paid $15 lakh as salary in 2008; now along with others his salary would be capped to a maximum of $5 lakh p.a. in the next year. He also got more than $75 lakh as stock awards, options and others taking his total earnings to more than $90 lakhs.

Citigroup's chief Vikram Pandit took no bonus in 2008, but nevertheless his total earnings including stocks and deferred payments stood at over $38 lakhs. In case of Pandit, it works out to nearly 8% of bail out funds as compensation.

HOW OPTIONS ARE ENRICHING EXECUTIVES

All CEO'S and nearly all the executives have received a base salary in excess of the now stipulated limit of $ 5,00,000. So, the last two months of the year 2009 and further in the current year, this component of pay is bound to take a huge hit. But, interestingly, Wall Street executives may still be in for a windfall.

In 2008, at the height of the crisis, bonuses payable to them were slashed; instead of cash, there was a clear shift in favour of more of stocks and options. The idea was to link the executive pay with longer term performance of the firm, the same logic that is now being enforced by the Treasury. Hence, last year, more number of options was issued to employees. At that time since stock markets were down, it looked like a paltry sum. Now, the markets have revived and several share prices have risen from their lowest levels

since last year. With in a few more months, the initial recipients of options get the opportunity to sell them and realize cash. If the global recovery happens quicker than anticipated earlier, these stocks would be a virtual bonanza for the holders.

Goldman Sachs is a leading case in this. After all, it was the first 'troubled' financial institution to turn around quickly and return the bail out loans. It also reported improved performance and profits since then. As a result, it's share prices are looking up for some time now. It's Counsel General was issued 1lakh plus options and 14,000 odd shares in December 2008 when the market price of the share was $78. Now the share price has nearly doubled and the value of stocks and options is around $12 million according to Equilar, a US based compensation research firm. Of course, some of these options will vest only in future and hence can not be sold now. Yet, the nominal value of wealth has already shot up. The bonus pool at Goldman the year 2008 was $4.82 billion; since a major part was paid in stocks, now it valued at $7.8 billion! (Story, 2009)

Wells Fargo was one amongst more than a dozen major banks which has given out stocks and options to it's employees since bail out. It gave 3 million options and 5,28,000 shares to it's 12 executives in February 2008. These were worth little more than $12 million at that time; now they are collectively valued at more than $57 million according to Equilar. Market prices of share of Citigroup and Bank of America have not recovered as yet; but they are also expected to go up, in which case their executives would gain enormously.

FINDINGS OF THE STUDY AND RECOMMENDATIONS

It is not possible to justify very high earnings of executives especially when the firms are not doing well. The public anger in US is more on account of all other workers earning so less whereas the executives have not felt the pinch. Americans are pretty comfortable with having their CEO's paid a lot. (Kuhnen 2009) Whereas the problem is known, there are differences with regard to the method of fixing it. If CEO's pay is excessive, it can not be addressed by measuring wrong things or misinterpreting flawed calculations. (Whittlesey 2006). The study also points out to the type and quality of expenditure incurred on CEO's and other executives. Large sums of monies on personal use of company aircraft, gross ups and severance pay are only a few glaring examples of awards that are not based on individual or company's performance.

The study shows that there is a pressing need to look in to the question of executive compensation across companies. The rewards are not commensurate with the performance of the company. Whereas there has been only a marginal fall in executives' salary earnings, shareholders, Government and other stakeholders have lost billions of dollars. The study has shown how the executives have been tempted to take huge risks in the short run ignoring long term health and stability of their companies.

The Compensation Committee has to be truly independent. The Committee is supposed to protect the interests of the shareholders. But in reality the members of Committee are chosen by the management of the company and they get beholden to executives. There is a Principal-agent relationship but problems occur when one or more persons do not perform their fiduciary functions. The Compensation Committee has to meet senior officials to ascertain and evaluate any risk that may impact company's performance with in the foreseeable future. (Connell, 2009)The Blue Ribbon Commission of NACD (National Association of Corporate Directors) has suggested following principles in respect of executive compensation.

a. Principle of independence: That the members of the Committee be truly independent of the CEO and management. He/she shall have the courage to speak out even when the outcome may go against the executives.
b. Principle of fairness: That every member of the Committee shall be fair both internally and externally. With in the organisation, pay outs are fair between groups of employees, ranks and their grades. Externally, they are fair and comparable to similar jobs in the industry. The Commission is against market related and competitive compensation which in it's wisdom is the root cause of all current problems.
c. Principle of linking earnings to performance: The Commission suggests the involvement of the board of directors in setting clearly defined performance goals and standards. Companies need to agree on performance metrics and undertake to abide by these in letter and spirit.
d. Principle of long term shareholders value: The Commission is not against the practice of rewarding executives for achieving short term goals. But the incentive should form only a small

percentage of total pay. Higher incentives could be given for employees achieving long term goals of the company. It should provide competitive compensation that is aligned with long term performance of the company involving all business cycles. (Bromilow, 2010) The Commission encourages payment in the form of stocks so that ownership interests are created. Then there would be convergence of interests of shareholders and executives.

e. Principle of transparency: This means giving timely information to shareholders with regard to compensation. These disclosure norms have now been laid down by SEC (Miller 2009) but even when they did not exist, Commission had suggested these norms.

Shareholders be given a 'say on pay' on the propriety of compensation packages being offered. Presently it is an advisory role that is assigned and hence it is not binding. However, Compensation Committee would ignore shareholders advise at it's own peril. But frequent 'say on pay' will mean stricter disclosure norms and better corporate governance.

CONCLUSION

The study has shown various regulatory bodies attempting to streamline and regulate excessive executive pay by legislation and disclosure norms. There are no easy solutions to the question of executive pay. There is no one pay or norm that can be applied to all banks or companies executives. Policy initiatives are only emerging and evolving. It is necessary to continuously evaluate them and take mid course corrections where ever necessary. Right now there is huge public anger against the Wall Street professionals but that should not become the basis for formulating a public policy. 'How much is enough?' is a million dollar question. Right now the public discourse has been at the extremes-either too much or too little. There is a need to strike a balance. Interests of too many stakeholders are inter- dependent on perks and compensation of managers. Interests of shareholders are at times, in direct conflict with those of the employees. Whereas Wall Street executives walked all the way to bank with bonuses and salaries, shareholders were left in the lurch in 2008.

Therefore, Fienberg has tried to shift the balance in favour of stocks and options as a method of compensating employees. This way, executive stake in the longer term prospects increases. It will also help in saving cash outflows. With restricted options, it is also possible to calibrate earnings. A deferred payment plan is any way a better option when the firm is doing very well.

One of the criticisms against Wall Street executives is that they have taken huge risks in order to make short term profits. As more stocks and options are handed over to them, their stake in the firm increases. Hopefully, it will dent their risk appetite a bit and compel them to look at the long term health of their firms. Several banks have become 'too big to fail' in the USA. Recent bail out has only further reinforced this belief. Quick turn around of some of these banks is facilitated by flow of billion of dollars of the Treasury when they were in distress. This does not help in ensuring that the managers do not go over board in exposing their banks to high levels of risks. As such a cushion is not available to smaller players; there is no level playing field.

However, it is quite a challenge for the State to formulate a bail out policy that is fair to all. Finally, the financial reforms are not going exactly as a lot of people wanted. The Wall Street Reform and Consumer Protection Act passed in 2009 allow the Federal Reserve to give out bail out packages to banks up to a maximum of $4 trillion! (Reilly 2009)

The new Compensation rules and guidelines are issued by Federal Reserve and SEC. Besides the top tier executives (Suit-C) these norms also cover the other employees' compensation. The thrust is on timely disclosure to shareholders and basing compensation policies on creating long term value. It is necessary to assess risk and reward that is proposed for employees not just in banks but also in public corporations. Compliance to all this would call for a lot of planning work and execution for HR and Legal departments.

FUTURE SCOPE OF RESEARCH

It is certain that the issue of fair executive pay and perks will remain with us for a long time. The legislative process has only just begun. Laws need to be fine tuned and adjusted; time needs to be given for enforcement and compliance. There are a number of inter-disciplinary issues involved. At the broader level, there are macro-economic issues which have bearing on the economy; besides, there are social concerns with regard to high pay and disparity. Basically, at the firm's level, executive pay is a HR issue; however,

firm's finance has an important bearing. HR is concerned with attracting and retaining talent in the organisation. Market factors-forces of demand and supply- determine the pay in a majority of skill areas and jobs. Comparisons of salaries at international level complicates the problem further as purchase power parity and foreign exchange rates of various countries come in to play.

The competitive ability and earnings of the firm depend to very large extent on quality and cost of man power resources. Shareholders are important stakeholders; their interests are impacted by the level of salaries and perquisites offered to employees. Customers and society interests are intertwined with the ability of the firm to produce goods and services at competitive rates son sustained basis.

This paper has underlined the need for a fair and comprehensive compensation arrangement in companies. There would be pressure both from regulatory authorities, shareholders and civil society on corporates to comply with rules and regulations and formulate an acceptable and suitable pay policy. There is scope for conducting further research to arrive at an acceptable and equitable model/method of executive compensation.

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LEADERSHIP STYLES AND ITS IMPACT ON JOB SATISFACTION

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ABSTRACT

Objectives*: The primary objective of this piece of research work is to investigate the relationship between leadership practices and job satisfaction and also to determine whether the demographic variables impacted that relationship.*

Methodology*: The target population consisted of randomly selected higher, middle and junior level employees from Solaimalai Automobile Pvt. Ltd., ABT Maruti Pvt. Ltd., Suszil Mahendra Pvt. Ltd., Sukhit Hyundai Pvt. Ltd., and Rajeswari Ford Pvt. Ltd., all from Madurai District -Tamil Nadu, India. Leader Satisfaction Score (LSS) Questionnaire, Leader Behavior Score (LBS) Questionnaire and Job Satisfaction Rating Scale were used to study the leadership styles and five dimensions of job satisfaction. Mean and Inter correlations were computed for every variable for two sets of sample: Set I - Higher and Middle level employees and Set II - Junior Level employees.*

Findings*: The findings of the study indicated that there was a moderate and significant positive relationship between leadership practices and job satisfaction giving variables for both Set I and Set II employees. But the Authoritarian style did not show any correlation with any of the job satisfaction giving variables in both the sets of employees. This study also discovered that the mean difference between leadership styles as perceived by the leader himself and as judged by his subordinates at the higher and middle level executives do not differ in the matter of analyzing their own styles and also when their styles were described by the subordinates.*

Limitations*: All the five leadership styles were found to be significantly correlated with each other and hence pure types of leadership styles could not be identified.*

Practical implications*: The findings can be used to enhance the leadership patterns within both the public and private sectors.*

Keywords*: Leadership, Leadership Styles, Job Satisfaction, SEOS Variables*

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INTRODUCTION

The subject of leadership engages individuals and organizations probably more than any other topic in management. Every few hours, another paper or book lands on a bookshelf proclaiming a prolonged attempt on leadership. Even today, with acres of evidence, observations and scientific research, there is still much debate on what constitutes leadership and what is it that makes a good leader. Most texts on leadership try to define or produce simple palatable definitions to describe effective leadership and how we might attain it; however, the truth is that leadership is highly complex and individualistic.

There is little doubt that the challenges of leadership are very different from what they were 20 years ago, or even ten years ago. While the business imperative remains the same, the rules of the game are shifting. What leaders actually *'do'* and what makes them successful, engages academics and managers alike. Organizations have to contend with an increasingly unpredictable business environment. Economic, social and technological changes impact on organizations and individuals. Increasing global competition, volatile economic conditions, deregulation of markets, expanding technologies and unpredictable political

situations have created an uncertain business environment. As a result, the nature of effective leadership and the demands placed upon leaders is changing. Managing complexity, change and innovations are the order of the day. Alongside this, organizational structures are also changing. As hierarchies and formal power structures give way to flatter organizational structures and self directed teams, the old 'command and control' style of leadership becomes less relevant. A more facilitative, empowering style which is mutually supportive rather than subordinating has increased in appeal. The view that an effective leader leads by a mixture of *fear* and *respect* has given way to another view, that of *respect* and *co-operation.*

Research by **Hodgson and White** suggests that a critical challenge for today's leaders is the ability to manage increasing levels of ambiguity and uncertainty. Ambiguity in terms of what exists in the environment and uncertainty being the feelings this ambiguity creates, i.e. lack of confidence in dealing with this environment. They argue that for the most part, previous experiences as leaders or managers leave them ill equipped to cope and that they need to: **satisfy their employees**.

NEED FOR THE STUDY

Job satisfaction has been one of the more researched and affective measure in the literature. Several competing theories have been advanced to describe the job satisfaction and several sets of variables have been used to construct theoretical perspectives regarding the predictors of job satisfaction. These variables correspond to the task characteristics, dispositional, social information processing, and dual-attachment approaches. This will help to separate the effects that the various antecedents have on job satisfaction and the concurrent impact the approaches have on job satisfaction. The withdrawn behaviors of absenteeism and turnover will be considered as consequences of job dissatisfaction.

Thus the basic problem undertaken for examination in this study is to investigate the possible leadership styles adopted by the selected sample employees from the different organizations and the relationship of these styles to the phenomenon of "job satisfaction".

OBJECTIVES

The following objectives had been framed to analyze the leadership styles' and its relationship with the job satisfaction:

1. To evaluate the different patterns of leadership styles that prevail among higher and middle level functionaries selected from the sample organization.
2. To identify the relationship between leadership styles and job satisfaction.
3. To examine as to whether the particular demographic variables/factors (age, educational level, tenure, position, marital status, years in service, and hours worked (per week) of employees significantly affect the leadership styles and job satisfaction.

METHODOLOGY

A survey method was designed to identify the demographic characteristics, and the levels of job satisfaction, and organizational commitment among 190 employees selected from Solaimalai Automobile Pvt. Ltd., ABT Maruti Pvt. Ltd., Mahendra Pvt. Ltd., Sukhit Hyundai Pvt. Ltd., and Rajeswari Ford Pvt. Ltd., all from Madurai District – Tamil Nadu, India. Demographic variables were characteristically assessed in conjunction with the **Minnesota Satisfaction Questionnaire** and the exploratory variables were also included in the study. The Survey questions included location, age, educational level, years of service, position and marital status, and the Minnesota Satisfaction Questionnaire short form.

To measure and validate the leadership styles, two questionnaires were administered: i.e., Leader Satisfaction Score (LSS) Questionnaire (**Sinha 1980a**) for the higher and middle level executives and Leader Behavior Score (LBS) Questionnaire (**Sinha 1980a**) for the sub ordinates. The Questionnaires consisted of 50 items measuring five leadership styles viz. Bureaucratic (B), Authoritarian (A), Nurturant **(Emotional and Care)** (N), Participative (P) and Task Orientation (T). Each of these categories includes 10 items ranging from quite true to quite false.

With a view of measuring job satisfaction, Job Satisfaction Rating Scale prepared by (**Sinha 1980b**) was used with certain modifications. Mean and Inter correlations were computed for every variable for two sets of sample: Set I (Higher and Middle level employees) and Set II (Junior Level employees).

Besides, the scores of every employee, superior and sub ordinates' perception were also taken for analysis. Then the rank order correlation was computed with rank differences and efficiency of division, satisfaction with job, organization, superior and sub ordinates. To find out the discrepancy in leadership style "t" test was used. Further the "t" test can bring out the differences, if any, in the leadership styles of higher and middle level personnel.

Review of Related Literature

The early research on the field of leadership emphasized the traits of the leader as an influencing agent on the organizational effectiveness and job satisfaction. But it has been found that the leaders do not possess a universal trait (**Stogdill, 1948**). It has been observed that the different traits were required by a leader to deal with different parts of an organization (**Porter, 1962**).

Pheysey, Payne and Pugh (1971), in a study of manufacturing firms, found that formality and rule orientation were related to employee satisfaction with promotion and fellow workers and greater involvement of managers with group. **Sirota (1959)** found that medium amount of information about management philosophy, goals and operational procedures were more associated with employee satisfaction and advancement than were the large or small amounts of information do. The results were interpreted as casting doubt on the assumption that maximum satisfaction of ego needs result in the highest degree of employee management harmony.

Mullens, Symons, Hu, and Salas (1988) found that a leader's initiating structure and consideration were moderating predictors of satisfaction. However, unlike **Barrett, Goldenberg, and Faux (1992)**, **Jamal and Baba (1992)** found no correlation between leadership behavior and employee satisfaction.

Follower satisfaction, group productivity and group cohesiveness are all positively related to the structural behavior of the group leader. If the leader fails to provide structure, some other member of the group tend to emerge as a leader to fulfill that role the formal leader failed to provide. Under this background the relevant data were collected adopting the aforesaid method and processed using the said tools and presented in the following tables for analysis.

Results and Discussion

In the first an attempt has been made to find out the Inter Correlation between the Socio-Economic and Organizational Status Variables (**SEOS**) and the leadership style for Set I and Set II employees.

TABLE 1
Inter Correlation of SEOS Variables and Leadership Styles for Set I (N = 49) and Set II (N= 141)

S. No	SEOS Variables	Leadership Styles				
		Bureaucratic	Authoritarian	Nurturant	Participative	Task Orientation
1	Level	.08 (.10)	.29* (.12)	.20 (-.03)	.24 (.04)	.25 (.07)
2	Age	.07 (.29**)	-.03 (.23**)	.20 (.22**)	.07 (.13)	.28* (.28**)
3	Length of Service	.06 (.26**)	-.00 (.32**)	.12 (.19*)	-.04 (.10)	.15 (.27**)
4	Education	.10 (.03)	.14 (.12)	.10 (.03)	.27* (.04)	.11 (.06)
5	No. of Subordinates	.14 (.08)	.05 (.04)	.32* (.12)	.21 (.13)	.05 (.06)
6	Social Gathering	.10 (-.05)	-.02 (.01)	-.01 (.07)	-.19 (.02)	-.15 (.06)
7	Training Received	-.01 (-.02)	-.08 (-.01)	-.12 (-.13)	-.29* (-.19*)	.04 (-.14)

** p < .01; * p < .05; Figures in parentheses denotes Set II Employees.

The table shows that there were different inter correlations for set I and set II employees. Age and length of service were positively correlated with the Bureaucratic, Authoritarian, Nurturant and Task Oriented leadership for Set II employees. Education was significantly correlated only with the Participative leadership and No. of Subordinates was positively correlated only with the Nurturant leadership for Set I employees. One point that was common in both the sets was that the training received was found to be negatively correlated with all the types, but significantly with participative style of leadership. However, **Singh and Das (1977)** found that the executives who were exposed to formal management training were

more democratic than those who were not exposed to formal training. Therefore the negative correlation needs attention on the part of the management.

Table 2 gives a clear picture on the inter correlations among Socio-Economic and Organizational Status Variables (**SEOS**) for set I and Set II employees. From the table, it can be observed that levels were highly correlated with age (with r = .48 and .46 respectively at p < .01) for both the sets of employees. It indicates that higher aged people are more in higher level positions. In other words, positions had been obtained only through experiences.

TABLE 2 Inter Correlation of SEOS Variables for Set I (N = 49) and Set II (N= 141)

S.No	SEOS Variables	Level	Age	Length of Service	Education	No. of Subordinates	Social Gathering	Training Received
1	Level	-	.48** (.46**)	.27* (.30**)	-.09 (.08)	.31* (.16*)	-.09 (.23**)	-.15 (.16*)
2	Age		-	.39** (.79**)	.04 (.03)	-.19 (.13)	-.11 (-.01)	-.08 (-.07)
3	Length of Service			-	-.15 (-.01)	- (.13)	.27* (.06)	-.05 (.08)
4	Education				-	-.14 (-.01)	-.17 (-.04)	-.21 (.12)
5	No. of Subordinates					-	-.03 (.01)	-.06 (.06)
6	Social Gathering						-	-.17 (.14)
7	Training Received							-

** p < .01; * p < .05; Figures in parentheses denotes Set II Employees.

At the same time, positional level was also highly correlated with the length of service r = .27 for Set I employees and r = .30 for Set II employees and the number of subordinates working under an officer with r = .31 for set I employees and r = .16 for set II employees with p < .01 and p < .05. It means that in the selected enterprises, when the level of an officer rises up (from the lower level) the numbers of subordinates working under him are also increasing and it takes several years for the officer to reach that higher level. (This inference leads to the conclusion that higher positions can be obtained only through experiences). The second variable age was highly correlated with length of service with r = .39 for set I and r = .79 at p < .01. This shows that as the age of a person goes up, he acquires a greater length of service. This inference, leads to the conclusion that a person in an organization reaches to higher level by having a larger period of service in the organisation.

TABLE 3
Inter Correlation of SEOS Variables and Job Satisfaction for Set I (N = 49) and Set II (N= 141)

** p <.01; * p < .05; Figures in parentheses denotes Set II Employees.

S. No	SEOS Variables	Satisfaction with				
		Job	Pay	Organization	Superiors	Sub ordinates
1	Level	.14 (.19*)	.05 (.24**)	.03 (.10)	.36** (-.01)	.16 (.14)
2	Age	.46** (.39**)	.25 (.30**)	.15 (.35**)	.18 (.18*)	.35* (.28**)
3	Length of Service	.20 (.33**)	.19 (.23**)	.16 (.31**)	.16 (.16*)	.26 (.32**)
4	Education	.08 (-.02)	-.21 (-.02)	-.01 (-.06)	-.18 (.08)	-.24 (.00)
5	No. of Subordinates	.20 (.28**)	-.23 (-.03)	-.01 (.09)	.23 (.21**)	.23 (.02)
6	Social Gathering	-.11 (-.01)	-.00 (-.08)	.02 (-.05)	-.13 (-.06)	-.12 (-.03)
7	Training Received	-.01 (-.11)	.01 (-.12)	-.17 (-.09)	-.08 (-.09)	.24 (-.11)

Table 3 is showing the inter-correlation between SEOS and the variables that give job satisfaction. It was found that the middle and junior level employees were very much satisfied with their job and the pay attached to the job. But for the higher level employees there is no such significant correlation either with their job or with their pay for the work.

On the other hand, higher level employees were very much satisfied with their superiors but no such correlation was found in the case of middle and junior level employees.

The second variable Age was highly correlated with the job satisfaction ($r = .46$ at $p < .01$) and satisfaction with subordinates ($r = .35$, $p < .05$) for the higher cadre employees, whereas the rest of the variables were not having any significant correlation with any of the variables of job satisfaction. In the case of middle and junior level employees, the variables such as age and length of service were highly correlated with all the five variables of job satisfaction viz., Job, Pay, Organization, relations with Superiors and with Subordinates.

However other SEOS variables like education, training received and social gathering were not found to be correlated with different variables of job satisfaction for Set II employees.

TABLE 4
Mean and Inter Correlation of Leadership Styles for Set I (N = 49) and Set II (N = 141)

S. No	Leadership Styles	Mean	Bureaucratic	Authoritarian	Nurturant	Participative	Task Orientation
1	**Bureaucratic(B)**	37.66(36.30)	-	.35* (.17*)	.31*(.63**)	.48**(.61**)	.28*(.63**)
2	**Authoritarian(A)**	35.50(34.07)	-	-	.41**(-.01)	.29*(-.12)	.37*(.08)
3	**Nurturant(N)**	40.72(36.83)	-	-	-	.65**(.83**)	.65**(.83**)
4	**Participative(P)**	38.70(34.96)	-	-	-	-	.52**(.77**)
5	**Task Orientation(T)**	41.16(38.37)	-	-	-	-	-

** $p < .01$; * $p < .05$; Figures in parentheses denotes Set II Employees.

Table 4 indicates the inter-correlations among various styles of leadership for set I and set II employees respectively. It indicates that all the styles were inter-correlated positively with each other but variations can be seen with the degree of such correlation. The bureaucratic style was correlated with the participative style at $r = .48$, $p < .01$ for Set I and $r = .61$, $p < .05$ for Set II employees.

In set II the strongest correlation was found between the Nurturant style and the Participative style ($r = .83$, $p < .01$) and between "Nurturant style" and the "Task Orientation" style ($r = .83$, $p < .01$). And also, the "Participative" style was found to have high correlation with the "Task Orientation" style of leadership ($r = .77$, $p < .01$).

TABLE 5
Inter Correlation, Coefficient of Multiple Correlation and Coefficient of determination between Leadership Styles and Job Satisfaction for Set I (N = 49) and Set II (N= 141) Employees

S.No	Leadership Styles	Set I Inter Correlation					Set II Inter Correlation				
		Satisfaction with					Satisfaction with				
		Job	Pay	Orgn	Superiors	Sub ordinates	Job	Pay	Orgn	Superiors	Sub ordinates
1	**Bureaucratic (B)**	.33*	.05	.23	.08	-.12	.26**	.08	.25**	.38**	.11
2	**Authoritarian (A)**	.07	-.06	-.11	-.04	-.16	.05	.02	.12	-.07	.04
3	**Nurturant (N)**	.06	-.28*	-.19	.12	.05	.40**	.14	.35**	.64**	.17*
4	**Participative (P)**	-.04	-.27*	-.12	.04	-.01	.27**	.10	.22**	.56**	.06
5	**Task Orientation (T)**	.05	-.21	-.23	.08	.15	.30**	.12	.38**	.61**	.17*
Co efficient of Multiple Correlation (R)		.42	.36	.43	.19	.30	.42	.26	.43	.66	.25
Level of Significance (P)		NS	NS	NS	NS	NS	.01	NS	.01	.01	NS
Co efficient of Determination (R^2) (% Variance)		17	13	18	3	9	18	7	18	44	6

** $p < .01$; * $p < .05$; For r, df for Set I is at .01= .36, .05 =.27 and df for Set II is at .01 = .21 and .05 = .16; For R, df (for Set I is at .01) = .52, .05 =.46 and df for Set II is at .01 = .33 and .05 = .29.

Table 5 presents the inter correlation, Coefficient of Multiple Correlation and Coefficient of determination between the five leadership styles and the five variables of job satisfaction. The careful scrutiny of the table shows that the bureaucratic style was correlated with job satisfaction in both the sets, whereas in set II, this style was highly correlated with the organization and with the superiors in giving satisfaction.

In both the sets, the Authoritarian Style did not show any correlation with any of the variables of job satisfaction. But the other styles **(***Bureaucratic*, *Nurturant*, *Participative and Task Oriented***)** of leadership showed difference in both the sets with respect to job satisfaction. The Nurturant style, in set II, was found to be highly correlated with job satisfaction, whereas the participative style was found to have no correlation with satisfaction with pay and with subordinates. It is noteworthy that none of the styles showed significant correlation with pay in both the sets.

TABLE 6
Mean and "t" values of the Executives as perceived by the Leader Himself and as perceived by the Subordinates

S. No	Leadership Styles	Higher Level Mean	Middle Level Mean	"t"	Level of Significance
1	**Bureaucratic (B)**	38.2 (37.02)	37.2 (36.01)	.07 (.15)	NS
2	**Authoritarian (A)**	37.9 (34.97)	34.9 (34.00)	.22 (.15)	NS
3	**Nurturant (N)**	42.3 (36.37)	38.8 (37.04)	.24 (.09)	NS
4	**Participative(P)**	40.6 (34.03)	38.2 (35.10)	.17(9.12)	NS
5	**Task Orientation(T)**	43.0 (39.00)	40.7 (38.12)	.15 (.12)	NS

Figures in parentheses denotes as perceived by the subordinates.

The analysis of the table 6 pertaining to the mean difference between leadership styles as perceived by the leader himself and as judged by his next junior level executives and subordinates indicate that both the groups do not differ in the matter of perceiving their own style and also when their styles were described by the subordinates. It leads to the conclusion that the leaders were able to understand that their next junior level executives and the subordinates have understood their styles rightly.

The major findings from the study were

- A person in an organization reaches to higher level position by having a maximum period of service in the organization.
- Among the different SEOS variables, training received was negatively correlated with all the five styles- the strange situation is, it was significantly negatively correlated with participative style of leadership.
- All the leadership styles were inter-correlated positively but in different degrees.
- The employees were able to reach to the higher level positions only after serving longer periods in the organisations and in the job.
- The age, length of service and the number of employees supervised were positively correlated to contribute to the job satisfaction.
- In the case of ***higher level employees*** there is a positive correlation with their age and the relations with their superior and the subordinate relations which give them job satisfaction, but no such significant correlations exist either with the job or with the pay (in giving job satisfaction).
- In the case of middle and junior level employees the variables like the age, length of service were highly correlated with all the five satisfaction giving SEOS variables like, job pay organisation and superior sub ordinate relations.
- In both the sets of employees Authoritarian style did not show any correlation with any of the job satisfaction giving variables. But the other four styles (Bureaucratic Authoritarian Nurturant Participative and Task Orientation) showed correlation in different degrees with the different job satisfaction giving variables.
- The perception of the leadership styles of Set I and Set II employees and the perception of the lower level employees about the leadership styles of their superior were not different i.e. the leaders know about their styles and also know as to how their subordinates look at their styles in giving job satisfaction or otherwise. In a way the congruence of the perceptions may avoid misunderstanding between them.

SUGGESTIONS

The reasons for the negative correlation between the Training received and job satisfaction giving variables may be because of the fact that the selected enterprises might not have organized any systematic courses in leadership development or human resource development programmes or it may be that training received may make an officer more self-centered or that it do not produce fruitful results for the development of his administrative personality. *Therefore more attention should be paid by these organisations towards making the Training and Development Programme positively work towards creating job satisfaction.*

CONCLUSIONS

From the study conducted to test the relationship between leadership styles and job satisfaction, the bureaucratic style was found to be significantly correlated with job satisfaction, whereas the Nurturant and the participative styles were found to be negatively correlated with satisfaction with pay in Set I. All the values of multiple correlations between leadership styles and job satisfaction variables were proved to be insignificant at .01 and .05 levels revealing that among the group of higher and middle level executives, leadership styles do not exert much influence on job satisfaction.

In set II, the bureaucratic and the participative styles were found to be significantly correlated with the variables giving satisfaction namely job, organization, superior, whereas the Nurturant and the task-orientation style were found to be significantly correlated with all the satisfaction giving variables except with pay". Satisfaction with pay was not found to be related with any of the leadership styles.

However from the study, it cannot be concluded firmly that both the variables of leadership and job satisfaction are positively or negatively correlated with each other. On the other hand, the *bureaucratic style influences the job satisfaction*. Additionally, the respondents have shown low efficiency, less satisfaction with job, with organization, with superior and subordinates as the rank-difference for posted circle increased. And no significant difference in leadership styles was found with reference to the perception of the leader and their subordinates.

LIMITATIONS AND SCOPE FOR FURTHER STUDY

The major limitation of the study is that the pure types of leadership styles could not be identified. All the five leadership styles were found to be significantly correlated with each other.

Again, the present study has been conducted only in the five organizations. Larger domain of study would certainly throw more light on the various dimensions studied. The results of the present study however, can be used for institutions similarly situate especially for future cross unit and cross institutional studies.

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NATURAL LANGUAGE PROCESSING (NLP) IN KNOWLEDGE DISCOVERY

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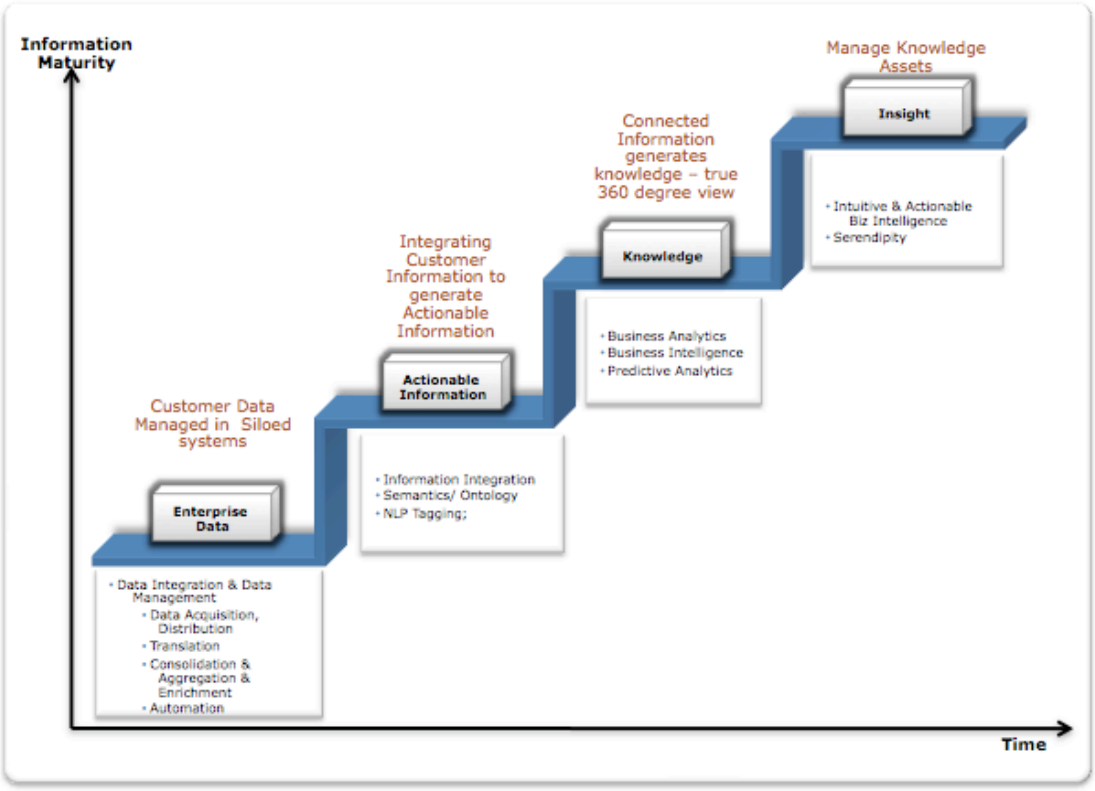
ABSTRACT

Actionable intelligence through knowledge discovery has arguably become a business imperative in today's knowledge driven economy!
Decision makers, who find themselves confronted with critical business issues on a regular basis, normally rely on at least some level of business analytics applied on top of a very dynamic enterprise database. It has been observed that in most cases, such decisions end up being taken based on data that is either not in sync with the reality or just not comprehensive enough to produce any credible intelligence. The information lacks the complete picture. So, in all fairness can it be argued that the first challenge to the path of "Knowledge Discovery" is actually "Information Integration"?
The second dimension to Knowledge Discovery of course is to make sense of the vast array of data integrated across various internal & external sources. With about 80% of useful information hidden within this vast pool of unstructured data, it does make sense to harness the knowledge available within the unstructured world to complete the picture.
The need of the hour therefore is not just to mine the information, but also to do so intuitively enough for regular business users to be able to leverage this intelligence on a day-to-day basis. What is needed then is, an "Information Ecosystem", which within the enterprise would be in perfect sync with all the data sources. This would be capable of generating "Contextual Search Results" when queried in a human understandable language, like natural spoken English.
This paper analyzes need for Enterprise Information Integration and Knowledge Discovery from structured and unstructured data with application of Natural Language Processing (NLP) & Semantic Technology.

INTRODUCTION

Knowledge Discovery has become a business imperative in today's knowledge driven economy.
Actionable Business Intelligence would arguably come under the category of "Must Have" for today's top Business leaders. Decision makers, who find themselves confronted with critical business issues on a regular basis, usually rely on at least some level of business analytics applied on top of a very dynamic enterprise database. Incidentally, enterprise data today is mostly maintained across geographies and across business functions (for example, customer & sales data is owned by the sales function, product data by production etc.) with little or no cross talk between them. And, it has been observed that in most cases, business decisions end up being taken based on data, which is either not in sync with business reality or just not comprehensive enough to produce any credible intelligence. In addition, there is the productivity implication to deal with specifically when we consider a typical knowledge worker. According to International Data Group (IDG) the average knowledge worker makes $60,000 per year out of which $14,000 is spent on search. Knowledge workers spend 24% of their time on search. "*A company that employs 1,000 information workers can expect more than $5 million in annual salary costs to go down the drain because of the time wasted looking for information and not finding it*"- according to IDC research. Also, a study by Accenture found that about 50% of information retrieved in search by middle managers is useless. *(Ref: Primer on Natural Language Processing & the Semantic Web by Kate McDonough CEO & Founder MyRoar, Inc.)*



Transitioning to Manage Knowledge Assets (Source: Cognizant Research

WORLD OF THE UNSTRUCTURED

It is critical to understand the nature of data that we deal within an enterprise today. Structured data refers to the machine usable format within databases (such as names, phone numbers, financial data etc.), whereas unstructured data consists of freeform text such as word / pdf documents, e-mails, Web pages, text files, audio and video streams as well as images. Data stored in a structured format is inherently standardized making it easy to query, analyze, and integrate with other structured data sources. Not so with unstructured data.It is more difficult to query, search, and extract, complicating integration with other enterprise data sources.

It is said that almost about 80% of useful information is hidden within this vast pool of unstructured data in any organization (Knox et. al., 2005). Such data can range from customer Blog entries pulled from the internet to a scanned piece of paper containing notes from the sales executive (on the preference type of the customer) or a video clip of a complaint sent in by an e-mail from an unsatisfied customer. Which ever be the case, chances are huge that these will get lost in the vast pool of already existing data unless there is a way to flag these pieces of information in the enterprise data pool.

CURRENT PARADIGM

Data mining tools have been around for ages and arguably have been relatively less successful in helping decision makers on a large scale. The usage of these tools historically has been restricted mostly to the top management requiring a relatively large & highly trained / dedicated pool of resources. Also, such analysis uses enterprise wide tools that are truly not automated, meaning these require a high degree of human intervention to get the desired results. What is required today are large teams of Programmers, Data base specialists, people who can write machine queries for these data bases and of course system maintenance folks usually are on standby to resolve any issues. To add to it, the domains of analysis have been rather narrow, being restricted to some strategic areas like sales analytics, customer preferences and often with a relatively high turnaround time. Sometimes, these reports themselves can be so restrictive that an average

line manager would probably not be interested in truly participating in such initiatives. So,the way forward is to give the power of knowledge to the managers to be able to make critical decisions with a complete picture. It is not just enough to be able to mine this information, but to do so intuitively enough for regular business users to be able to leverage this intelligence on a day-to-day basis! What is needed then, is an "Information Ecosystem", within the enterprise that would maintain perfect sync with the data sources and would generate "Contextual Search Results" when queried in a human understandable language. This connected information with a backdrop of context becomes knowledge. The challenge, however is to get to it intuitively enough for benefit of the average business user.

PARADIGM SHIFT; ENTERPRISE INFORMATION ECOSYSTEM

Organizations can be considered in simplistic terms to maintain an "Information Ecosystem" irrespective of the volume or type of data used. All types of data can be considered to belong to a higher order classification in the hierarchy of information. They and can be simplified in to islands of information so as to fulfill the conditions of "MECE" (mutually exclusive and collectively exhaustive) within a universe whose boundaries are limited mostly by the enterprise.

> *Consider an organization that would have any of the following as data; customer names, addresses, contact, supplier data, product data, sales & market data etc… all these can be rolled up in to larger groups of information as Customer, Supplier, Product, Sales, etc… and these can further be represented in the information ecosystem as People, Material, Revenue, Address, Contact etc. – Nothing but Information Objects that reside within the I- ecosystem.*

What this enables is a step forward towards abstracting the data in to an information level. And once we start connecting up these information objects, with of course a backdrop of context, we start to generate new knowledge. This sort of information is not only relevant, more importantly it's contextual. Integrating data stored in both structured and unstructured formats can add significant value to an organization to realize the goal of maintaining a single version of truth within an Enterprise Information Ecosystem and will become the fundamental backbone for true enterprise business intelligence.

NATURAL LANGUAGE PROCESSING (NLP)

NLP has significant overlap with the field of computational linguistics, and is often considered a sub-field of artificial intelligence.

Wikipedia defines NLP as "a field of computer science and linguistics concerned with the interactions between computers and human (natural) languages".

According to an article by Elizabeth D Liddy (http://www.cnlp.org/publications/03NLP.LIS.Encyclopedia.pdf),Natural Language Processing is a theoretically motivated range of computational techniques for analyzing and representing naturally occurring texts at one or more levels of linguistic analysis for the purpose of achieving human-like language processing for a range of tasks or applications. 'Naturally occurring texts' can be of any language, mode, genre, etc. The texts can be oral or written. The only requirement is that they be in a language used by humans to communicate to one another.

What it actually means for the end user is that, they would be able to interact with the system using natural language (plain English). A powerful proposition, considering the sheer number of applications of this technology!

INFORMATION INTEGRATION USING NLP DRIVEN SEMANTIC TAGGING/ TEXT ANNOTATION

NLP, techniques, specifically "text tagging / Semantic tagging" can be utilized to apply meaning to freeform text and speech. Semantic- ontology based text tagging can be used to add semantic information to the unstructured data.

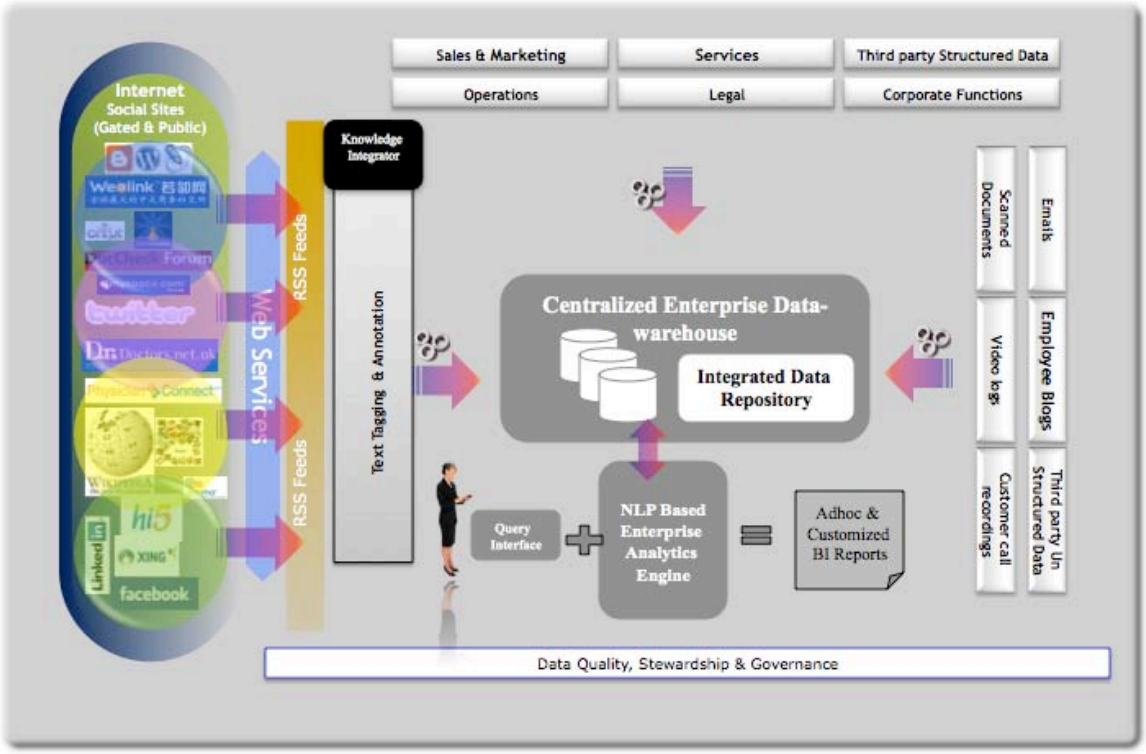
To understand how text tagging can be done, it's important to understand the nature of natural language. In most spoken languages, the sounds representing successive letters blend into each other, so the conversion to discrete characters (even text in free form) can be a very difficult process. Also, these boundaries must take into account grammatical and semantic constraints, as well as the context. In addition, some written

languages like Chinese, Japanese and Thai do not have single-word boundaries making the task even more difficult.

Some of the characteristics of a typically natural language, which pose a significant challenge to machine understanding, are:

- Word sense disambiguation: Many words have more than one meaning
- Syntactic ambiguity: The grammar for natural languages is ambiguous, i.e. there are often multiple possible meanings for a given sentence. Choosing the most appropriate one usually requires semantic and contextual information.
- Imperfect or irregular input: Foreign or regional accents and or grammatical errors, OCR errors in texts.

Text tagging and annotation consists of analyzing freeform text and identifying terms (entities like proper nouns, names, products, organizations, locations, etc.). Domain-specific entities are included as well in the lookup values. Meaningful information is tagged to large amounts of text, which can then be integrated with the enterprise-structured data for further analysis.



Integrated Enterprise Data-Warehouse (Source: Cognizant Research)

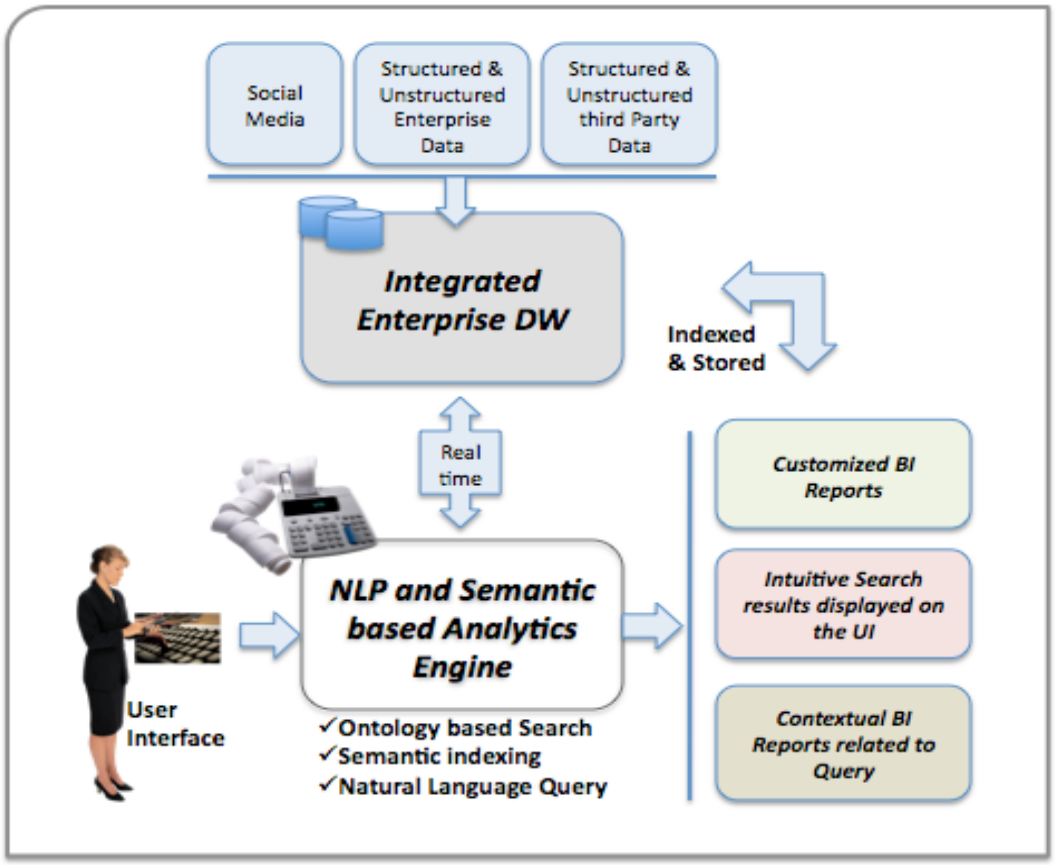
APPLYING NLP AND SEMANTIC BASED ANALYTICS OVER THE INTEGRATED INFORMATION ECOSYSTEM

The way NLP and Semantics can be leveraged to drive business analytics is somewhat different from the traditional approach of querying a database. What a natural language query system will provide is an intuitive means of human computer interaction and not merely another analytics platform. It will enable the average business user to form complex business queries using naturallanguage like English ratherthan relying on an analyst to type in complex lines of codes in the system. Also, it will be possible to make multiple changes to the queries in a short span of time owing to the use of a natural language. In short, the business user will access the enterprise data hub in a similar fashion to using 'Google' over the world wide web……Resulting in an incredibly powerful search engine for the enterprise!

The user can now walk up to her laptop, open a console (possibly a page similar to Google) and type away: how many of my customers hate my new DVD player 'ABCDE' or He/ She may want to know if more than 20 percent of the customers face Hard drive issues with their laptops of that particular make.
Following is an illustrative example of how customer satisfaction intelligence can be derived out of product warranty claims using this technique:

Business Scenario: *Consider a consumer electronics company and a service scenario. The customer and the technician usually update the defect information either on paper (scanned in latter) or directly online. The description almost always is in some form of natural language. Now, once such information is available within the enterprise, it will become possible using the NLP engine to analyze not just the nature of the defects but also if there is any correlation of such defects with negative sentiments of users. And, the power of this system really comes to light when it starts indexing in real-time and possibly by geography the patterns of such defects and related customer sentiments. Such a powerful method not only has the potential to augment the decisions of (for example) the sales director in identifying possible sales impact, it also serves an early warning to take corrective actions for the service leaders and the product development teams. The results are always relevant and highly contextual and helps drive better business decision making for all stakeholders.*

The above case study may be illustrative in nature, nonetheless serves to underscore the powerful new approach to business decision-making. The elegance of such a system lays in its apparent simplicity of use and precision in generating intuitive search results.



NLP Driven Analytics (Source: Cognizant Research)

CONCLUSION

With the ever increasing need for contextual and real-time business intelligence, large scale adoption of NLP techniques become an business imperative. Organizations today need to invest more resources to the strategic need of bridging the gap between Data and Knowledge. Having said so, it becomes critical to understand that, like with any technology, NLP would not be the 'one stop shop' rather it will prove to be the enabler to solve a larger set of business issues. What is required is a significant commitment from critical stakeholders to evangelize NLP in the organizations and to help align people & processes with the technology in scope.

Natural Language Processing techniques along with Semantic discipline and streamlined Information integration process has the potential to enable enterprises to transition to a environment where knowledge assets become the core of decision making process.

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THE ROLE OF TRAINING AND FIRM'S COMPETITIVENESS IN THE KNOWLEDGE-BASED ECONOMY

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ABSTRACT

Framed theoretically on the resource-based view of the firm (RBV), this study examines the perceptions of human resource professionals employed in small, medium, and large firms operating and competing in the knowledge-based economy across three different industries – service, retailing, and manufacturing – regarding the impact of training on various measures of the firm's competitiveness. Based on the analysis of data obtained from the online survey of 111 responses, the majority of human resource professionals rated the impact of training on various measures of their firms' competitiveness moderate, high, or very high. In addition, the human resource professionals were most frequently based on their communication with colleagues and management team regarding their perceptual judgment of the impact of training on all measures of their firms' competitiveness.

Keywords: *Training, Firm's Competitiveness, Resource-based View of the Firm*

INTRODUCTION

Theoretical establishment in business strategy has elevated the role of human resources, both as a business function and as a labor, in creating sustained competitive advantage. The resource-based view of the firm (Barney, 1986, 1991, 1995) proposed that firms could create and obtain sustained competitive advantage by creating value in a fashion that is rare and impossible for rivals to imitate. The resource-based view of the firm argues that conventional sources such as natural resources, technology, economies of scale, operational and manufacturing designs etc., can be utilized to generate sustained competitive advantage, yet these sources can be easily copied by competitors. In this case, any sources of sustained competitive advantage that cannot be easily imitated are especially important. The resource-based view of the firm established that people (human resources), a repository of knowledge and skills, can be leveraged to create value in a way that is difficult for competitors to imitate (Barney, 1991). People are the strategic assets meaning "the set of difficult to trade and imitate, scarce, appropriable, and specialized resources and capabilities that bestow the firm's competitive advantage" (Amit & Shoemaker, 1993, p. 36).

Ultimately people, a repository of knowledge and skills, are the most valuable and necessary asset for any firm to compete and generate competitive advantage (Barney & Wright, 1998; Gorman, Nelson, & Glassman, 2004; Lopez-Cabrales, Valle, & Herrero, 2006; Shee & Pathak, 2005; Wright, McMahan, & McWilliams, 1994). Strategically speaking, a firm may have a great strategic plan in place, yet it means nothing if its people lack access to appropriate and relevant knowledge, skills, and attitudes to successfully support or carry out the strategic plan. Since people are the core driver of successful strategy implementation, it is vital for those, especially top management and executive teams, who plan and formulate strategy to realize that having their employees armed with appropriate knowledge and skills is a key element for successful strategy implementation. Porter (2000) stressed that firms operating in the knowledge-based economy become more and more dependent on the skills and knowledge of their workers. In particular, training has traditionally been a conventional method utilized by virtually every firm, big and small, to prepare and arm both current and new employees with necessary and relevant knowledge and skills needed to perform day-to-day operational activities that ultimately determine organizational performance, success and competitiveness. Research in strategic human resource management, organizational performance, performance improvement, and organizational competitive

advantage has conceptually and empirically linked training to organizational performance and sustained competitive advantage (Akhtar, Ding, & Ge, 2008; Arthur, 1994; Bartel, 1994; Cutcher-Gershenfeld, 1991; Gerhart & Milkovich, 1990; Huselid, 1995; Huselid & Becker, 1996; Ichiniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995; Whitney, 2005; Wright, Gardner & Moynihan, 2003).

The problem of this study was to investigate perceptions of human resource professionals employed in the firms operating in knowledge-based economy regarding the impact of training on the firm's competitiveness. Training, as one of the human resource practices, has been qualitatively and quantitatively established in literature to have a positive impact on organizational performance and competitiveness; nonetheless, the extent to which training is genuinely perceived and valued to be strategically important by the firm's top management is still questionable. The current study sought to contribute to a greater understanding of the impact of training on the competitiveness of firms operating in the globally linked knowledge-based economy. The following research questions were proposed to address the problem of this study.

Question 1: What is the perceived (a) impact of training on the competitiveness of human resource professionals' firms, and (b) on what is the perception based?

Question 2: Is There a Relationship between the Perceived Impact of Training on the Competitiveness of Human Resource Professionals' Firms and Their (a) Gender, (b) Age, (c) Number of Years in Current Firm, (d) Highest Educational Level, (e) Type of Firm, (f) Size of Firm, (g) Firm's Engagement in Global Operations?

METHODS

Research Design

The design of the present study followed a non-experimental descriptive study using online survey method for data collection. The online survey method was utilized to collect necessary data to answer the questions posed in the present study because the online survey provided great convenience and efficiency in respect to data collection; it provided economies of scale to the investigator and saved time (Taylor, 2000; Yun & Trumbo, 2000). Furthermore, the variables in the current study were treated as characteristics instead of dependent or independent variables because it was not the objective of this study to make any predictions or identify any causal effects between the variables.

Population and Sample Size

The target population identified in the present study was human resource professionals who interacted on the American Society for Training and Development (ASTD) discussion board located at http://community.astd.org and networked on Twitter, Facebook, and Linkedin. The human resource professionals were identified as those whose jobs were related to human resource development and management. The present study utilized a convenience sample due to the fact that human resource professionals who interacted on the American Society for Training and Development (ASTD) discussion board located at http://community.astd.org and networked on Twitter, Facebook, and Linkedin were conveniently accessible and technologically savvy. As of September 15, 2009, the population parameter of human resource professionals who interacted on the ASTD discussion board located at http://community.astd.org and networked on Twitter, Facebook, and Linkedin was estimated at 6,450 (ASTD discussion board = 6,010; Twitter = 24; Facebook = 147; Linkedin = 269). To estimate a minimum sample size (n) of the population (N) of 6450 human resource professionals, $n = N / [1 + N*(e)^2]$ was adopted from Isreal (1992) using a 95% confidence level and ± 5% confidence interval (e). Thus, the minimum sample size was calculated to be 376 ($n = 6450 / [1 + 6450*(0.05)^2] = 376$). To generate a higher response rate, a total number of 450 invitations soliciting participation in the survey were initiated on the ASTD discussion board located at http://community.astd.org, Twitter, Facebook, and Linkedin.

There were 111 responses in total. However, several responses contained some missing data. For instance, several responses contained missing data on some questionnaire items and had complete data on other

items. Therefore, although several responses contained missing data, they were still included in the statistical analysis. The response rate was estimated at 24.66% -- total number of valid responses (111) divided by total number of invitations (450) multiplied by 100 -- [(111/450)*100 = 24.66%]. While the response rate of 24.66% was considered acceptable since the average estimate of response rate for online surveys is between 20% and 30% (Hamilton, 2003), the results were subject to non-response bias (due to lower response rate). As a result, the comparison of the mean rating of each item of the first 20 responses and the latest 20 responses was performed using the independent samples *t*-test;

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_{X_1X_2} \cdot \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

where $\overline{X}_1$ is mean rating of each item of the first 20 responses, and $\overline{X}_2$ is the mean rating of each item of the latest 20 responses. $S_{X_1X_2}$ is an estimator of the common standard deviation of the first and latest samples. In addition, n_1 is the number of valid responses of the first 20 responses, and n_2 is the number of valid responses of the latest 20 responses. The mean ratings of each item of the first 20 responses and latest 20 responses were not statistically different at .05 level. This implied that the first 20 responses and latest 20 responses were similar and did not show any systematic differences that might cause any major concerns or red flags.

Research Instrument

The online questionnaire was developed by the researcher. The questionnaire consisted of six sections. The first section asked respondents to provide demographic data. The second section asked respondents to indicate types of training provided in their firms. The third section asked respondents to indicate training delivery formats adopted by their firms. The items found in the second and third sections were adopted from the 2008 industry report and exclusive analysis of the U.S. training industry (Bersin & Associates, 2008). The fourth section asked respondents to provide general information related to their firms. The fifth section asked respondents to rate (5=Very High, 4=High, 3=Moderate, 2=Low, and 1=Very Low) their level of agreement of the impact of training on measures of the firm's competitiveness; the N/A option was also provided. In addition, respondents were asked how (on what basis) they determined the extent they perceived training to impact their firm's competitiveness. Finally, the sixth section provided respondents an optional comment text area should they have any comments or opinions to add to the questionnaire.

Validity and Reliability of the Data Collection Instrument

The extensive review of literature, input from the panel of experts, and feedback from participants in the pilot study were sufficient in establishing the data collection instrument validity. The experts were faculty members in the Department of Workforce Education and Development, Southern Illinois University Carbondale. Using data obtained from the pilot survey, the Cronbach's α (alpha) was calculated to determine the reliability of the data collection instrument. The formula below was used to estimate the Cronbach's α (alpha);

$$\alpha = \frac{N}{N-1}\left(1 - \frac{\sum_{i=1}^{N} \sigma_{Y_i}^2}{\sigma_X^2}\right)$$

where N is the number of the items $\sigma_{Y_i}^2$ is the variance of the observed total rating scores, a σ_X^2 is the variance of item *i*. The Cronbach's α (alpha) was only calculated for the fifth and sixth sections of the survey. Based on data obtained from the pilot survey, the Cronbach's α (alpha) was estimated at .909. Based on data obtained from the official survey, the calculation of the Cronbach's α (alpha) was .920; this value was much higher than the acceptable value of .700.

Data Collection Process

A total number of 450 invitations soliciting participation in the survey were initiated at about 3:45 PM CST on September 15, 2009, on the ASTD discussion board located at http://community.astd.org, Twitter, Facebook, and Linkedin. Specifically, eight invitations were posted on the ASTD discussion board. Twenty-six invitations were posted on ASTD Chapters' Twitter pages, and 269 invitations were sent to

human resource professionals on Linkedin. Finally, 147 invitations were sent to human resource professionals on Facebook. A reminder was initiated at around 6:30 AM CST on September 22, 2009. The invitation was a short message electronically posted in the ASTD's online forum and ASTD chapters' and members' Twitter pages and sent to ASTD chapters and members on Facebook and Linkedin soliciting participation in the study.

DATA ANALYSIS

Data analysis took place immediately following the pre-specified date for data collection cut off point which was on September 25, 2009, at 5:30 PM CST. Any and all responses that had not been entered into the analysis system were entered, and the data were reviewed for accuracy and completeness. Random samples were pulled from the file of data collection instruments, and the corresponding entries were audited to insure proper data input. The complete computer tabulation of the data collection responses was performed using the Statistical Package for the Social Sciences (SPSS) 16.0. The data were analyzed using central tendency and Chi-square (χ^2). The following is the formula used for Chi-square (χ^2) calculation,

$$\chi^2 = \sum_{i=1}^{R} \sum_{j=1}^{C} \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

where O_{ij} is the observed frequencies in a cell, and E_{ij} is the expected frequencies in a cell. The Spearman's correlation coefficient (r_s) was calculated using the classic Pearson's correlation coefficient between ranks of the ratings.

RESULTS

Participants' Characteristics

Table 1 provides a description of participant characteristics expressed statistically in frequency and percentage. Among the 111 participants, 48 (43.2%) and 63 (56.8%) were male and female, respectively. The largest categories of participant age were 41-50 (34 or 30.6%) and 51-60 (30 or 27%). As for the American Society for Training and Development (ASTD) membership, 49 (44.1%) of the participants identified themselves as national members, and 48 of the participants were members of the ASTD's local chapters in 20 different U.S. states; Idaho and Illinois had the highest numbers (9 and 7, respectively) of participants who were members of ASTD's local chapters. Regarding the job title, 28 (25.2%) of the participants were training managers. In respect to working experience, 45 (40.5%) of the participants indicated that they had worked for their current firms for more than 5 years. For education, 56 (50.5%) of the participants held Master's degrees; 13 (11.79%) held doctoral degrees; and 36 (32.4%) of the participants had a major in education.

Types of Training and Training Delivery Formats in Participants' Firms

Types of training and training delivery formats offered in participants' respective firms are shown in Table 2. The professional/industry-specific training was the most frequently identified (k = 89; 15.1%) as the type of training offered in participants' firms. The virtual classroom was the least frequently (k = 60; 24.2%) used format.

Characteristics of Participants' Firms

The characteristics of participants' firms are exhibited in Table 3. The participants' firms were grouped into three industries – service, retailing, and manufacturing; 74 (66.7%) of the firms were service-based. In addition, a large number of participants were employed in large firms (61 or 55%). The firms were categorized into three groups: small (100 or less employees), medium (101-1000 employees), and large (1001 or more employees). There were 26 (23.4%) small firms. In addition, 58 (52.3%) of the participants' firms were engaged in global operations.

Table 1: *Participant Characteristics*

Characteristics	n	%
Gender:		
Male	48	43.2
Female	63	56.8
Total	111	100.0
Age:	9	8.2
21-30	25	22.5
31-40	34	30.6
41-50	30	27.0
51-60	9	8.1
61-70	4	3.6
No Response	111	100.0
Total		
ASTD Membership:		
National Member	49	44.1
Local Member:		
California	5	4.5
Florida	4	3.6
Georgia	1	0.9
Idaho	9	8.1
Illinois	7	6.3
Indiana	2	1.8
Louisiana	1	0.9
Massachusetts	1	0.9
Michigan	1	0.9
Minnesota	1	0.9
Missouri	2	0.8
Nebraska	1	0.9
New Jersey	2	1.8
New York	1	0.9
North Carolina	2	1.8
Ohio	1	0.9
Oklahoma	1	0.9
South Dakota	1	0.9
Texas	3	2.7
Washington	2	1.8
Total	48	43.2
Non-ASTD Member	14	12.6
Total	111	100.0
Position/Job Title:		
Human Resource Managers	8	7.2
Instructional Design Managers	5	4.5
Trainer	12	10.8
Training Consultant	19	17.1
Training Director	17	15.3
Training Manager	28	25.2
Training Specialist	16	14.4

Others	6	5.4
Total	111	100.0
Tenure:		
1 – 5 Years	62	55.9
More than 5 Years	45	40.5
No Response	4	3.6
Total	111	100.0
Highest Level of Education:		
High School Diploma	4	3.6
Associate Degree	1	0.9
Bachelorette	37	33.3
Master's	56	50.5
Doctorate	13	11.8
Total	111	100.0
Major:		
Education	36	32.4
Business	17	15.3
HRD/ODS (Organizational Development Studies)	25	22.5
Majors Related to Liberal Arts	20	18.0
High School Diploma	4	3.6
Others	7	6.3
No Response	2	1.8
Total	111	100.0

Table 2: *Types of Training and Training Delivery Formats Offered in Participants' Firm*

Types of Training and Training Delivery Formats	k	%
Types of Training:		
Profession/Industry-Specific Training	89	15.1
Mandatory/Compliance Training	73	12.4
Sales Training	50	8.5
Management/Supervisory Training	79	13.4
Interpersonal/Soft Skills Training	80	13.6
IT/Systems Training	64	10.9
Customer Service Training	58	9.9
Executive Development Training	45	7.7
Desktop Application Training	46	7.8
Others	04	0.7
Total	588	100.0
Training Delivery Formats		
Instructor-Led Classroom	106	42.7
Online Self-Study	73	29.4
Virtual Classroom	60	24.2
Others	09	3.6
Total	248	100.0

Table 3: *Characteristics of Participants' Firms*

Characteristics of Participants' Firms	n	%
Industry:		
Service	74	66.7
Retailing	10	9.0
Manufacturing	25	22.5
No Response	02	1.8
Total	111	100.0
Size:		
Small (100 or Less Employees)	26	23.4
Medium (101-1000 Employees)	20	18.0
Large (1001 or More Employees)	61	55.0
No Response	04	3.6
Total	111	100.0
Engagement in Global Operations:		
Yes	58	52.3
No	51	45.9
No Response	2	1.8
Total	111	100.0

Research Question 1: What Is the Perceived (a) Impact of Training on the Competitiveness of Human Resource Professionals' Firms, and (b) on What is the Perception Based?

This question consists of two parts. The first part of this question asked participants to perceptually rate the impact of training on each measure of their firms' competitiveness, and the second part asked participants to provide the bases, on which they perceived the impact of training. Table 4 shows the participants' rating of the impact of training on each measure of their firms' competitiveness. Forty-three (38.7%) of the participants indicated that training contributed very highly to the improvement of their firms' readiness for current and future business opportunities and threats, and 42 (37.8%) participants reported that training contributed very highly to their firms' productivity. Thirty-four (34.3%) of the participants perceived that training contributed very highly to their firms' efficiency. Only 6 (5.4%) of the participants perceived that training had a very low contribution to their firms differentiation in the marketplace. Likewise, 11 (9.9%) of the participants perceptually judged that training had a low contribution to the improvement of the design and development of their firms' new products/services. Nine (8.1%) of the participants identified that training had a very low contribution to the effective introduction of their firm's new products/services to the market. Moreover, 7 (6.3%) of the participants determined that training had a very low contribution to the effective introduction of new business processes in their firms; 32 (28.8%) participants indicated that training highly contributed to the improvement of their firms' current products/services. Based on their rating, 35 (31.5%) participants expressed that training contributed very highly to the improvement of current business processes in their firms. The participants' mean ratings of the impact of training on measures of their firms' were 3.68 (readiness for new opportunities and threats), 3.85 (productivity), 3.71 (efficiency), 3.18 (differentiation), 2.66 (new product/service design), 2.87 (introduction of new product/service to the market), 3.30 (introduction of new business processes), 3.45 (current product/service improvement), and 3.34 (current business process improvement).

The bases on which the participants perceived the impact of training on each measure of their firms' competitiveness are presented in Table 5. The participants were most frequently based on their communication with colleagues and management team (k = 82; 26.6%) regarding their perception of the

Table 4: *Participants' Rating of the Impact of Training on Measures of Their Firms' Competitiveness*

Measures of Competitiveness	5 (Very High)		4 (High)		3 (Moderate)		2 (Low)		1 (Very Low)		N/A		No Response		Total		Mean (n)
	N	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
FC1	43	38.7	21	18.9	26	23.4	08	07.2	4	03.6	06	05.4	03	02.7	111	100	3.68 (108)
FC2	42	37.8	33	29.7	18	16.2	06	05.4	4	03.6	04	03.6	04	03.6	111	100	3.85 (107)
FC3	37	33.3	33	29.7	22	19.8	07	06.3	4	03.6	05	04.5	03	02.7	111	100	3.71 (108)
FC4	34	30.6	22	19.8	17	15.3	14	12.6	6	05.4	15	13.5	03	02.7	111	100	3.18 (107)
FC5a	25	22.5	16	14.4	19	17.1	11	09.9	17	15.3	19	17.1	04	03.6	111	100	2.66 (107)
FC5b	31	27.9	19	17.1	16	14.4	09	08.1	10	09.0	22	19.8	04	03.6	111	100	2.87 (107)
FC5c	34	30.6	22	19.8	24	21.6	08	07.2	7	06.3	12	10.8	04	03.6	111	100	3.30 (107)
FC5d	31	27.9	32	28.8	24	21.6	03	02.7	8	07.2	09	08.1	04	03.6	111	100	3.45 (107)
FC5e	35	31.5	20	18.0	26	23.4	09	08.1	6	05.4	11	09.9	04	03.6	111	100	3.34 (107)
Crombach's α (alpha)						.922											

Note:
FC1 = Readiness for New Opportunities and Threats
FC2 = Productivity
FC3 = Efficiency
FC4 = Differentiation
FC5a = New Product/Service Design
FC5b = Introduction of New Product/Service to the Market
FC5c = Introduction of New Business Processes
FC5d = Current Product/Service Improvement
FC5e = Current Business Process Improvement
N/A = No Answer (No Impact)

Table 5: *The Bases on Which the Participants Perceived the Impact of Training on Each Measure of Their Firms' Competitiveness*

Bases of the Impact	FC1 (n = 108)		FC2 (n = 107)		FC3 (n = 108)		FC4 (n = 108)		FC5 (n = 107)		FC6 (n = 107)		FC7 (n = 107)		FC8 (n = 107)		FC9 (n = 107)	
	k	%	k	%	k	%	k	%	k	%	k	%	k	%	k	%	k	%
Training Evaluation	66	21.4	65	22.9	53	18.1	38	15.8	31	15	36	16.7	49	19.4	51	19.2	49	18.8
Executive Report	36	11.7	36	12.7	42	14.3	39	16.2	25	12.1	31	14.4	31	12.3	32	12.1	37	14.2
Communication*	82	26.6	77	27.1	83	28.3	68	28.3	61	29.6	61	28.4	76	30.2	79	29.8	73	28.1
Observation	77	25.0	72	25.4	80	27.3	63	26.2	60	29.1	56	26	62	24.6	70	26.4	63	24.2
Meeting	37	12.0	29	10.2	30	10.2	25	10.4	22	10.7	22	10.2	27	10.7	26	09.8	31	11.9
Other	10	03.2	5.0	1.80	5.0	01.7	07	02.9	07	03.4	09	04.2	07	02.8	07	02.6	07	02.7
Total	308	100	284	100	293	100	240	100	206	100	215	100	252	100	265	100	260	100

Note:
* Communication with colleagues and management team
FC1 = Readiness for New Opportunities and Threats
FC2 = Productivity
FC3 = Efficiency
FC4 = Differentiation
FC5a = New Product/Service Design
FC5b = Introduction of New Product/Service to the Market
FC5c = Introduction of New Business Processes
FC5d = Current Product/Service Improvement
FC5e = Current Business Process Improvement
k = Total Number of Bases Identified by n Participants for Each Measure of the Firm's Competitiveness

extent to which training contributed to the improvement of their firms' readiness for current and future business opportunities and threats. In addition, communication with colleagues and management team was also the most frequently identified basis on which the participants based their perceptual judgment of the impact of training on productivity (k = 77; 27.1%), efficiency (k = 83; 28.3%), differentiation (k = 68; 28.3%), new product/service design (k = 61; 29.6%), introduction of new product/service to the market (k = 61; 28.4%), introduction of new business processes (k = 76; 30.2%), current product/service improvement (k = 79; 29.8%), and current business process improvement (k = 73; 28.1%).

Research Question 2: Is There a Relationship between the Perceived Impact of Training on the Competitiveness of Human Resource Professionals' Firms and Their (a) Gender, (b) Age, (c) Number of Years in Current Firm, (d) Highest Educational Level, (e) Type of Firm, (f) Size of Firm, (g) Firm's Engagement in Global Operations?

There was no statistically significant relationship between the perceived impact of training on each measure of the competitiveness of the participants' firms and their gender, age, years of working experience in their current firms, or educational level. All the p-values were larger than .05. However, there was a statistically significant relationship between the participants' firm sizes and the extent to which training contributed to (a) the improvement of the participants' firms' new product/service design, $\chi^2(2, N = 107) = 10.36$, $p = .005$, (b) effective introduction of the participants' firms' new product/service to the market, $\chi^2(2, N = 107) = 6.75$, $p = .034$, and (c) improvement of the participants' firms' current product/service, $\chi^2(2, N = 107) = 6.70$, $p = .035$.

CONCLUSIONS

The findings indicate that the majority of the participants rated the impact of training on measures of their firms' competitiveness moderate, high, or very high. The participants' mean ratings of the impact of training on measures of their firms' were 3.68 (readiness for new opportunities and threats), 3.85 (productivity), 3.71 (efficiency), 3.18 (differentiation), 2.66 (new product/service design), 2.87 (introduction of new product/service to the market), 3.30 (introduction of new business processes), 3.45 (current product/service improvement), and 3.34 (current business process improvement). These results support other findings reported in the literature regarding the impact of training on measures of the firm's competitiveness. The findings uniquely contribute to a better understanding of the impact of training on the firm's innovation because in establishing a relationship between training and the firm's innovation, most of the studies in the literature treated innovation as a standalone variable. However, the current study included five different variables to capture the firm's innovation. Overall, it can be concluded that human resource professionals believe their activities contribute to the firm's competitiveness. In addition, the analysis of the data revealed that *communication with colleagues and management team* was the most frequently identified basis on which the participants based their perceptual judgment of the impact of training across all measures of their firms' competitiveness. The second most frequently identified basis was *observation*. This indicates that the participants may rely more frequently on informal (non-scientific and subjective) evaluations in judging the impact of training on their firms' competitiveness.

In addition, no statistically significant relationship was found between the participants' perception of the impact of training on their firm's competitiveness and their demographic characteristics. Therefore, it is maybe that the participants' perceptual judgment of the impact of training on measures of their firms' competitiveness is independent of their gender, age, years of working experience in their current firms, and educational level. However, a statistically significant relationship was found between the participants' firm sizes and the extent to which training contributed to (a) the improvement of the participants' firms' new product/service design, (b) effective introduction of the participants' firms' new product/service to the market, and (c) improvement of the participants' firms' current product/service. The improvement of the participants' firms' new product/service design, effective introduction of the participants' firms' new product/service to the market, and improvement of the participants' firms' current product/service are three of the five variables capturing the firm's innovation. Other than the three measures of firm's innovation, it seems that the participants' perception of the impact on measures of their firms' competitiveness is independent of their firms' type, size, and engagement in global operations.

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DEVELOPMENT OF E-GOVERNANCE IN INDIA: EXPERIENCES FROM SELECTED CASES OF E-GOVERNANCE PROJECTS

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ABSTRACT

Purpose*: The main purpose of the study is to analyze current polices, and initiatives in the progress of E-governance in India with some selected cases.*

Design/Methodology/Approach*: The paper is related with case study approach followed exploratory research design describes actual interventions /experiences of selected e-governance projects and the scope for development of e-governance in India. The database and required information mainly collected from electronic journal, web portal, mailed questionnaire, scholar articles, printed material and newspaper flipping etc. The study has been divided into three parts namely 'e-governance mechanism' and e-governance practices in developing countries. Secondly, the study analyzes national and state level initiatives towards development of e-governance. Finally, the paper identifies major impacts of e-governance projects on customer satisfaction, processes/ interactions and tool for government. The study is ended with conclusive remarks and its implications.*

Findings*: The case analysis reveals some important tips to consider for successful design and implementation of e-governance initiatives like as E-readiness assessment, investing in human development and adopting a holistic and comprehensive approach etc. Further, the strategic inputs and interventions that is required at different phases of the development of e-governance project. For this purpose three different phase needs to be followed namely pre-development, development and post-development. Certain initiatives and inputs are required especially in certain stages, a few others are required through out the project life.*

Practical Implications*: There is no doubt that e-governance has been useful for certain services enjoyed by citizens, especially the affluent high-income families and foreign investors. But it is yet to be seen whether e-governance can eradicate poverty, reduce inequality and satisfy basic human needs in the country like India.*

Originality/value*: The ability like other developing countries, India to reap the full benefits of e-governance is limited and largely hampered by the existence of many political, social and economic hindrances but despite the barriers and impediment they experienced, the reference cases provided show that India should and could take advantages of the ICT revolution. Obviously, the research would be useful for policy makers to rethink, and to redesign in this new direction of e-governance projects implementation.*

Keywords*: Projects, G2B, G2C, G2G, Impacts, Initiatives, E-governance, Development, and Case Studies*

INTRODUCTION

The World Bank has defined governance as the manner in which power is exercised in the management of country's economic and social resources. The Bank has identified three distinct aspects of governance: (I) the form of political regime; (II) the process by which authority is exercised in the

management of a country's economic and social resources for development ; and (III) the capacity of governments to design, formulate and implement policies and discharge functions. United Nations Development Programme (UNDP) has suggested that governance among others comprises mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences. Mahbub Ul Haq, Human Development Centre has emphasized that governance requires effective participation of people in State, Civil Society and private sector activities that are conducive to human development (Srivastava, 2005).

Development and growth are no longer a function of public policy choices, programmes and resource allocations. They appear to be more dependent on how quickly and effectively the channels are redone and processes reengineered – with the farmer, deprived and the poor in the focus. Economic reforms with a human face do not necessarily result in welfare. It is administrative reforms that need a human vision and an aspiration to improve the situation where it matters most (Panagaria, 2005). The promotion of good governance is widely accepted as a perquisite for development (Sen, 1999). While some states have governance projects with fancy names, these have remained in relatively unthreatening but highly visible areas. A few showcase studies and internationally saleable stories of computerized services will not change life for the majority of people. Total re-plumbing of administration is warranted keeping the delivery targets, points and the common man in view and working backwards. Reform in our country has been wrongly sequenced. It began with the economic reforms of the early 90s and opening up of markets without sufficient attention to the institutions, administrative processes and channels, and governance. In some countries like China, administrative reforms (governance system) preceded the economic reforms and in some, they were almost in tandem. In case of India it's just reverse, as a result the benefits of reforms could not reach the target masses. Citizens of our country face many hurdles for availing various services from the government. Firstly many times there is not much awareness of the many government services that are available to them and secondly they may not be aware of the process for availing these government services. Additionally with large distances and poor infrastructure it is also a challenge for citizens to reach far off government offices and make requests for delivery of these services. E-governance can play an important role in providing access to government services for citizens and also making the delivery of government services speedier more efficient and transparent. Further e-governance programs can also improve the quality of internal government processes and thereby empowering the government servants to provide quality of services to the citizens. *The main purpose of the study is to analyze current polices, and initiatives in the progress of E-governance in India with some selected case studies.*

DESIGN/METHODOLOGY/APPROACH

The paper is related with case study approach describe actual interventions /experiences of selected e-governance projects in India. The research adopts a social constructivist lens taking the view that technological artifacts are interpretable and re-shapeable according to the demands of situated agents (Kallinikos, 2003). This constructivist approach reflects the tradition of studies that can broadly be classified as interpretive case studies. The scholar has selected an exploratory research design in order to trace the dynamics and the scope for development of e-governance in India. The database and required information mainly collected from electronic journal, web portal, scholar articles, printed material, mailed questionnaire and newspaper flipping etc. The study has been divided into three different parts namely 'e-governance mechanism' describes models and e-governance practices in developing countries. Secondly, the study analyzes national and state level initiatives towards development of e-governance with some selected case studies. Finally, the paper identifies major impacts of e-governance projects on customer satisfaction, processes/ interactions and tool for government. The study is ended with conclusive remarks and its implications.

BASICS OF E-GOVERNANCE MECHANISM

E-governance has evolved as an information age model of governance that seeks to realize processes and structures for harnessing the potentialities of information and communication technologies at various levels of government and the public sector and beyond, for the purpose of enhancing good governance (Bedi *et al*, 2001; Holmes, 2001; Okot-Uma, 2000). According to Riley (2001) E-governance is the commitment to utilize appropriate technologies to enhance governmental relationships, both internal

and external, in order to advance democratic expression, human dignity and autonomy, support economic development and encourage the fair and efficient delivery of services. E-governance is the use of information and communication technology to promote more efficient and effective government, facilitate more accessible government services, allow greater public access to information and make government more accountable to citizens. It involves new style of leadership, new ways of debating and deciding policy and investment, new ways of accessing education, new ways of listening to citizens and new ways of organizing and delivering information and service (Baweja, 2005).

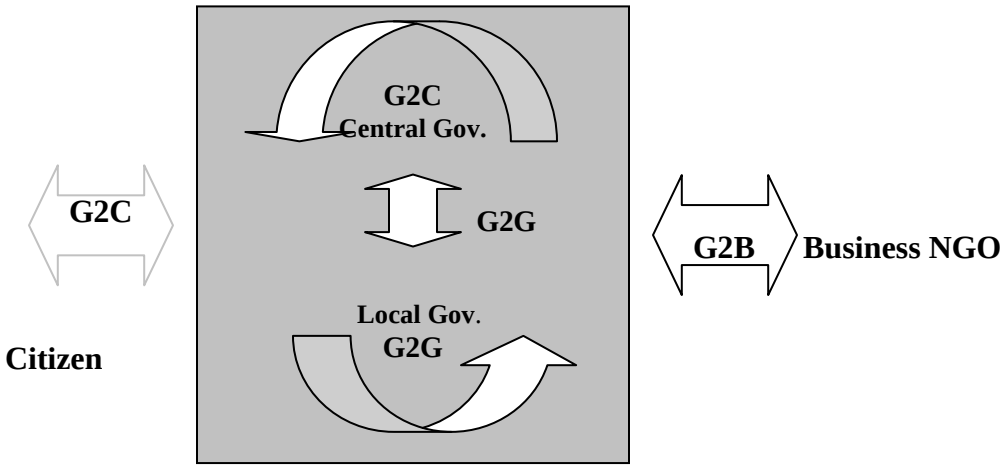

Figure I: G2C, G2B, G2G Interactions

E-governance to be contextually inclusive of "electronic democracy and electronic government (Okot-Uma, 2001). In this context "e-democracy" refers to the processes and structures that encompasses all forms of electronic communication between government and the citizen, such as information, voting, polling, or discussion, thereby enabling citizens to participate in the government's policy making (Gronlund, 2001). E-government is a form of e-business in governance and refers to the processes and structures pertinent to the delivery of electronic services to the public (Citizens and businesses), collaborating with business partners and conducting electronic transactions within an organizational entity (Backus, 2001). The most common interactions in e-governance, G2C (government to citizen), G2B (government to business), and G2G (government to government), are presented systematically in Figure: I.

In **G2C** model, the government interacts with the citizen to provide information and various services. Information about government services is published on the web sites and citizen can have access to information regarding procedures for getting jobs. Citizens can download a number of application forms for a variety of services, such as filling of tax returns, and renewal of licenses. A large number of government departments also offer a number of facilities and services at one place through Internet portals. G2C aims at connecting citizens to government by taking to citizens and supporting accountability by listening to citizens and supporting democracy, and by improving public services. It involves better services to the citizens through single point delivery mechanism and involves area like: e-citizen, e-transport, e-medicine, e-education and e-registration etc.

In **G2G** model, different departments are connected through networks within the government, and networking of government offices. It involves improving government processes by cutting costs, by managing performance and by creating empowerment. The major areas are e-secretariat, e-police, e-court, and countrywide networks etc. Computerization of office management (personnel, accounting, office manuals and procedures) facilities faster and more accurate processing of tasks with lesser manpower and lower information and compliance-handling costs with savings accruing from reduced labour costs (Sangita *et al,* 2005). In **G2B** model government interacts with business house through e-taxation which constitute the various services a business house needs to get from the government, includes getting licenses etc. In similar scenario, it can also from a business house to government as in the case of procurements, from such business houses by the government.

Finger *et. al.* (2003) identified a model of e-governance which distinguishes between three different policy levels, between three different types of actors involved, between three different policy functions, and between three different degrees of making use of the New Information and Communication Technologies (NICTs).

Levels: Parallel to globalization do arise other policy levels, in particular a global and simultaneously a local level as well as intermediate regional levels. If the state is not simply bypassed by these new policy levels, it at least has to find ways to articulate its actions (e.g., decision making, operations and regulation) with the actions going on at these various levels.

Actors: Indeed, and in parallel to the emergence of different policy levels, there emerges new actors, who become increasingly involved in policy making, service delivery, and to a lesser extent regulation.

Functions: In the above transformation lead to a much clearer distinction of the state's three main functions, policy making and regulations. The policy making function, for example is increasingly being split between the global, the regional, the national, and to a lesser extent the local levels, involving each actors from civil society and the private sector. More or less the same can be said of the operational function, from which the state is increasingly withdrawn. The regulatory function, instead, remains mainly at the nation-state level and involves non-state actors (e.g., consumer organizations) only to a very limited degree.

Use of the NICTs: It is generally distinguished between three different degrees to which the NICTs can be used as a part of current state transformation, namely information, interaction and transmission. Information is certainly the lowest level of interfacing between the citizens and the state. Information defines a use of NICTs, whereby citizens or other actors can also communicate with the stat, be it in policy making or regulation. Transaction, finally is an even deeper use of the NICTs, where by the citizens participate more actively in the state, mostly in the function of policy making.

Therefore, e-governance is the combination of all four aspects. In other words, it is dynamic concept, which implies the growing use of the NICTs for the three states functions (e.g., e-government, e-regulation and e-democracy), increasingly involving non-state actors at levels other than the national level. Figure II summarizes the above views.

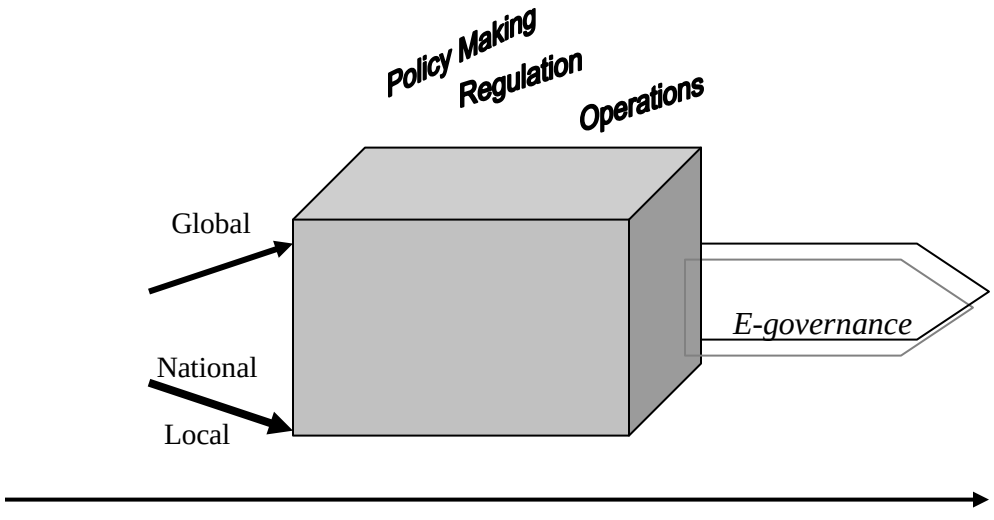

Figure II: Model of E-governance

E-GOVERNANCE IN DEVELOPING COUNTRIES

By using detailed analysis of 2,166 government websites of different nations, the third Annual Update on Global E-Government Report gives India a very low rank in promoting e-governance in terms of information availability, citizen access, portal access, and service delivery (http://www.insidepolitics.org/egovt03int.pdf). E-governance implications differ categorically among developed and developing countries i.e., in industrialized countries it is internally driven whereas in most developing countries driven by externally. Another difference between e-governance in industrialized and developing countries is in the available of ICT infrastructure. The e-governance movement in industrialized countries was largely triggered by the availability of Internet technology, through which it became possible to access government agencies remotely and inexpensively. But in case of developing countries, ICT use in the public sector was very small, and therefore they had poor ICT infrastructure, if any (Bhatnagar and Bjorn-Andersen, 1990; Yong, 2003). Fakuyama (2004) and others underscore that today distinctions between countries were more to do with good governance as a more holistic capacity to both facilitate and shape development within national borders in a manner that manages the challenges and opportunities of a globalised world. There is also broad agreement that the invocation of governance as a national system reflects the existence and relative co-evolution of three distinct spheres of personal, organizational and institutional activities: government, private industry and civil society (Paquet, 1997). In the developed nation, when speaking of e-government's transformative potential from within the public sector, the agenda is most often less about changing the nature of democracy and more about improving the business of government via better customer relations (Roy, 2005).

It is now widely accepted that ICT offers increased opportunities for economic development and plays a critical role in rapid economic change, productive capacity improvements and international competitiveness enhancement for developing countries. The range of choices and opportunities in developing countries is expanding. ICT is believed to be a powerful enabling tool to address some of the key barriers and challenges for entering the global economy and for future growth potential. ICTs offer the potential not just to collect, store, process and diffuse enormous quantities of information at minimal cost, but also to network, interact and communicate across the world (Crede & Mansell, 1998). Econometric studies have found evidence of a strong positive relationship between ICT investments and GDP growth illustrating the impotence of ICTs for development both in commercial and public sectors (Ndou, 2004).

The IT research and advisory firm Gartner Inc. predicts that India's IT spending will grow at 14.8 percent compounded annual growth rate (CAGR) to touch $110 billion from the current figure of $64.7 billion by 2012. The research firm said that financial services and communications sector will be the biggest IT spenders in the next five years, followed by services and manufacturing sectors and the government (Ganju, 2008). Recognizing the power of ICTs, many developing counties assisted by international organizations for development, have started building and encouraging e-strategies and initiatives to address a wide range of economic, social, technological, infrastructural, legal and educational issues (Table: I). Consequently e-government initiatives have flourished in many developing countries such as Brazil, Peru, Mali, Uganda, Cuba and South Africa etc., reaping the opportunities and advantages of ICT.

Whereas efficacious infrastructure support is an imperative for e-governance, it continues to remain a weak link in India's e-governance programme. A major handicap is the absence of adequate and efficient data link. Despite considerable improvements in the recent times, India's telecom sector is yet to attain international standards. The country's Teledensity by December 2006 remained as only 12.74%. Further, Table-2 shows the trend of total, urban and rural Teledensity across different states between 2003 and 2009. It is evident that growth of Teledensity shows three fold growth since 2003 (Table: 2). The rapid growth of mobile telephony in India in the recent past has been the major driver of the growth in Teledensity. It is apparent that the all –India average rural Teledensity, appalling as it is, suffers from the poor performance of Jharkand, Chattisgarh, Madhya Pradesh along with North Eastern States, Uttarakhand, Orissa, and Jammu and Kashmir .The sharp divide between rural and urban areas and other regional variations still persist. The coverage of Internet is quite low as compared to many other IT-enabled nations. Further, the Internet facility is available mainly in urban areas. The cost of access devices such as PC, set top box, and cable modem are still beyond the reach of the common man (Radhakrishnan, 2007).

Notwithstanding the promising and positive potential of e-governance, many studies reveal the gloomy side of its application in India. The application of ICT has brought maximum benefits to the elite, has increased wealth inequalities and has had a negative impact on the poor (Madon, 1998; Heeks, 1999; Ramchandraiah, 2003). IT-led growth has shown an overemphasis in urban areas and certain other regions in the absence of a more equitable regional development. There is apprehension that IT-led economic growth may contribute to widening of the rural urban disparity as shown by evidence both within and outside (Wacherman 1997; Bajpai and Navi, 2000).

Application of ICT is biased towards the urban and the rich. For instance, half the population in developing countries has not used a phone even once in their lifetime. Only less than one percent of the population has access to computer facilities. The ICT spending in the country, an indicator of e-governance preparedness, is hardly 3% of GDP, it is about twice of this in countries like South Korea, Australia, Japan, USA and UK. Evidently, the ICT sector in India is still not ready to take to e-governance in a meaningful way. Strikingly, the IT diffusion in India is lower than that of even several developing countries. One of the barriers in the way of popularizing an e-governance in India is the traditional bureaucratic mindset, which is reluctant to absorb any sort of change in the administration. Officials are 'at peace' with the present set-up distinguished by cobwebs of rules and regulations, cumbersome procedures, and passing the buck existing procedures. Lack of coordination has been another bane of India's e-governance initiatives by the Central/State governments. There is considerable duplication and wastage of efforts. An application under progress in one state is not shared with others. No wonder, the wheel is re-invented by everybody. Interoperability invariably remains a desideratum. Another unfortunate dimension is that stakeholder participation is not given emphasis by the other authorities while launching e-governance projects. The security dimension is yet another constraint.

Despite of constraints of several infrastructures, Asian countries to dominate international e-government ratings taking three of the top four spots in a global e-government study, South Korea earned the top rank followed by Singapore, Taiwan, the United State, Great Britain and Canada (West, 2007). The study shows that 28% of government agencies around the world offering online services, 96% of websites provide access to publications, 29% show privacy policies, while 21% have security policies. Table: 3 shows the status of India and neighboring countries in the field of e-governance whereas Bhutan, India and China occupies 1st, 2nd and 3rd rank but its global ranking 34, 47 and 51 respectively. In terms of individual country profiles for selected features Pakistan applies more security and privacy policies in comparison of others neighboring nations (Table: 4).

NATIONAL LEVEL INITIATIVES

Over the past decade or so, there have been islands of e-governance initiatives in the country at the national, state, district and even block level. At the national level, the government has extensively promoted the use of IT in managing its internal processes and has drawn up a 'minimum agenda of e-governance'. Further ministers/departments have provision of 2 to 3 percent of their annual budgets to be spent on IT related activates. The government has enacted IT Act 2000 which provides legal status to the information and transactions carried on the net. The Indian government has also drafted the so-called Freedom of Information Bill that requires all public authorities to maintain information and records, and appoint public information officers to assist citizens in gaining access to such information (Global Campaign for the Expression, 2000; Government of India, 2000). The Department of Information Technology under the ministry of communications and IT of government of India has also formulated the National e-governance plan (2003-07) comprising of 27 Mission Mode Projects (MMP) and 8 components. The vision of this enormous is to "make all government services accessible to the common man in his loyalty, through common service delivery outlets and ensure efficiency, transference and reliability of such services at affordable costs to realize the basic needs of the common man" (MIT, 2009). The ultimate objective is to bring government services to the citizen's doorstep for which a thorough study was required to understand the citizen's perspective and perception about governance. The effort has been to demystify and simplify the process of delivering government services by taking holistic view of initiatives across the country and probability an enabling ICT based platform.

The Economic Times reported that the government of India is emerging as the fourth largest vertical spender on Information Technology after the telecom, manufacturing, banking and finance industries. According to Gartner estimates, the India government has spent around 1 billion USD on Information Technology in 2002. This includes the expenditure of the central governments on hardware, software, telecommunication equipment, telecommunication services and IT services. In fact, the government accounted 9 percent of the total IT spend in India for the year 2002 and it was estimated to go up to 15 percent (Dataquest, 2003). Though e-governance is still in its infancy, over 20 states /Union territories already have an IT policy and initiated e-governance projects, some of them have been highly successful and are ready for replication across other states. Experiences from successes as well as the failures of the various initiatives played an important role in shaping the e-governance strategy for the country. An illustrative list with details of some significant e-governance initiatives/projects implemented at national level is given below:

MCA-21 Project: The project provides stakeholders-corporate bodies, businesses, professionals who are authorized signatories or employees of companies, citizens and investors across the country with convenient and secure online access to all services provided by the Ministry of Corporate Affairs. Key services that can be availed through the MCA 21 portal: downloading of e-forms; registration and incorporation of new companies; annual and event based filings; payment of penalty and fees and tracking the status of payment processing; viewing, creation and modification index of charges; online registration, tracking and redressal of investor grievance; viewing and obtaining certified copies of public records pertaining companies.

MCA 21 project is milestone for e-governance in India, a project whose cost is Rs. 345 crore which was started by Ministry of Company Affairs on 1st march 2005 to become as per the international level in the area of e-governance. The main aim of the project is to move form paper based to nearly paper less environment. It one of the major e-governance project which is planned and monitored under the national E-governance Plan (NeGP) by the National Institute of Smart Governance (NISG). This entire project is based on PPP model is being executed by one of the leading private sector software company Tata Consultancy Services in a BOOT model (Singh, 2006). As per initially agreement TCS will run the portal for six years and then it should hand over to the official of MCA.

Income Tax Portal: In order to respond to the growing demand for an efficient system of tax collection, the Income tax Department launched a centralized website in 2002 with aim to answer broad based income tax queries. In 2005-06 more substantial electronic transactions were introduced through the income site website, presently 19 services are offered through the online system including but not limited in preparation and filing of individual tax returns and TDS (Tax Deducted at Source) returns by tax deductors; filing and tracking of PAN (Permanent Account Number) applications; status inquiry of taxes paid in banks; and access to taxation rules and tax payer specific information. Besides the income tax portal, services are also provided through the websites and offices of NSDL (National Securities Depository Limited) and UTITSL (UTI Technology Services Limited) and income tax offices across the country (GOI, 2008). The portal is regularly used to access information about rules and regulations. It has been noted that a large number of users take the help of professionals, viz. Chartered Accountants (CAs), for filling tax returns, applying for PAN/TAN (Tax Deduction and Collection Account Number) and submitting TDS returns, either through the website or manually.

Online Passport Services: The project was started at the Regional Passport Offices at Delhi in 1989. Later on it was extended to the 34 passport offices across India. Initially the the project undertook basic computerization of office, index card image capturing, online image checking and passport printing. In addition, computerization of passport application collection centres, communication between the passport offices and district offices through authenticated e-mail, electronic storage and retrieval of documents furnished by the applicants also being undertaken. Other major services offered through the online mode include provisions to check the status of one's application, download application forms and access information on services and procedures.

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Several state governments have also taken various initiatives to promote e-governance and have drawn up a roadmap for IT implementation. The applications that have been implemented are targeted towards providing G2B, G2C and B2C services with emphasis on use of local languages. An illustrative list with their efficiency already been projected in Table: 5 & 5A, few of significant state run projects with details are given below:

E-Seva: Launched on the 25th of August 2001, electronic seva (e-seva) is the improved version of the TWINS project launched in 1999, in the twin cities of Hyderabad and Secunderbad (Andra Pradesh). There are currently 45 e-seva centers spread across the state operating from 8.00am to 8pm every day and between 9.30am and 3.30pm on holidays. These centers are delivering 135 services from central, state, local governments and public utilities. The important services relate to payment of electricity and water bill and issue of birth and death certificates. Though the e-seva had a very lukewarm response from the citizens, the initiative has picked up tremendous confidence on the way and as on February 2003, netted a thumbing collection of close to Rs. 2000 crore from meagre collection of Rs. 43 lakh in August 2001 (Dataquest, 2003). There has been a growth of 87.74% in the transaction volumes since the system was computerized. In 2005, the number of transactions was 37.02 million. The yearly operating expenses for the year 2005 were estimated to be Rs. 168.9 million. The revenue from transaction fee has grown by 120.15% to 203.59 million in 2005-06 (Bhatnagar, 2007).

Khajene: Online Treasury System in Karnataka: Aims at bring out a more transparent and accountable system of financial transactions and also discipline in operations and management, resulting in efficiency and cost savings for the government. This system eliminates duplication of data entry and maintenance of individual treasuries and enables uniform replication of modified data at the central server. Khajene has been operational since 2003. In 2006, 31 district treasuries and 184 sub-treasuries were delivering three key services: processing of pension bills; processing of bills presented by Drawing and Disbursing Officers (DDO); and payment to vendors and contractors. In 2003-04, 3.27 million bills were processed at the treasuries for processing where as in 2005-06, 3.53 million bills were processed thereby representing an annual growth of 3.86% (Bhatnagar, 2007). The main beneficiaries of this application are employees of Karnataka state government departments; district treasuries and sub treasuries; and recipients of retirement and social pension.

FRIENDS: Fast, Reliable, Instant, Efficient Network for the Disbursements of Services is part of Kerala IT mission. FRIENDS Centers handle 1000 types of payment bills originating out of various PSUs. It was launched in 2000 by the Department of IT, Government of Kerala to facilitate bill payment services to various payees such as municipality, corporation etc. at a single centre. The software used at FRIENDS centres is programmed to specific rules and regulations of the partnered agencies and payments are accepted accordingly. People can make payment for water charges, civil supplies, rationing fees etc. At present each of the 14 districts of Kerala has a friends centre located at the respective district head quarter.

Kaveri: (Computerization of the Registration Process): The Department of Stamps and registration of Karnataka government has computerized the 201 sub-registrar and district registrar offices in the state under this programme (Chawla, 2007). Kaveri has been operational since 2003. In 2006, 201 sub registrar's offices were delivering three key services: On Line registration of property purchase/sale deeds; issue of non-encumbrance certificate and issue of copies of a previously registered deed. There has been a considerable growth of transaction volumes in last 5 years in the time when the system was computerized. In 2000-01 when the system was manual, 0.63 million properties were registered. In 2005-06, 1.02 million properties were registered representing an annual growth of 10.27% (Bhatnagar, 2007).

Gyandoot: It was initiated in January 2000 by a committed group of civil servants in consultation with various Gram Panchyats in the Dhar district of Madhya Pradesh. It is an internet based Government to Citizen Service delivery initiative. The basic idea behind this project was to established and fosters a technologically innovative initiative which is owned and operated by the community itself. Initially, computers were installed in twenty village panchyats centres and connected to the district rural development authority in Dhar town. These are called Soochanalayas which are operated local rural youth selected for this purpose. Later 15, more Soochanalayas were opened as private enterprise. The Soochanalayas (Information centre) are connected to the Internet through dial up lines. The services offered

through the Gyandoot network include: daily agricultural commodity rates, Income, death, domicile and caste certificates, public grievance redressal, BPL family list etc.

Prior to 2006 when the Government of India formally launched National e-governance Plan (NeGP), some department of government of India as well as state government had initiated steps to adopt e-governance. The central government announced the IT policy in 1998 to make IT available to all Indian's by 2008. The policy envisages the creation of a government wide information infrastructure, which would simplify service delivery, reduce duplication and improve the level and speed of services to the public. The government has already passed the Information Act, 2002 within the scope of Article 19 – a fundamental right – in our constitution enable the citizens to get the information from the government. A number of projects are in operation in different states for promoting e-governance in India (Table-5 & 5A). Of the total 25 states and seven union territories in India, some of the leading examples of e-governance include Andhra Pradesh, Gujarat, Karnataka, Kerala, M.P, Maharashtra, New Delhi and Tamil Nadu (SilconIndia, 2001). AP is one of the few states, which has introduced ICT in a big way to make a good impact on the quality of life of the citizens. The major e-governance in the states are online Multipurpose House Hold Survey (MPHS), Online CFST, Online commercial registration, employee information system etc. Madhya Pradesh also in the race of good number of e-governance projects are online grievance redressal, daily mandi rate, Online land records, Online employment exchange and citizen charters etc.

There are other states that are also pursuing e-governance. For example, the Rajastan government has taken measures to strengthen e-governance, proposing the creation of a statewide network to provide information and video communication to both public and private organizations. Several other projects also functional in the state e.g., e-mitra, rajstamps, online BPL lists, and government tenders etc. In Assam the government has introduced computerized land records system where as out of 27 districts 20 districts has been computerized. Presently janambandis (records of rights)are being issued to land owners in six districts of Assam. Another flagship project Udyog Ratna is an effective and efficient tool for monitoring the performance of the district industries centre (DICs). It is a web based online system which helps the General Managers of DICs to enter monthly progress reports of different schemes such as 20-point programme, PMRY, Industrial policy, and expenditure statement etc.

Although the status of e-governance in other states has not been discussed, they also have their independent agenda for e-governance, which include, in particular Meghalaya, Tripure, Manipur, Nagaland, Mizoram, Punjab and Uttarakhand etc. A good example of e-governance in Tripura is Agartala Municipal Corporation whereas application form for birth and death registration, new holding clearance, food license, domestic water connection, building loan etc. Other projects in Tripura also operational namely online cause lists, Transport Information etc. E-governance initiatives in Uttarakhand like as online market information, online weather information and Dev Bhoomi. Under dev Bhoomi project, the government has launched citizen centric land records website of Uttarakhand on 9th November 2006, with the objective of making available the entire land records data of the entire 13 district in the state on Internet (India Development Gateway, 2009).

MAJOR IMPACTS OF E-GOVERNANCE PROJECTS

Several studies have been conducted on impacts of central and state sponsored e-governance projects by different agencies. Department of Information Technology of Government of India in the year 2008 over 12 states, 36 projects were assessed which mostly included the three state level MMPs-Land Records, Road Transport and Property registration. Of the central MMPs Income tax, Passport and MCA21 were the three projects assessed. An overall assessment based on a composite score and the indicated preference for computerized system over the manual system suggests that MCA21 has been significantly more successful in terms of the value delivered to the users. The passport project has virtually no impact. Results of the income tax survey indicate that whereas corporate users have benefited on some aspects, individual filers have not benefited significantly (MIT, 2008). In the case of land record computerization, there has been a qualitative improvement of services like as waiting time has been reduced by 30% from an overall of 142 minutes in the manual mode. In the case of property registration has reduced the number of trips from an average of 3.9 to 2.3. State sponsored FRIENDS initiative, the quality of service, in terms of accuracy of transactions, cost of availing services and efficiency of handling queries has improved. The

overall service quality score for the computerized system was 4.62 compared to 3.29 on a five point scale for the manual system. KAVERI (computerization of land record) a flagship project of Karnataka have reported a marginal improvement over the manual system. The improvement in composite score from 3.35 to 3.90 of 0.5 on a five point scale can be considered marginal. Today registering of any document has been reduced from 30 days to just about 30 minutes. The users of Khajene – the DDOs and the recipients of retirement and social welfare pensions have reported a market improvement over the manual system. There has been a significant improvement in the quality of governance. Users of e-seva have reported a significant improvement over the manual system of dealing with individuals. The composite score has moved from 3.39 to 4.66 (Bhatnagar, 2007).

In fact, efficiency of several projects have been detailed in the Table-5 and 5A and almost all shows favorable outcome. Some of projects shows excellent performance namely AKSHAYA, a grassroots people oriented project in Kerala basically started as hubs for promoting IT literacy amongst villagers. Further, enabling citizens to be confident or empowered is one of the main outcomes from the AKSHAYA project and applies to both the entrepreneurs who are able to become employed and generate income and to citizens (Madon, 2004). The success story of Andhra Pradesh e-procurement project is measured in three parameter namely: (I) Reduction in tender cycle time from 90-135 days for finalization of high value tenders to 42 days; (II) Reduction in opportunities for current practices by eliminating the human interface; and (III) Cost savings by an average reduction of 20% in costs for procurement transactions done through the exchange during 2003-04 (Behera, 2007). Kochhar & Dhanjal (2005) assessed 21 projects each of which are evaluated by getting user responses under 14 parameter on a score of 1 through 10. While all the projects are scoring higher than five which is a very good score for any user feedback based methodology. Uttaranchal computer aided education system "Aarohi" which has resulted in a sharp hike in the government school results. The pass percentage at the intermediate result has risen from 45% to 64% and from 35% to 50% at the high school level. Aarohi scored 8.9 marks out of 10 in 14 parameter. Thus the benefits of e-governance projects are obvious, a host of states are quickly trying to crank up such projects. Since most are talking of huge amounts running into thousands of crore rupees, detailed cost-benefit analysis is called for. What have been attempted by different agencies in an initial assessment.

CONCLUSIONS & IMPLICATIONS

It is established fact that there are certain administrative and informational benefits of e-governance in terms of the collection and management of information, increase in public knowledge about government programme and activities, interaction and coordination among state agencies, speed and openness in service delivery, reduction in certain service costs, maintenance of demographic and economic records and so on. In this context India is one of many developing countries since long back launching several major e-governance projects aiming to improve government processes, connect government to citizens and build interactions within society. After analysis of over 20 central and state funded projects it is cleared there has been a satisfactory progress of implementing e-governance projects. In the states like Andhra Pradesh, Karnataka and Madhya Pradesh seems to have more though out policies and many initiatives on the ground, but islands of innovation exist across the board. This needs to be sorted out.

India is faced a large number of challenges that are typical of developing countries. The Indian government has for the past three decades widely acknowledged that expanded use of ICT in the public sector can offer improved benefits such as improved planning and monitoring measuring cost-savings through rationalization and more effective administration and delivery of certain public services. Today wide range of e-governance projects are being implemented in different parts of the country aimed at reaching areas and people that had traditionally not been connected to the outside world. However, in developing country like India, it remains uncertain as to what contribution, if any, e-governance initiatives can make to overall development priorities. Nevertheless, the abilities like other developing countries in India to reap the full benefits e-governance is limited and is largely hampered by the existence of many political and social hindrances but despite the barriers and impediments they experienced, the reference cases provided here show that India should and could take advantages of the ICT revolution. The case analysis reveals some important tips to consider for successful design and implementation of e-governance initiatives like as E-readiness assessment, investing in human development and adopting a holistic and comprehensive approach etc.

Further, the strategic inputs and interventions that is required at different phases of the development of e-governance project. For this purpose three different phase needs to be followed namely pre-development, development and post-development. Certain initiatives and inputs are required especially in certain stages, a few others are required through out the project life. Accordingly the strategic requirement has been categoriesd. During the pre-development phase, the focus should be on business process engineering, development of the necessary infrastructure and the acquisition of requisite technology. the post-development phase must come with the necessary policy reformulations. The strategic imperatives of change management, stakeholder participation and the manpower development should be present in all the phases. In this way, the implementation of an e-governance project could be made effective and sustainable.

Prior to 2006 when the Government of India finally launched National E-Governance Plan (NeGP), some important department of Government of India as well as state governments had initiated steps to adopt e-governance .These imitative are namely Government to Citizen (G2C); Government to Business (G2B); and Government to Government (G2G). Through discussion and questionnaire survey based with officials and executives of delivery centres with regard to direct and indirect impact on citizens and indicators on which qualitative impact was measured. The important outcome of the study in respect to G2C (Computerization of land Records, Bhoomi and Gyandoot etc.) initiatives are:

I. Complex e-governance projects have various components all of which need to be implemented for which a holistic approach is need during implementation.
II. A well computerized and executed BPR is a pr-requisite for success of e-governance projects;
III. There should be end to end computerization;
IV. Supporting infrastructure is pre-requisite for e-governance projects;
V. Reach of e-governance projects can be extended through PPP models which would also be cost effective; and
VI. Government servants need to be motivated to adapt and work with in ICT environment.

Under G2B initiatives (e-procurement, and MCA, 21 etc.) encompass all activities of government which impinge upon business organizations. The important lessons are:

I. All stakeholders must build capabilities in order to enable them to participate in and take advantage of e-governance initiatives;
II. Involvement of domain specialists is a key perquisite;
III. Stakeholders should be allowed identity errors in the data through a foolproof system;
IV. Benchmark for service delivery need to be created and communicated to the users; and
V. Installation and stabilization of the system takes time.

The Government to Government initiatives (Khajene, SmartGov. Etc.) help in making the internal government processes more efficient. Many a time G2C and G2B processes necessitate the improvements in G2G processes. The important outcomes are:

I. Close cooperation between the technology solution provider and the in house domain experts is crucial for success of e-governance projects;
II. Political support form the highest level coupled with whole hearted involvement of the staff substantially increase the chance of success; and
III. Capacity building of staff is essential for success of any e-governance projects.

In conclusion, one needs to understand that after three decades of e-governance, India remains one of the poorest of the world with 61 percent adult literacy rate, 20 percent of the people without health services, 50 percent without sanitation, and 25 percent below the poverty line, $230.85bn external debt and 134 ranks in the recent Human development Index. E-governance must show more than this dismal scenario of human conditions in India. After all, the poor citizens needs the basic material preconditions of living- including food, health, education and employment- before they become interested in non-material

concerns like information and knowledge provided by e-governance. There is no doubt that e-governance has been useful for certain services enjoyed by citizens, especially the affluent high-income families and foreign investors. But it is yet to be seen whether e-governance can eradicate poverty, reduce inequality and satisfy basic human needs in the poor country like India. Although India records tremendous growth in Teledensity and internet users but in global perspective still it is very poor as internet per 100 users is 5.44, PC per 100 users is 1.54 and broadband per 100 users is 0.21. However, E-participation index shows 0.2500 with ranking in world 49 (United Nations, 2008).

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APPENDIX

Table I: E-Governance in Developing Countries

Source: Compiled from Official Web Sites of concerned Projects

Country	Projects	Type	Problems	Objectives
Ghana	National Clearinghouse Ghana	E-government/G2C	Very limited exchange of information among the information providers and the information consumers.	To improve the information facilities and access to public institutions.
Tanzania	ITC for improved District Governance	E-governance/G2G	Manual processes of office functioning as a result limited transference, handicapped strategic vision and limited resource utilization.	To bring about good governance in Kinondoni district by harnessing information for decision making through the use of ICT.
Kenya	Busting Corruption using the Internet.	E-government/G2C	How the public will be made to report genuine corruption voluntarily?	To increase public awareness and encourage public participation in fighting corrupt practices.
South Africa	Formulating IT policy to transform government into e-government.	E-government/G2C	Information lacking among villagers and farmers.	To provide communications to citizens in remote villages as well as to those in larger towns and cities
Cuba	Info Med Health System	G2G	Cub's economic difficulties placed a severe strain on the country's health system.	To share knowledge and facilitating access to health related information.
Peru	Information System for Rural development.	G2G, G2B	Inactive local government and massive poverty.	To reduce poverty and isolation, enhance productive activities and make local government more efficient.
Brazil	Standardization of Public web pages in the state of Bahia.	E-government/G2G, G2Cand G2B.	Absence of regulatory framework for the creation of web pages.	To discipline state agencies and entities on the structure, standards, use and update of public administrative related web pages.
Mali	Policy to stimulate decentralized Internet access.	G2C, G2B.	Infrastructure shortcoming towards internet connectivity.	To encourage the growth of public internet access points.
Uganda	Parliament Portal	G2C	Massive unawareness about activities of governmental activities.	To provide information to citizen about member of parliament, constitution and country facts.

Table 2: State-wise Trends in Total, Urban, and Rural Teledensity

Source: Department of Telecom, Annual Reports, ERU Unit, India

States	March 2003			March 2006			March 2007			March 2008			March 2009		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Delhi	26.9	30.2	0	65.4	--	--	86.89	--	--	110.1	--	--	140.18	--	--
Punjab	11.6	25.7	4.6	27.61	63.57	5.27	37.05	89.77	16.16	47.89	82.79	25.98	58.25	95.85	33.11
Kerala	11.1	23.7	7.9	25.54	68.4	10.65	33.54	69.43	21.11	45.34	110.9	26.18	58.48	125.35	35.43
A. & Nicobar	9.6	15	7.7	17.97	34.2	8.8	17.39	23	14.17	18.36	25.38	14.2	21.24	28.89	16.57
Maharashtra	9.0	19.3	2.2	13.1	34.45	2.8	18.28	42.29	7.16	27.42	56.97	12.59	37.90	69.67	21.70
Him. Pradesh	8.4	39.6	5.4	18.78	118.14	7.25	28.57	81.75	22.3	41.16	127.78	30.81	55.50	179.81	40.47
Tamil Nadu	7.8	15.2	2.1	14.7	29.99	2.99	22.55	38.94	9.65	35.09	58.62	15.78	50.46	79.48	25.62
Gujarat	7.4	2.5	17.8	16.98	19.51	2.69	24.14	45.47	10.43	33.63	60.14	16.37	45.16	5.43	25.21
Karnataka	6.5	15.8	2.4	17.06	43.17	2.63	25.05	56.44	7.46	34.53	74.98	11.53	45.21	98.73	14.36
Haryana	6.1	16.5	2.3	14.47	39.33	3.1	23.11	49.72	10.74	30.39	58.18	17.18	43.75	75.98	28.10
An. Pradesh	5.6	16.5	2.0	13.45	43.22	2.34	19.62	53.24	6.84	28.25	74.9	10.44	39.59	103.38	15.22
Uttaranchal	4.0	12.6	1.3	7.46	22.72	1.84	9.5	23.19	4.36	10.61	25.01	5.13	11.59	25.97	6.04
West Bengal	3.7	11.5	0.9	5.53	33.04	1.13	8.63	33.00	4.69	14.36	57.38	7.38	22.51	77.86	13.50
Rajastan	3.4	11.3	1.3	9.65	35.43	1.67	15.49	43.65	6.75	23.74	59.06	12.74	37.15	102.56	16.71
M. Pradesh	2.9	10.2	0.6	7.12	23.9	0.79	12.22	36.17	3.28	20.29	60.21	5.28	30.08	80.36	11.07
J. & Kashmir	2.5	0.5	8.3	12.18	44.49	0.85	16.08	47.34	5.08	21.84	61.16	7.87	32.76	77.42	16.72
Orissa	2.2	11.3	0.9	7.5	41.65	1.16	9.51	37.26	4.2	15.0	55.59	7.14	23.30	78.09	12.55
Uttar Pradesh	2.1	8.8	0.6	6.87	30.09	0.56	10.77	38.79	3.1	16.19	52.15	6.28	24.91	77.76	10.24
Assam	1.9	11.5	0.5	5.67	37.09	0.73	9.74	54.65	2.36	14.74	76.3	4.44	20.65	86.98	9.36
Jharkand	1.6	6.1	0.4	2.99	11.18	0.58	3.43	11.33	1.08	3.60	11.67	1.19	4.11	13.02	1.44
Chattisgarh	1.4	5.6	0.4	2.09	7.84	0.51	3.24	11.28	0.99	4.38	14.87	1.39	5.15	16.69	1.81
Bihar	1.3	9.3	0.5	5.34	45.15	0.66	7.32	52.28	2.05	12.64	91.99	3.33	22.18	133.00	9.17
Total	**5.0**	**15.2**	**1.5**	**12.74**	**39.45**	**1.86**	**18.22**	**48.1**	**5.89**	**26.22**	**66.39**	**9.46**	**36.98**	**88.84**	**15.11**

Table: 3 E-Governance Status of India and Neighboring Countries

Rank	**Country** (World Ranking)	**Rating** out of 100 Points	**Rank**	**Country** (World Ranking)	Rating out of 100
1	Bhutan (34)	36.0	5	Sri lanka (124)	28.0
2	India (47)	34.2	6	Pakistan (135)	27.7
3	China (51)	33.7	7	Afghanistan (142)	26.7
4	Nepal (168)	29.6	8	Bangladesh (156)	24.7

Sources: Compiled from the Data taken from www.developmentgateway.org

Table 4: Country Profile for Selected Features (Figure in %)

Country	**On Line Services**	**Publications**	**Data Bases**	**Privacy Policy**	*Security policy*	**Foreign Policy**	**User Free**	**Updates**
Bhutan	0	100	100	100	0	100	0	0
India	39	100	100	06	66	100	0	11
China	43	100	100	0	0	65	0	26
Nepal	0	94	89	0	0	72	0	11
Sri lanka	0	100	100	0	6	100	0	0
Pakistan	18	100	87	23	14	9	0	14
Afghanistan	0	100	33	0	0	67	0	33
Bangladesh	0	100	40	0	0	83	0	0
Myanmar	0	100	0	0	6	6	6	0

Sources: Compiled from the Data taken from www.developmentgateway.org

Table-5: Selected Case Studies of E-Governance Projects

States	Name of Projects/ (Beneficiaries)	Type of Application	Objectives	*Efficiency*	
				Before	**After**
Karnataka	Bhoomi (Rural People)	Obtaining land title certificates	To obtain land records with ownership.	3-30 days	5-30 minutes
	Kaveri	Computerization of land registration	To facilitate speedy registration without Intermediaries.	7-15 days	2-3 hours
	Khajane (State Treasury Department)	Networking of treasurers	To facilitate transparency and speedy delivery of services.	Red tape and Tedious procedure	Speedy, reduction of cost and time
	Community Learning Center Project	Computer Literacy	To enhance computer learning during school hours	Computer illiteracy/Limited computer education	Extensive/Affordable computer education.
Andhra Pradesh	Fully Automated System for Transport (FAST) (Populace)	Licenses and vehicle registration	To provide services like driving licenses and registration of vehicles	Delays	Stipulated time
	Andhra Pradesh State Wide Area Network (APSWAN)	Network for data, voice and video communication	To provide various services to citizens in two main cities.	Red-tape and tedious process	Effective communication and reduction of cost.
	Secretariat Knowledge & Information Management System (SKIMS)	Networking of Secretariat and departments	To share knowledge among different departments	Red-tape and tedious process	Speedy communication and reduction of cost.
	E-Seva (Populace)	Several Services at one place	To provide service from single umbrella	Queue/Waiting period	Less waiting time and Queue
Kerala	The Fast Reliable, Instant, Network for Disbursement of Services (FRIENDS). (Populace)	Single Window Scheme.	To facilitate the provision of services within a corporation or municipality at a single centre.	Several depths. And long waiting periods.	Eliminate queue and long waiting time.
	Akshaya	IT-literacy	To provide e-literacy to one member from every household.	Non-availability of information.	Prompt information about agriculture, health and education.
Madhya Pradesh	Gandoot (Rural people)	Rural Internet Network	To provide various civilian services through a network of information centres	Red tape/delays/Limited services	Effective communication/Varity of services.

Contd. ----------

Table-5A: Selected Case Studies of E-Governance Projects

States	Name of Projects/ (Beneficiaries)	Type of Application	Objectives	Efficiency	
				Before	After
Madhya Pradesh	Gramsampark (Populace)	Complete database of government facilities	To serve all information about government services for civilian.	Several depts. / Asymmetrical Information delivery System.	Centralized Information system /Eliminate Queue.
	E-Chauupal (Villagers)	Cost effective Supply chain system	To serve information about agricultural inputs to farmers	High input price/Inactive market	Fair input price/Doorstep purchasing
New Delhi	Delhi Slum Computer Kiosks Project	Computer Awareness programme for Slum Dwellers.	To improve the conditions of the Ambedkar Nagar colony of Delhi as well as to spread computer awareness.	Urban Poor/Improper primary education	Self-paced educational resources/Improved Primary education.
Rajastan	Rajnidhi	Information Kiosks	To provide variety of civilian services.	Delay/Limited Access	Prompt/ Unlimited access.
	Rajswift	Online Transmission Facilities.	To connect chief minister office and District collectors.	Improper communication/ Delayed decision.	Sound district administration
Gujarat	Computerized Inter State check posts (CICP).	Interconnecting check post	To control the transport of commodities.	Malpractices/ unaccounted money transaction/ Huge time checking's.	Reduced malpractices/reduced loss to life and property/checked money transaction.
	Diary Information System Kiosk (DISK). (Rural People)	Internet Connectivity in Rural Milk Collection Society.	To enable speedier collection of milk and faster disbursement of payments to diary farmers.	Slow buying &payment process.	Speedier in collection and payments.
Income Tax Department, Government of India	Income Tax Portal	Income Tax Solutions	To provide broad based income tax queries	Lesser coverage/Poor awareness and tax collection.	Broader coverage/Increased tax collection/Speedy redressal.
Ministry of Company Affairs, Government of India	MCA-21	Online Corporate services	To provide on line access to all services provided by Ministry of Corporate Affairs.	Lack of coordination among ROC/In-efficient corporate services	Better Co-ordination and corporate services
Ministry of Foreign Affairs, Government of India.	On Line Passport Services	Digital Management of Passport Services	To serve online services of queries, application and issuance of passport.	Delay of issuance/Queries problem	smooth functioning and easy to check the status etc.

Source: Compiled from Official Websites of concerned Projects and Assessment Agencies

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E-COMMERCE - MARKETERS' PERSPECTIVE

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ABSTRACT

The main objective of the paper is to analyze the perspective of the marketers towards web as a medium of exchange, so that entrants in the field of e-commerce have a vivid picture of what the experts in the field think. The effort has been to derive the factors which explain the understanding of the marketers in this relatively new medium of exchange. Since all the respondents were from the renowned websites and the decision makers in their respective organizations, their viewpoint has been evaluated and may be taken as benchmark for the new entrants.

INTRODUCTION

A new dimension has been added to the marketers' job with the emergence of this new medium called the WEB. Web provides a relatively new medium of conducting business, with no pre-defined rules. Marketers, being the intellect of any business, have to create a new benchmark. In this paper, the effort is to churn out factors, to understand the perspectives of the marketers towards Electronic Commerce.

E-Commerce uses the electronic medium to address the need of businesses and consumers. Convenience is its key driving force, people around the world, can sit in the comfort of their houses and can accomplish what they desire through a few mouse clicks, taps on keyboard or touch (Apple's i-pad). They can choose the products/services through the virtual e-catalogues. E-commerce helps the customer avoid the problems of stock, time and distance.

The advantages are manifold (convenient, affordable, faster, global phenomena, flexibility, etc) and are for both the customers and the marketers. No denying the fact that there are problems galore as well (payment security, privacy, returns, SCM, etc). In this paper our effort was to bring out the most prominent factors governing the perceptions of the marketers towards E-commerce.

METHODOLOGY

The objective of the research paper required the study of marketers, whose decisions and perspectives mattered and hence the universe comprised of CEOs, Chief Marketing Officers and top level marketing professionals from the leading web sites.
A structured questionnaire with closed ended questions was administered to 51 marketers, who were either interviewed personally or through e-questionnaire. Eight significant factors were extracted by Factor Analysis.
In this paper, the focus is on the particular section of the research, where Factor Analysis was applied in order to derive meaningful inferences.

FINDINGS

Factor analysis refers to a variety of statistical techniques, which have the common objective of representing a set of variables in terms of smaller number of hypothetical variables. It is done with the idea of simplifying complex and diverse relationship that exist among a set of observed variable by exploring common dimensions or factors that link together the apparently unrelated variables and consequently provides insight into the under lying structure of the data. The analysis isolates the underlying factors that explain the data.

The factor analysis has been conducted in the following stages:
Initially, the inter-correlation among the variables was calculated. The Inter-correlation matrix (Table 1) reveals that correlation between the variables was not high.
A few argue that if there is high correlation among the variables, Factor Analysis will come with a lesser number of factors to represent a large number of variables. Others say that it will not give meaningful results if the variables are not correlated. But such a highly desirable situation may not exist in real life problems. It is inevitable to extract more number of factors to account for large variance (Srinivasan & Murthy, 1994).

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}
X_1	1.0																			
X_2	.07	1.0																		
X_3	.07	.39	1.0																	
X_4	.11	.47	.46	1.0																
X_5	.23	.09	.04	.21	1.0															
X_6	.21	.18	.17	.18	.07	1.0														
X_7	-.15	.31	.22	.36	.21	.18	1.0													
X_8	-.27	-.01	.13	.10	.16	-.03	.54	1.0												
X_9	-.33	-.30	-.13	-.14	-.06	-.13	.22	.37	1.0											
X_{10}	.05	.16	.11	.31	.29	-.02	.21	.24	.03	1.0										
X_{11}	.08	-.00	.07	.01	.29	.30	.06	.10	.04	.06	1.0									
X_{12}	-.06	-.13	-.07	.25	-.02	-.15	.06	.24	.23	-.32	.11	1.0								
X_{13}	-.01	.03	-.14	-.24	-.07	-.07	-.17	-.04	-.15	-.00	.12	.25	1.0							
X_{14}	.12	-.20	.07	-.05	.05	.02	-.12	.02	.02	-.07	.08	.13	-.04	1.0						
X_{15}	-.01	.20	.06	.12	.03	.11	.17	.04	.09	.10	.01	.01	.22	-.11	1.0					
X_{16}	-.20	.26	-.07	.10	.09	.07	.20	-.02	.12	.13	-.25	-.18	.06	-.19	.40	1.0				
X_{17}	.10	.22	.00	.11	.03	.20	.32	.00	-.21	.20	.15	-.21	.16	-.02	-.09	.11	1.0			
X_{18}	.04	.12	.02	-.06	.12	.04	.04	.02	.05	.22	.12	.02	.04	.00	.02	.28	.02	1.0		
X_{19}	.26	.33	-.00	.23	.17	-.00	.04	.19	.07	.32	.01	.24	.10	-.05	.15	.30	.11	.38	1.0	
X_{20}	.08	.25	-.11	.14	.17	.07	.17	.04	.15	.17	.29	.07	-.20	.28	-.16	.00	.33	.09	.17	1

Table 1 Correlation Matrix for the Perceptions of Marketers

The next step was to decide about the number of factors to be derived. While using Principal Component Analysis, a rule of thumb was applied to choose the number of factors equal to the number of 'Eigen Values' with greater than unity which were calculated using the software SPSS. The component matrix so formed was further rotated orthogonally using Varimax rotation algorithm. The results so obtained have been depicted in the following table I. The total variance accounted for by all the factors with Eigen Value greater than 1 was 70.46 percent and remaining variance was explained by the other factors. By considering the factor loadings, all statements were loaded on eight factors. A description of these selected factors with codes are given below.

Table –I
Rotated Component Matrix

Code	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**	**F8**	**h^2**
X_1	.157	**.610**	.018	.019	.389	-.118	.232	.061	.619
X_2	**.702**	.063	.285	.344	.028	.156	.043	-.165	.751
X_3	**.807**	.042	-.110	-.166	.031	-.140	.106	.058	.728
X_4	**.780**	.052	.072	.064	.189	.049	.001	.282	.737
X_5	.078	.053	.066	.029	**.774**	.025	.149	.017	.637
X_6	.189	.105	.018	.115	.043	.082	**.811**	.113	.740
X_7	.373	**-.609**	.052	.315	.105	.161	.180	.00	.787
X_8	-.128	**.781**	.118	.008	-.274	.029	.046	.142	.739
X_9	.263	**.635**	.074	.367	.002	.307	.046	-.126	.724
X_{10}	.167	-.133	.325	.166	**.599**	.219	-.226	.219	.684
X_{11}	-.130	.084	.044	.163	.399	.244	**.630**	.047	.672
X_{12}	.114	.298	.171	.103	.052	.309	.036	**.732**	.776
X_{13}	.095	.178	.178	-.134	.005	.234	-.116	**-.761**	.737
X_{14}	.023	.038	.002	.016	.030	**.811**	.018	.011	.661
X_{15}	-.184	.156	**-.466**	.336	.086	-.303	-.336	.163	.627
X_{16}	.086	-.129	**.696**	.114	-.365	.333	.000	.066	.770
X_{17}	.038	.025	.014	**.764**	.032	.162	.182	.154	.670
X_{18}	.082	.031	**.670**	.055	.176	-.183	.003	.081	.532
X_{19}	.131	.276	**.726**	.062	.279	.021	.009	.070	.717
X_{20}	.028	.005	.164	**.720**	.120	-.422	.003	.075	.746
Eig.value	3.265	2.213	2.083	1.654	1.443	1.268	1.080	1.048	14.054
Cum. Var%.	16.323	27.388	37.802	46.072	53.286	59.628	62.030	70.270	

Naming of the factors

All the eight factors extracted have been given names on the basis of various variables included in each case. The factors F1 through F8 have been named as:
F1: Customer Focus
F2: Reluctant customer
F3: Competitive Advantage
F4: Expensive Strategies
F5: Interactivity and Duality of presence
F6: Frame strategies to sell
F7: Respect all customers
F8: Culture and Language

The structure of these factors has been individually taken up in detail:

1. CUSTOMER FOCUS

The rotated matrix has revealed this factor as the most important factor with the highest eigen value of 3.265. In total three variables have been loaded on this factor and are arranged according to their loading values. The variables composing this factor, with their codes and factor loading have been given in Table-II below:

Table-II
Customer Focus

Codes	**Variables**	*Loading*
X_3	Building customer confidence is my top priority.	.807
X_4	A disgruntled customer can cause more harm to any business now than he could a few years back.	.780
X_2	We cannot afford to ignore the fact that customer loyalties are more vulnerable than ever.	.702

The three variables loaded on the factor 1 show that, as desired, the marketers attach a lot of significance to the customers and want to satisfy the customer at all costs because they understand that the customer is more aware and liable to be lost to the competition. Marketers claim that building customer confidence is their top priority because they feel that a disgruntled customer can be more damaging for the web business (with social networking , tweeting, etc) and also because they understand that due to immense competition, customer loyalties are also vulnerable and hence in order to retain them they need to be impressed and satisfied. The maximum loading on the factor reveals that for marketers, customers are supreme.

2. RELUCTANT CUSTOMER

The second important factor that has emerged from the analysis with eigen value 2.213, is the fact that the e-commerce has 'reluctant customer'. The four variables loaded on this factor, arranged according to their loading values have been given in Table-III below:

Table-III
Reluctant Customer

Codes	**Variables**	*Loading*
X_8	It is too expensive to acquire customers on the web.	.781
X_7	I feel retention of existing customer is more important than attracting new ones.	-.690
X_9	Investing on the web is not profitable.	.635
X_1	I understand well what my customers need from my site.	.610

The four statements loaded on this factor show that the marketers feel that the customers are selective and there is resistance to change and accept E-Commerce, which makes it expensive to acquire customers on the web and hence makes it less profitable to invest on the web. The statement 'retention of existing customers is more important than attracting new ones' has been loaded negatively on Factor 2 implying that new customers are more important than existing customers. All these factors strengthen the belief that 'customer' has attained a stronger position. Once retained the process becomes self-perpetuating because it might have the multiplier effect (word of mouth) and that also at no or low cost. Since, it is expensive to acquire customer on the web, in order to make it profitable, retention is required and hence the marketers feel that they understand the customer quite well.

3. COMPETITIVE ADVANTAGE

The rotated matrix has revealed this factor as the third important factor, with the eigen value of 2.083. In total four variables have been loaded on this factor and are arranged according to their loading values in the Table IV given below:

Table-IV
Competitive Advantage

Codes	**Variables**	**Loading**
X_{19}	I elaborate on my Unique selling proposition	.726
X_{16}	On the web, small companies can compete with the larger ones.	.696
X_{18}	Mass customization is the trend of the day.	.670
X_{15}	Payment security issues on the web are yet to be tackled in perfection.	-.466

The four variables loaded on Factor 3 show that the marketers believe that USP and customized goods/services are required by the customer and even the small companies can compete with the larger ones if these two are exploited i.e. USP and customization. The only hindrance in the way inspite of the above two services is the lack of payment security.

4. EXPENSIVE STRATEGIES

The fourth important factor regarding the perspectives of the marketers regarding E-commerce is the factor of 'expensive strategies' with the eigen value of 1.654. Table-V represents the two variables loaded on this factor, with their loading values.

Table-V
Expensive Strategies

Codes	**Variables**	*Loading*
X_{17}	My web site is listed at the top of several prominent search engines.	.764
X_{20}	Web business requires huge amount of investment	.720

The two variables are loaded on the Factor 4 which implies that the marketers try to follow the search engine strategies and other tactics to remain prominent and hence require a huge amount of investment. .

5. INTERACTIVITY AND DUALITY OF PRESENCE

The rotated matrix has revealed this factor as the fifth important factor, with the eigen value of 1.443. Table-VI represents the two variables loaded on this factor, with their loading values.

Table-VI
Interactivity and Duality of Presence

Codes	**Variables**	*Loading*
X_5	Interactivity is the key feature that provides online presence an edge over the traditional.	.774
X_{10}	Duality of both online and offline presence is a must.	.599

The two variables loaded on factor 5 reveal that marketers feel that 'interactivity' is the main feature that provides online business an edge over the traditional ones but the duality of presence, both online and offline is a must. This may be attributed to the fact that the web business is still at the stage of evolution and hence customers needs some adjustment time. When asked, the marketers feel that the customers prefer to 'glean information about the products/ services' to 'buying on the web' (not within the purview of this

paper), and hence the need to provide them sufficient information online and then option to buy either online or offline. This shows that the marketers treasure the quality of the web to provide high interactivity but they also feel that till the time is ripe, the customers need both the option of online and offline presence.

6. FRAME STRATEGIES TO SELL

The rotated matrix has revealed this factor as the sixth important factor, with the eigen value of 1.268. Table-VII represents the two variables loaded on this factor, with their loading values.

Table-VII
Frame Strategies to Sell

Codes	**Variables**	*Loading*
X_{14}	If you cannot sell on the web, you don't need to make a web presence.	.811
$*X_{20}$	Web business requires huge amount of investment.	-.422

Web is one such medium of marketing where the selling or buying has yet to gain momentum. There was an outburst of the dotcoms coming up in thousands each day but finally the aim should be to sell on the web, because otherwise it is difficult to survive. The marketers feel that if they cannot sell on the web, they don't need to make a web presence.
The statement 'Web business requires huge amount of investment' has a minor loading of on this factor.

7. RESPECT ALL THE CUSTOMERS

The seventh important factor that has emerged from the analysis, with eigen value 1.080 is 'respecting all the customers'. Table-VIII represents the two variables loaded on this factor, with their loading values.

Table-VIII
Respect all customers

Codes	**Variables**	*Loading*
X_6	All my customers are the most valued ones.	.811
X_{11}	All traffic is good traffic.	.630

The above given table-VIII reveals that factor 7 consists of two variables which show that all customers are the most valued ones with all the traffic considered good traffic. This shows that the marketers are fully committed to the customer, they value all of them, whether they come to buy or only to surf their site.

8. CULTURE AND LANGUAGE

The eighth and the least important factor about the perspective of the marketers, having the eigen value of 1.048, as shown in the rotated matrix is the Culture and Language . In total , two variables have been loaded on this factor that are arranged in table-IX, with their codes and load values:

Table-IX
Culture and Language

Codes	**Variables**	*Loading*
X_{13}	I feel native language sites are more grasping.	-.761
X_{12}	Cultural differences are too difficult to handle.	.732

The marketers explain in the eighth factor that they feel that the native languages are more grasping and along with that they feel that the cultural differences are difficult to handle. Language and culture has been one thing people are possessive and sensitive about. This factor is considered the least important because globalization has united the world, in terms of language and cultures.

CONCLUSION

The analysis shows that the marketers are well aware of the fact that customer needs to be satisfied and the customers are reluctant, expensive and demanding. Implying that the earlier myth, "everything will sell" (groceries to consumer durables) with ease; has been busted. Further efforts are required to entice the customers. This makes the web an expensive place to acquire and retain the customers. The need to provide the customer with both online and offline presence has also been recognized and the marketers know that 'interactivity' provides web business so much more finesse than the traditional business.

The analysis proves that the marketer's understanding of the customers is commendable and they are the ones who didn't let the "web" sink, they helped it sail (survive) during the turbulent times (early 2000) and the web businesses with the efficient system and relevant products and services have finally entered the calm seas and are flourishing.

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A FUZZY LOGIC-BASED MULTICAST MODEL FOR REGULATION OF POWER DISTRIBUTION

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ABSTRACT

Multimedia streaming applications consume a significant amount of server and network resources. The network layer in the protocol stack is concerned with routing of the data in an efficient manner with minimal duplication of data to the various receivers. The data transmitted needs to be transferred from the sender(s) to the receivers. The sender(s) and receivers are mostly end-hosts. Intermediate nodes are the routers, which route/direct the data from the sender(s) to the receivers. A spanning tree has been considered one of the most efficient and viable mechanisms to perform the data transmission in such a scenario. The Electrical Distribution System networks are akin to data communication tree network in many ways. By regulating at each distribution station (node/ router) for optimal loading of the distribution links, an efficient and trouble free distribution system is made possible as is done by the multicast routing of data traffic thus allowing the saving on network bandwidth. Many multicasting algorithms have been proposed over the years. On similar lines, using multicasting as a model, we propose here a fuzzy logic-based algorithm which allows for intervention-free readjustment of electrical loads even before a breakdown takes place. This can also be used to relieve some links for scheduled preventive maintenance by shifting load by preplanning the load distributions without a shutdown, thus providing a better quality of service.

I. INTRODUCTION

There are many similarities between the tree structured data communication networks using many routers and links, and the electrical distribution networks using central control centres, high voltage feeders, substations, control rooms and secondary links up to the low voltage consumer ends. The savings on bandwidth and the loading of communication links by router level multicasting techniques can also be applied to the electrical distribution systems. A fuzzy logic-based method is proposed for this purpose which can anticipate the load changes and indicate for the redistribution of the load on alternative links without human intervention, thus preventing any supply breakdowns.

Multicast Communication

Data communication in the Internet can be performed by unicast, broadcast, anycast or multicast mechanism. Unicast is a point-to- point communication mechanism, broadcast is when data is forwarded to all the hosts in the network, anycast is when data is to be transmitted to any one of the members selected to be part of a group and multicast is when data is to be transferred to only a group of hosts on a network. In the age of multimedia and high-speed networks, multicast is one of the viable mechanisms by which the power of the Internet can be further harnessed in an efficient manner (De´ Fago, 2004).

Although unicasting is the traditional method of data transport on the Internet, in the age of multimedia and high-speed networks, when more than one receiver is interested in receiving a transmission from a single or a set of senders, multicast is the most efficient and viable mechanism as shown in Figure 1. In the protocol stack of the network, multicast is best implemented in the Network Layer in the form of a multicast routing protocol to select the best path for the transmission.

Multimedia streaming applications can consume a significant amount of server and network resources. Periodic broadcast and patching are two approaches that use multicast transmission and client buffering in innovative ways to reduce server and network load, while at the same time allowing asynchronous access to multimedia streams by a large number of clients. There have been a number of techniques proposed to implement multicast in the Internet and intranet. The various techniques have their pros and cons and the suitability of a particular technique for a given multicast scenario.

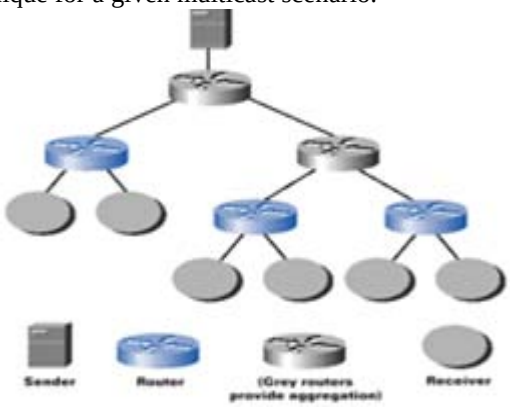

Figure 1. Principle of Multicast Communication

Additional features for multicast can be implemented at the other layers of the protocol stack such as reliability in transport layer, intranet multicast in data-link layer and session information and log maintenance in application layer but multicast is most efficiently implemented and handled at the network layer. Current research in this area has focused primarily on the algorithmic aspects of these approaches, with evaluation performed via analysis or simulation (Hosseini, 2007).

In the Network Layer multicasting, routing protocols maintain the state information and use the routing algorithm to select the most appropriate route. Features such as reliability and group management are added in multicast communication at layers other than the network layer. Multicast provides efficient communication and transmission, optimizes performance and enables truly distributed applications. Copies of message are made only when paths diverge at a router, that is, when the message is to be transferred to another route in the path to the receiver or when a receiver is attached to the router. The optimal multicast path is computed as a tree or a group of trees. The quality of the tree is determined by low delay, low cost and light traffic concentration. The first effort at quantifying the cost advantage in using multicast was by Chuang and Sirbu (Hosseini, 2007). It focuses on link cost such as bandwidth quantification and ignores node cost such as routing table memory, CPU usage etc.

The data transmitted needs to be transferred from the sender(s) to the receivers. The sender(s) and receivers are mostly end-hosts. Intermediate nodes are the routers, which route/direct the data from the sender(s) to the receivers. A spanning tree has been considered one of the most efficient and viable mechanisms to perform the data transmission in such a scenario, since it minimizes duplication of packets in the network. Messages are duplicated only when the tree branches and this ensures data communication is loop-free. An efficient multicast routing algorithm will aim to build a Minimal Spanning Tree (MST). Different type of trees such as a source tree, a shared tree etc. are used depending on whether receivers are sparsely or densely distributed throughout the network; the number of receivers does not matter. The receivers might have a set of requirements like the cost or a given amount of delay that it can tolerate in the receipt of data.

Electrical Power Distribution Systems

Electrical infrastructure consists of four main parts as shown in Figure 2:

1. Generation: a prime mover, typically the force of water, steam, or hot gasses on a turbine, spins an electromagnet, generating large amounts of electrical current at a generating station.

2. Transmission: the current is sent at very high voltage (hundreds of thousands of volts) from the generating station to substations closer to the customers over long distances of hundreds of kilometers.

3. Primary Distribution: electricity is sent at mid-level voltage (tens of thousands of volts) from substations to local transformers, over cables called feeders, usually 10-20 km long, and with a few tens of transformers per feeder. Feeders are composed of many feeder sections connected by joints and splices.

4. Secondary Distribution: sends electricity at normal household voltages from local transformers to individual customers within a few kilometers radius.

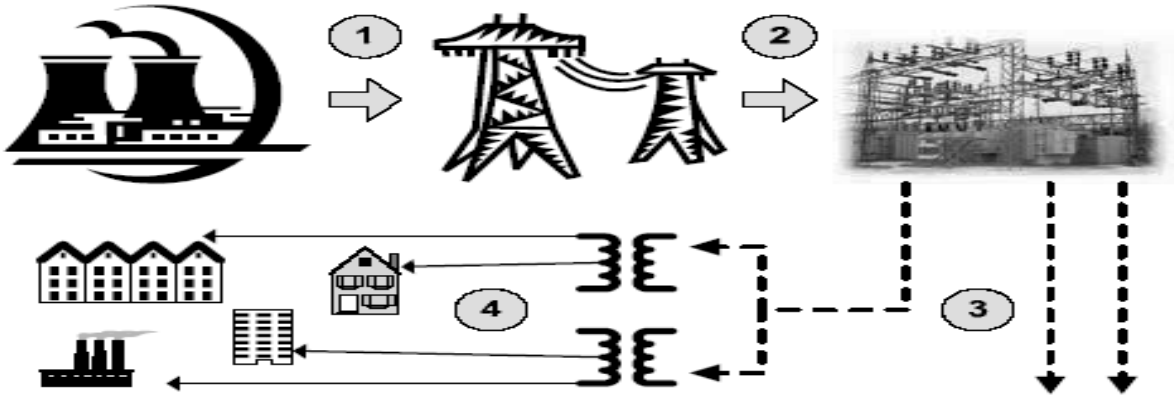

Figure 2. Electrical Power Distribution system

The distribution grid of a large city is organized into networks, each composed of a substation, its attached primary feeders, and a secondary grid. The networks are largely electrically isolated from each other, to limit the cascading failures. The feeders of the primary grid are critical and have a significant failure rate (mean-time between 400 days) (Bialek, 1996; Gross, 2006), and thus much of the daily work of the field workforce involves the monitoring and maintenance of primary feeders, as well as their speedy repair on failure. Substations reduce the voltage to 22 kV or less, and underground primary distribution feeders then locally distribute the electricity to distribution transformers. From there, the secondary network, operating at 220V/440V, delivers electricity to customers.

The distribution network effectively forms a 3-edge-connected graph – in other words, any two components can fail without disrupting delivery of electricity to customers in a network. Most feeder failures result in automatic isolation – and many more occur in summer when power use for air conditioning adds to the load. When such disruption occurs, the load that had been carried by the failed feeder must shift to adjacent feeders, further stressing them and putting networks, control centers, and field crews under considerable stress, especially during the summer, and at enormous cost in Operations and Maintenance (O&M) expenses annually (Chetty, 2002).

We need to study the power distribution multiplexing infrastructure from the parallel and distributed processing perspective for addressing issues like the Quality of Service (QoS). We examine with a broader outlook, the scope of parallel and distributed processing in Section II. The rest of the paper is organized as follows: Section III introduces the fuzzy logic approach to load balancing in Power Distribution infrastructure; Section IV includes conclusions and suggestions for future work.

II. PARALLEL AND DISTRIBUTED PROCESSING CONSIDERATIONS IN POWER DISTRIBUTION ENVIRONMENT

A typical small scale power distribution infrastructure may be operational in a city or in multiple cities. In the past, power distribution infrastructures were examined more as standalone infrastructural local units for their performance. However, with the next generation corporate practices, the need to apply simulation and modeling studies for performance analysis using parallel and distributed computing techniques is on the rise for multiplexing of power distribution infrastructures. Such power distribution multiplexing need not be restricted to a single country, but spread over multiple countries also. In this context, the uncertainty in the global state is fuzzy in nature, since the actual global state in a power distribution multiplexed environment cannot be measured. A distributed application in power distribution infrastructure consists of many components that get executed on one or multiple nodes. A proper scheduling needs to be undertaken to ensure uniform loading of the links. Simulation and modeling techniques have to assess the effectiveness of the load balancing algorithms from dynamic behavior and for scalable enhanced performance. Scalability indicates the successful functioning of an algorithm that is independent of physical topology as well as size of system links (Kremien,1993). Software methodologies supporting Parallel Virtual Machine (PVM), Message Passing Interface (MPI) and Distributed Shared Memory (DSM) are being widely used in parallel computing domains to treat heterogeneous network of computers as a parallel machine (Geist, 1994; Gropp, 1994).

III. APPLICATION OF FUZZY LOGIC IN ELECTRICAL LOAD BALANCING FOR POWER DISTRIBUTION INFRASTRUCTURE

There have been a number of efforts to improve the efficiency of complex systems by having a computer interpret a stream of sensor data. However, these systems generally use human-constructed expert or rule-based systems (Kremien, 1993; Hongie, 2005; Klir, 1988). In contrast, we have opted for a machine learning system that learns its models entirely from data and hence does not include frequent human intervention.

Load balancing decisions in power distribution environment need to be examined from two separate angles viz. global perspective (advocating master or central control) and local view point. While both these options could be supported, as summarized in Table 1, it is suggested that the power distribution infrastructure operators should be given the choice of selection, either as a static practice or as an organizational culture where no fixed bias is shown for any decision methodology. In fact, it is advisable to treat it as a matter of negotiation between the agency awarding the power distribution contract and the organization generating power.

TABLE 1 LOAD BALANCING DECISION IN A POWER DISTRIBUTION ENVIRONMENT

Particulars	**Local**	**Global**
Control	Exchange Control data locally with neighbors	Master oriented approach where loads are assessed for ideal distribution
	Built-in Non-periodicity characteristic of algorithm	Periodic Characteristics of Master
Performance	After each load balancing phase, there is no optimal global mapping	Small control
	Re-mapping requires less data movement	Re-mapping involves large data movement
	Scalable to a larger population of processors	Poorly tailored for scalability due to central control

Simple Fuzzy Control Technique

Out of the four parameters indicated above for Power Distribution load balancing, we discuss the network traffic flow through a simple example of control of flow of packets on a communication link. One of the important considerations in Quality of Service (QoS) algorithm is to support consistent amount of bandwidth of the link. We should adjust the rate at which the packets are released depending upon the link utilization. The following fuzzy rule can solve the problem (Klir, 1988).

Fuzzy Rule: If the application utilization of the link is

HIGH (LOW),
then REDUCE (INCREASE) the rate of flow of packets through the gate for the application

In this example, we have two Fuzzy linguistic terms viz. HIGH and LOW for the only fuzzy variable *Link Utilization* (Zadeh, 1965*).* The membership function for the Link utilization (Network Traffic) is shown in Figure 3. Mathematically, we represent the two membership functions as follows -

$\mu LOW = 1$ if rate < 80;

$= (100 - \text{rate})/20$ if rate > 80 and < 100

$= 0$ if rate > 100

$\mu HIGH = 0$ if rate < 100;

$= (\text{rate} - 100)/20$ if rate > 100 and < 120

$= 1$ if rate > 120

Since the base rate is to be increased (i.e. summation) if the utilization is low and is required to be reduced (i.e. subtraction), when the utilization is high, we update the new rate from the existing rate using the following formula.

$\text{rate} = \text{rate} + (\mu LOW * \beta) - (\mu HIGH * \beta)$, where β is a tunable parameter ($\beta = 10$, assumed).

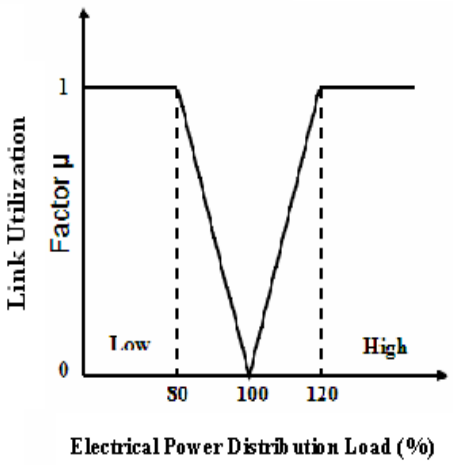

Figure 3. Membership Function of link loading

In order to exercise the fuzzy control, we assume that at a particular time, the rate of packets is 110. Then using the above rate computation, we get the updated rate as 105. When the existing rate is 105, then the updated rate is 102.5. Likewise, if the rate is 80, then the updated rate is 90.

Fuzzy Load Balancing

In principle, the load balancing nodes attempt to organize the total cluster system load by transferring (or commencing) processes on the idle or lightly loaded links, in preference to heavily loaded ones. In order to overcome the limitations of the static load balancing approach, the dynamic load balancing uses the current system state information to improve performance in the heterogeneous applications prevailing in power distribution multiplexing infrastructure. Heuristic load balancing is an accepted methodology (Kunz, 1991). The computation of load of a particular link requires processing of fuzzy rules to infer the load using fuzzy sets representations for each of the above four parameters in the Load Information Vector. Thus, the modeling methodology is a powerful mechanism to allow individual nodes (Control Centres) to incorporate flexible decisions. The fuzzy sets could be on the lines of the representation given in Section A for packet flow for network traffic. A load-sharing algorithm partitions a system into domains consisting of sets of nodes and links. A Load State of a link is represented as a fuzzy term using fuzzy linguistic variables IDLE, LOW, NORMAL and HIGH. A similarity relation is used at node computation, to decide which other node to include in its domain depending on the Load State of the link. We use a mix of triangular and trapezoidal representation. A typical fuzzy rule set is of the following form:

Rule 1: If the load utilization of the link is VERY LOW,
then the link Load is IDLE.

Rule 2: If the load utilization is LOW AND Network Traffic is LOW,
then the link Load is LOW.

Rule 3: If the link utilization is MEDIUM AND Network Traffic is MEDIUM,
then the link Load is NORMAL.

Rule 4: If the link utilization is VERY HIGH OR AND Network Traffic is HIGH,
then the link Load is HIGH.

While there is no unique method for describing the fuzzy membership functions of individual parameters, the triangular (and/or mix of triangular and trapezoidal) representations are preferred over S and π type of curves, especially from computational simplicity prospective (Honjie, 2005). We use standard hedges like *very* and *more-or-less* as Concentration (squaring) and Dilatation (square rooting) operations (Patki, 2007; Zadeh, 1976).

IV. CONCLUSIONS AND FUTURE WORK

This paper has focused on application of Fuzzy logic for load balancing. In our analysis, we have deployed Type-1 fuzzy set representation where, the degree of membership (i.e. belongingness), is indicated by a number in the range from 0 to 1. It is crisp. A number of researchers have shown that in certain applications the Type-2 representation can outperform Type-1. Type-2 fuzzy sets are recommended for situations where (i) Data generating system is known to be time varying and the mathematical description of the time variability is unknown, and (ii) Linguistic terms are used that have a non-measurable domain. It will be interesting to explore the parallel and distributed computing applied to power distribution environment using Type-2 fuzzy set representation.

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IT APPLICATIONS IN INDIAN LIVESTOCK SECTOR

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ABSTRACT

As per "Indian Livestock Industry - An Industry Analysis," published by RNCOS, the Indian livestock industry contributes to 8% of the GDP of India whereas 32% of GDP contribution from the agricultural industry comes from the livestock itself. However, the total contribution that Indian agricultural industry makes to the GDP of India is 25%. Although India is global leader in milk production, productivity is very low. Around 70% of livestock is owned by 67% of landless, small and marginal farmers. 60% of livestock farming labor is provided by women and more than 90% of work related to care of animals is rendered by womenfolk of the family. There is need to review and revitalize the mechanism for transfer of technology under changing environment. Enormous growth opportunities exist in the Indian livestock sector; all that is required is a right approach in an appropriate direction. The purpose of the paper is to enhance synergy between the activities of the livestock production and IT. Presently the use of IT is very limited. The companies like IBM; Microsoft has developed packages for dairy milk co-operatives and private dairies. The objectives of this paper is review existing use of IT applications and future potential of IT applications for knowledge dissemination to farmers to improve the productivity of animals and to safeguard food safety of livestock products.

***Keywords**: Livestock, IT Applications in Indian Dairy, Indian Dairy Industry*

INTRODUCTION

Livestock sector plays a vital role in sustaining rural economy and livelihood, a sector in which poor contribute directly to the economic growth. There is an impressive steady growth of around 6% in this sector in India, the significant feature being the role of women in animal husbandry. For a more balanced development of the rural economy and reduction of poverty, a remarkable progress in this sector is a national requirement. Indian livestock sector makes up for a significant amount of world's livestock resources. Both the national economy as well as the socio-economic growth of the country is backed by the livestock. The nature of Indian livestock sector is up to some extend is unique. Livestock developments in India have been significantly influenced by religious and cultural factors.

There is change in the consumption pattern of livestock products like milk, meat, fish and eggs, in last two decades. This demand-driven growth has shown a massive increase in demand for foods of animal origin. Clearly this increased demand will drastically stretch the existing production and distribution systems in near future. Since productivity is the key to growth, livestock productivity will have to be raised through scientific breeding, feeding and management. The scenario calls for formulation of long-term policies by the government and significant investments in this sector. For a sustained economic growth in the rural sector, animal husbandry, dairy, fisheries and poultry should receive a high priority in planning. This will generate not only economic wealth but also self-employment and entrepreneurship.

Indian livestock sector has many sub-sectors like poultry, dairy, non-poultry meat, fisheries, etc. This paper covers only Indian dairy sector. The highest milk producer in the entire globe – India boasts of that status. India is otherwise known as the ‘Oyster’ of the global dairy industry, with opportunities galore to the entrepreneurs globally. Anyone might want to capitalize on the largest and fastest growing milk and milk products' market. The dairy sector in India has been witnessing rapid growth. The liberalized economy provides more opportunities for MNCs and foreign investors to release the full potential of this sector. The

main aim of the Indian dairy sector is only to better manage the national resources to enhance milk production and upgrade milk processing using innovative technologies.

INDIAN DAIRY SECTOR

The purpose of this paper is to review existing use of IT applications and future potential of IT applications for knowledge dissemination in Indian dairy sector. The technology diffusion can be helpful to improve the productivity of dairy animals and thus improve the milk production in India so that individual dairy farmers will be benefited.

Out of total milk production in India (110 MMT), only 20% (22MMT) is processed and marketed by organized sector like dairy milk cooperatives and private dairies. Technical diffusion is done by few of them to improve productivity of animals belonging to dairy farmers who supply milk to them. Companies like IBM and Microsoft have developed IT based applications which can be used in dairy milk cooperatives and private dairies. For rest of dairy farmers, this help comes from state animal husbandry departments. These departments normally use conventional mediums for technology transfer and the use of IT is limited. There is need to assess impact of existing IT applications. If IT Applications are designed and implemented properly the rural area will definitely get benefited.

IT APPLICATIONS IN DAIRY MILK CO-OPRATIVES AND PRIVATE DAIRIES

The milk collected by Gujarat Cooperative Milk Marketing Federation (GCMMF) is marketed under the brand name "Amul". The Amul's IT operations are based on the principles of collaboration, co-operation and co-evolution. Automated Milk Collection Centers and Dairy Information System Kiosk projects are part of streamlining supply chain. The understanding of ground conditions helped Amul to design the system considering customer needs. The implementation was carried out in a limited way and the system was expanded after validation. The reputation of the agency was a major factor that increased the acceptance of the new technology. The new system endowed substantial benefits to the customer. The waiting time for payment was completely eliminated. Working closely with the supplier, helped in the hardware/software Customization, thereby facilitating the user acceptance. This also led to user led innovation through a pilot exercise before the actual implementation e-experience of Amul. The training and development programmes organized by GCMMF at village societies helped all members in acquiring sufficient knowledge about the new system. The personal interest and commitment of the executives eliminated the teething problems and gave the users access to the new technology. National Dairy Development Board has developed Ration Balancing Software which can be used at farmer's level to design balanced feeding program of dairy animals. It helps to increase milk production, to reduce cost of milk production and to use available feed resources efficiently.

A well-developed rural area in the Indian state of Maharashtra, Warana's primary economic activity consisted of sugar cane growing and harvesting and milk production. Warana's strong cooperative movement, the Warana Group of Co-operatives (WGC), included approximately 50,000 farmers in 100 villages within the cooperative's area. WGC was (in 2002) facing issues that included low sugar prices and challenges in coordinating the cooperative's many activities including dairy, resulting in a loss of transparency and efficiency. Initiated in 1998 by Prime Minister's Office Information Technology (IT) Task Force, the Warana "Wired Village" project was intended to bring agricultural, educational, and market information to Warana Nagar villages and to simplify the cooperative's business operations. IT has the potential for many applications in Warana, including allowing farmers access to agricultural information that could improve their livelihood, and access to government services via the internet. Women and people within the economically poorest groups of the community seldom access the internet and other services at the information kiosks. These groups risk becoming further marginalized if they are not involved in ICT use, and do not know to access information on employment and educational opportunities at the kiosks. Grassroots operators, such as the majority of kiosk operators in Warana, have great potential to leverage ICT to improve their communities' standards of living if provided with the right incentives. Many operators believe in the potential of ICT to create positive change in their communities, and have the skills, training, or motivation to spearhead efforts to do so if incentives are made available.

Chitale Dairy is one of the progressive private dairy which collects milk in Western Maharashtra. They tried Herdman, a dairy animal health and productivity management software developed by Dr. Samad in collaboration with Infovet Company. This softare fulfilled need of scientific approach to the problem of low productivity - a system of data recording that enabled identifying genetically good animals for breeding, analysis of trends, and the prediction of fertility and production problems. This software has been developed for the small- to medium-scale farmer with a minimum of 50 animals. With the help of Herdman, periodic monitoring of the animal is possible which keeps records that identify low performance and high performance animals in the herd. Effective use of the software does not require daily data entry for milk; once-in-a-month figures are all that the International Committee on Animal Record stipulates. Other data such as insemination, pregnancy, calving and treatment is recorded as it occurs in the farm or village.

IT APPLICATIONS BY STATE ANIMAL HUSBANDRY DEPARTMENTS AND UNIVERSITIES

The department of Animal Husbandry, Ministry of Agriculture, Central Government and State Animal Husbandry Departments has developed their websites to give information about various activities and schemes to assist dairy farmers. In India, animal husbandry is governed by state governments. There are central research institutes like National Dairy Research Institute, Indian Veterinary Institute and species-wise institutes like central institute for research for buffaloes, which are governed by Indian council of agriculture and research. In addition to this research and extension in livestock is also done by 34 veterinary universities and agricultural universities. They also have developed their websites to give information about their activities, research work done and extension activities. These institutes have extension teams which are responsible for technology transfer to dairy farmers in their area. There is need to use IT applications to take information to more farmers on regular basis. Universities can take help of local state Animal Husbandry Departments to reach dairy farmers more effectively.

IT is becoming a key instrument in the planning and operation of modern extension services and on-farm research for meeting the farmers' increasing needs for information and for enhancing their ability to manage the available resources efficiently. IT enables private sector extension services provided by farmer groups and advisors to give farmers access to information that they previously lacked. These services facilitate bottom-up planning. Where IT does not allow the farmer or extension agent to solve the problem, IT can be used to articulate the problem for researchers or policy makers to address. For low-resource smallholders, access to IT can be provided through local farmer organizations. At the institutional level, IT is giving a strong impulse to the improvement of on-farm research, teaching programs, institutional and disciplinary cooperation, regional networking, and to a better linkage with the productive sector. NGOs and para-vets help will be also needed.

FUTURE POTENTIAL FOR IT APPLICATIONS

The experience of conceptualizing and implementing an ICT platform for a dairy industry is a challenging task. Understanding the baseline operations comprehensively is the starting point for designing a customer oriented ICT platform. In any ICT platform if the benefits far outweigh the costs, the rate of diffusion will be high. The Kiosks at village milk collection centers or veterinary hospitals can offer information in local languages and it should be upgraded regularly. From the farmer's perspective, he can visit the village milk centre and access records of his animal, get information on animals available for sale and access related websites. Availability of milk, breeding and medical records at the time of sale would fetch the farmer better price for its cow and the purchasing farmer would remain assured that he has bought the right cow or buffalo.

IT will help existing communication channels to improve. Traceability has become important requirement now-a-days. There is need to develop and implement an end-to-end mobile application that traces the dairy production. The application consists of front-end and back-end systems. At the front-end, the worker uses a handheld device (cell phone, PDA, etc.) to enter and send the information collected at the field to the back-end server. The handheld device should be connected to the GSM (Global System for Mobile Communications) wireless network, and should be GPRS enabled. The back-end server documents all

information received from the front-end and make them available, through the Internet, to system administrators. The back-end system consists of web server, application logic and database server. The IBM is working with GCMMF on spoken web, using voice recognition software to work around literacy challenges. Central government has initiated a Unique Identity Project. ERP systems can be used to maintain the inventory.

CONCLUSION

Use of IT applications in livestock sector is in nascent stage in India. Large number of dairy farmers spread across India makes it more challenging. IT can be used to transfer information on breeding, feeding, disease control and farm management to these dairy farmers on regular basis. IT will also help them to keep records which can be used in daily management decisions and while selling/purchasing animals. State Animal Husbandry Departments, Universities/ICAR Institutes, private dairies, private companies supplying inputs like feed and feed additives and Milk Co-operatives will play important role in use of IT applications.

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A USER PERSPECTIVE STUDY ON THE EFFECTIVENESS OF ERP IMPLEMENTATION IN AN INDIAN CORPORATION

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ABSTRACT

The most valuable assets of any corporation irrespective of its size, nature, and segment are its employees. It is an undisputed fact that information technology has revolutionized the working ways of employees. However the success of such a revolution largely depends upon the employee or the user involvement in technology. Today new technologies have become drivers of business growth and it has become imperative for organizations to embrace technologies. Enterprise solutions like ERP, Knowledge Management, Extended ERP, CRM and SCM are being implemented and it becomes a necessity for the corporations to cater to the employees' understanding, acceptance and involvement on such strategic information technology initiatives. Only then employees can comprehend, appreciate and achieve new ways of effectively optimizing their performance. This will enable them to be more productive and in turn drive business growth. This paper is based on a study conducted from amongst the employees of a large public sector corporation in India with the objective of soliciting and analyzing the employees' opinion on the ERP implementation. The outcome of the paper primarily provides clarity of understanding with regard to usage of ERP and captures the pain areas faced by users based on which suitable recommendations were drawn. References on conceptual aspects of the paper have been extensively drawn from various secondary data sources, while the contextual aspect of the paper has been supported by the empirical study conducted at the sample unit i.e., a corporation belonging to the Indian Public Sector.

INTRODUCTION

Today's business scenario calls for a high level of operational efficiency and it is a gateway to deliver quality in products and services. It is a reality that business organization strongly believes that information technology can be a crucial enabler to achieve the bench-marked levels of operational efficiency. Information technology initiatives have a long-term implication on the organizational life cycle. This is because of the high level of organizational and technological complexities these information technology initiatives bring in. It involves a unique blend of managerial and technical choices and challenges which has to be balanced well in order to achieve success (Markus et al, 2000). One of the very popular and imperative information technology initiatives that directly relates to operational efficiency is Enterprise Resource Planning (ERP). The concept and understanding of ERP has undergone a series of metamorphosis over the last 2 decades. There have been many contributions to the school of thought on ERP viz., technological, managerial, economical, commercial. ERP implementations have come a long way through these schools of thoughts of being monolithic, time taking, cost-absorbing, tremor-giving and some researches on ERP have cautioned the organization on the results of ERP implementation as even disastrous. Even large corporations had initiated ERP implementation for them and had resulted in abandoning the project losing huge amounts of money and time (Soh et al, 2000). Many researchers have studied and analyzed the factors that lead to success in ERP implementation and also have highlighted the factors that hamper the success of ERP initiatives. It is imperative to measure the success of ERP initiative in tangible terms of monetary costs and benefits (savings). Some researchers have also emphasized the need to quantify the intangible influences that affect the success of ERP initiative. One of these intangible

influences is the user involvement and user perspective of ERP. One of the effective substitute measures of measuring information systems success is to evaluate the user satisfaction (Kiew and Seddon, 1994). User satisfaction is defined as the belief the user have in the information system for example ERP. These beliefs are a blend of one's own feelings and attitudes. Further it is assumed higher the degree of satisfaction, faster the ERP percolation in the organization. This paper is the outcome of an attempt to study the user perspective of ERP system in a large public sector corporation in India. The researchers believed that only if employees are satisfied with the ERP system, they can comprehend, appreciate and achieve new ways of effectively optimizing their performance. This will enable them to be more productive and in turn drive business growth. It is believed that in the end-user environment, the users assume more responsibility for their own operations and hence they should be motivated to imbibe a sense of belongingness towards the system.

OBJECTIVE OF THE STUDY

The objective of this study was to solicit study and analyze the effectiveness of ERP implementation from a user perspective on some of the important deliverables like integration information availability, real time information, standardization of business processes, data capturing at sources point, decision support and operational control and efficiency.

SCOPE AND METHODOLOGY OF THE STUDY

The study is micro in nature and is confined only to the understanding on how important user perspective is to the success of an ERP implementation. The methodology of the study is based on faculty-student team which had worked on an educational project in the MBA program during the period April to July 2008. This study used the advantages of both secondary and primary data. This study is more of a managerial than technological in nature. In other words, the study does not comment on the efficiency of any technology platform from a user perspective, instead tries to analyze the pulse of the users actually using the system in some of the functional departments. This paper begins with an introduction to the need of user perspective measure in ERP implementation. This is followed by the objective of the study and also the methodology. An approach to the study on user perspective of ERP Implementation using critical factors is explained based on the analysis and findings. Finally the recommendation and scope of future work is discussed before concluding the paper.

APPROACH TO THE STUDY

Firstly the relevant data relating to ERP implementation at this corporation was studied and the details of all such projects implemented over the years ranging from 1996 to 2006 as part of the ERP implementation were noted. The time of the first roll out and the subsequent roll outs of the different functional modules were recorded. This enabled the setting of the ground for the core study relating to the users perspective of ERP implementation. The primary data consisted of respondents who are users related to an eastern zone of the company's geographical business area in India. Judgmental sampling was used because the researchers believed that representativeness of the population strongly depended on the relevance of users to the ERP system. The total sample size of 100 was constituted from employees belonging to different levels of seniority (level 0 to level 6) and different age-groups (25 years to above 56 years). Since the objective was to study the effectiveness of the implementation of ERP it was decided to concentrate on two projects under the ERP domain one being a kind of employee self-service (ESS) functionality wherein the employees checks updates his/her bio-data, makes updates of their personal claims like leave, LTA, medical, reimbursements etc, and the other being the daily business work done by different departments on the ERP system. The need of the project was to study the satisfaction level, the pain areas faced by the employees. The questionnaire used for this study had close-ended (Likert-Scale type) as well as open-ended questions. This format was chosen as it was possible to collect both qualitative and quantitative data in the same survey. The data obtained through the questionnaire were analyzed using relevant statistical

tools like ANOVA and Tukey Test for clarity of interpretation. The data obtained through open-ended questions were considered for building upon suggestions.

ERP – THE CONCEPT

Enterprise resource planning systems or enterprise systems are software systems for business management, encompassing modules supporting functional areas such as planning, manufacturing, sales, marketing, distribution, accounting, financial, human resource management, project management, inventory management, service and maintenance, transportation and e-business. The architecture of the software facilitates transparent integration of modules, providing flow of information between all functions within the enterprise in a consistently visible manner. *The American Production and Inventory Control Society (2001)* has defined ERP systems as "a method for the effective planning and controlling of all the resources needed to take, make, ship and account for customer orders in a manufacturing, distribution or service company."

In other words, the basic purpose of ERP is to provide integrated transaction processing and access to information that spans multiple organizational units and multiple business functions. (Van Everdingen et al., 2000). The concept of ERP revolves around the central database which is the centre of the nervous system of organizational information. This central system gathers, stores, and sends data into, modular applications supporting virtually all of a company's departments or functions, beyond geographical barriers. The conceptual framework of ERP is given in Figure - 1. New information entered in any department of origin is automatically and on real time based gets updated (Davenport, 1998). Reduction of operating costs, optimizing process efficiency, adhering to ATP times to customers (Available to Promise) and providing integrated decision information are some of the wish-lists of organizations implementing ERP. They believe that ERP will standardize the processes, bring in best practices of business and also reduce the gap between the as-is scenario and to-be scenario. Moreover, ERP systems are expected to ensure quality and predictability in their global business interests by reducing cycle times from order to delivery (Ross, 1999).

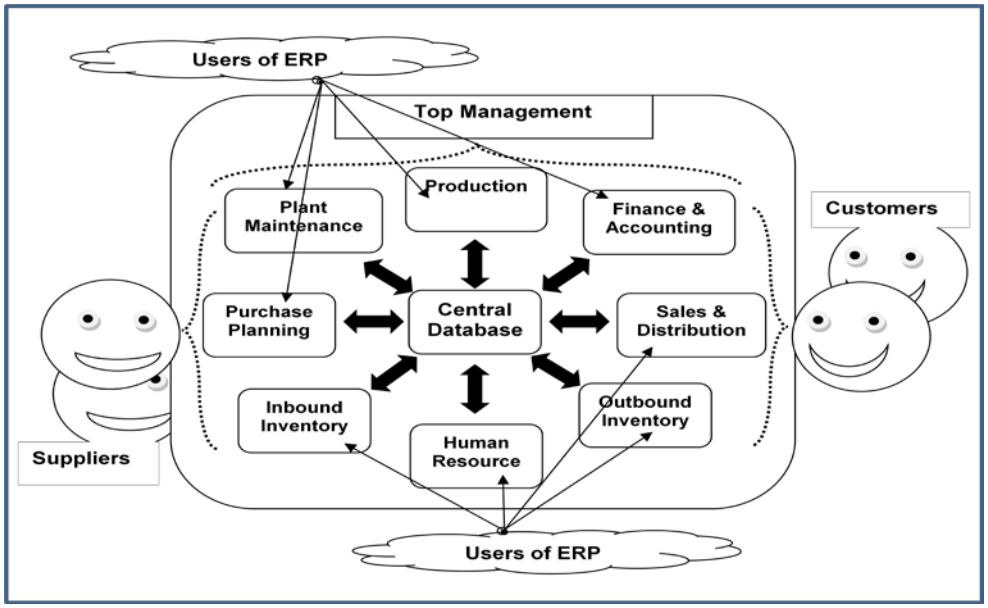

Figure – 1 Conceptual Framework of ERP – (Self Compiled)

USER PERSPECTIVE OF ERP IMPLEMENTATION IN AN INDIAN CORPORATION

Past researches on user satisfaction related to the measurement of four factors, namely product information, user involvement and knowledge, contractor service and management information department staff service (Ives et al., 1983; Raymond, 1987, Sengupta and Zviran 1997). Amongst the above factors, user involvement and knowledge was found more relevant to the corporation under study. This was because the ERP was in place and it was then at a phase where its usage and involvement by the users was felt very important. Only then it would justify the percolation of ERP into the organizational processes. Regarding user involvement prior researches relate to five items pertaining to knowledge and involvement namely training, system understanding, user participation, top management involvement, and documentation (Bailey and Pearson, 1983; Ives et al., 1983; Raymond, 1987; Sengupta and Zviran, 1997). These factors were taken as base for this study on user perspective of ERP implementation in the corporation. In total nine critical factors were considered namely *time consumed, claims follow up, user-friendliness, nature of work, ease of usage, training, guidelines on usage, adaptability, and intervention by other departments*. The responses on these parameters received from the sample unit is explained and analyzed below.

ANALYSIS AND FINDINGS

The responses from the questionnaire collected from the sample respondents were analyzed. The impact of the analysis on the chosen critical factors listed earlier and their relevant findings are explained below.

1. When a new system comes into practice as an outcome of ERP implementation it is a common and valid expectation by the users that the time consumed to complete an activity is reduced. Here the responses were solicited with regard to whether the ERP system resulted in the reduction of time consumed on clearing the personal claims of the employees. The analysis in both age-group as well as levels of seniority of employees showed a positive response to the reduction in the time consumed in clearing their personal claims with minor differences in the age-groups of 46-50 and 51-55 wherein some of the respondents were neutral and disagreed. This reinforces the fact that ERP systems can reduce time taken in transaction processing.

2. The next factor considered was about the easiness of follow-up of the respondents' personal claims through the ERP system. The analysis in both age-group and levels of employees showed an overall positive response. In other words the respondents accepted that it was easier to follow up their claims submitted to the HR department through the ERP system. However it was found that the employees in the age group 46-50 and 56 and above differed in their opinion.

3. Though user-friendliness is a relative term to be interpreted, it is agreed upon as one of the important criterion for evaluating an ERP system. Some of the attributes related to user-friendliness amongst others are faster understanding, simple navigation, visibility, less training/hand-holding, self-learning etc. The analysis of the responses with regard to user-friendliness showed that the respondents in age-group 25-35, 36-45, 46-50 and 51-55 and also in the 2^{nd} and 4^{th} levels of seniority did not accept the statement that the ERP system was user-friendly.

4. It is usually a belief that when new software solution based system is introduced as part of the transactional routine in an organization, the users instantly get anxious. An obvious outcome of such a reaction is terming the system as 'complex'. The term complex as felt by the employees is a result of initial hiccups that are left unattended in a new system based working environment. In this study it was found employees of the levels E1 and E6 felt that the system is complex.

5. Any new system is expected to prescribe a set of working rules that would make the system disciplined. Also authorization for individual users is required to be streamlined in the process of which there could be restriction in the users' convenience factor. For instance amendment, error

correction etc while making personal claims might require approval from the higher authority. As a result users felt that the new system has become more elaborate and time taking.

6. Training on the new system is a very crucial component which can mitigate a majority of users' worries about the new working environment. The success of training depends on the extent to which the expectations of the user are convincingly met on and off the training process. The respondents particularly in the 2nd, 3rd and 4th levels of seniority were not convinced with the adequacy of training given before they were assigned tasks in the ERP environment.

7. Though training to user is one of the key differentiators of success in ERP implementations, the training documentation or the training manual is the driver for convincing the user that the training knowledge is applied and referred for. These manual can be screen-shots along with a set of sequentially arranged navigational steps or even a set of guidelines to be followed during work routine. In this study the respondents particularly in the 2nd, 4th and 5th levels of seniority felt that the stepwise guidelines were not adequate to convincingly work in the ERP system.

8. In the ERP working environment in an organization it very crucial to find the adaptability of the user to the system which had earlier called of a considerable amount of change from the users' normal routine. Highest degree of adaptability is achieved when the ERP system becomes a part of organization's working culture, a medium of communication and a way of getting things done. With regard to the adaptability of ERP system is concerned, it was found that the employees in the age-group of 46-50, 51-55 and 56 and above and employees in the 4th and 5th level of seniority felt themselves not easily adapting to the new ERP system.

9. By using ERP one can have uniformity of data collection, central storage and retrieval of information by relevant user(s). This will ensure consistency, clarity and timeliness of information for use. Manual processes involve a lot of human intervention. In this study the users were asked to give their responses relating to the reducing of human intervention from the HR department during users' personal claim and settlement process. It was found that the human intervention has not reduced as expected by the respondents irrespective of age groups and levels of seniority considered in this study.

RECOMMENDATIONS

These recommendations were not only drawn from the structured questionnaire, but also from the open-ended interview schedules conducted to the process owners and senior employees of the organization. It also includes recommendations based on the researchers' experiential understanding, both conceptual and contextual in the subject.

1. It was felt by the respondents that regularity of usage, in other words encouraging the users to use the system on a routine basis will improve their affinity towards the system. It is recommended that ERP working environment should be made mandatory for transactional processes conducted in certain core business functions. This might accelerate the achievement of ERP working culture.

2. It was recommended that there should be standardization of documents and workflows that result in completing a process cycle. This could be because when a request is submitted by an employee for his/her personal claims in a particular document format used earlier may be called for revision in the new ERP system. This causes resistance by the users to use the system.

3. The users felt that customized training should be imparted to them, in other words the training should be job-related and modular instead of a generalized one. It was also recommended that these trainings are conducted from time to time as and when new users join in that particular department or job.

4. It was recommended that interactive support and online training can be imparted to the users in order to consistently improve their confidence levels in using the ERP system. It would also reduce the cost of trainings in the long run.

5. To ease the navigation in the new ERP system it was recommended that flowcharts can be given illustrating sequential steps for completing a given process. The respondents recommended pictorial representation in the form of charts would accelerate and strengthen their understanding of the user manual.

6. It was also recommended that for less frequent users short handbooks be issued instead of large user manuals. This was expected to motivate these less frequent users to depend on the ERP system on an on-going basis.

7. It was recommended by some process owners that pop-ups and drop-down boxes containing a set of relevant terms can be installed in the system which will save the time of search through the manuals. However it should be noted that such a feature would increase the costs if it is not a part of the standard software.

8. It was recommended that employees be given profile-rotation in the operational level within a department. Also it was felt that such transfers or job rotations will widen the exposure to ERP system working environment.

9. It was strongly recommended that the top management commitment should percolate to the user levels. In other words it was expected that the top management take initiatives to encourage and recognize employees working in the new ERP system. This would in turn boost the morale of employees towards the new ERP system.

The findings-recommendation matrix given in Figure–2 relates some of the important findings with recommendations so as to reduce the gap between reality and expectations of the user of ERP system.

Findings	**Recommendations**					
	Regular Usage	Workflow Standardization	Customized Training	Pictorial Representation	Transfer & Job Rotation	Management commitment
Reduction of time consumed	✔	✔	✔		✔	
User-friendliness	✔		✔	✔		
Complex nature of work	✔	✔	✔			✔
Need for training		✔	✔	✔		✔
Usage guidelines		✔		✔	✔	
Adaptability	✔		✔		✔	✔

Figure – 2 Findings – Recommendations Matrix (Self-Compiled)

CONCLUSION

This is only a micro level attempt to study the user perspective of ERP system. It is very important for organization to continuously monitor and examine the users' satisfaction in the ERP system. The users should imbibe the ERP working culture in order to comprehend, appreciate and achieve new ways of effectively optimizing their performance. This will enable them to be more productive and in turn drive business growth. The outcome of the paper primarily provided the clarity of understanding with regard to usage of ERP and captures the pain areas faced by users based on which suitable recommendations were drawn. In future this work can be extended further by making a comparative study on the efficiency levels of employees in using the ERP system.

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DESIGN PATTERN STRUCTURE FOR PHARMACEUTICAL ERP SYSTEM

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ABSTRACT

Applications have consequence in software Engineering. The same is true for ERP system in pharmaceutical. In modern days Pharmaceutical companies working in ERP system, which have same appear and experience. This paper includes Comparative analysis of maintenance cases and a design framework based on study results. This similarity motivates us to develop structure for pharmaceutical ERP System. Traditional Pharmaceutical ERP System have same environment but ERP system developers not familiar with knowledge used in pharmacy system and this conventional approach does not support reusability and extendibility. Design pattern main feature is to provide reusability and extendibility. So, our motive is to use design pattern to develop structure for Pharmaceutical ERP System which remove the all manually work through this software.

Keywords: *Design Pattern, Enterprise resource planning (ERP), Business process modeling,*

INTRODUCTION

Basically work in ERP system in pharma storage department production /manufacturing, financial, Human Resource department design a specific framework using design pattern. A Design pattern is not a finished design that can be transformed directly into the code. It is template for how to create solution for given problem in given context. Enterprise Resource Planning (ERP) solution designed to meet the requirements of fast growing pharmaceutical enterprises. The solution enables pharmaceutical enterprises to define a flexible systematic approach to monitoring and improving their performance in the industry. The pharmaceutical industry needs an ERP application that effectively integrates the functions and data of all departments planning of the Resources of an Enterprise. Resources mainly comprise four m's—man, machine, material and money. The optimum utilization of these resources will result in higher efficiency and better performance. The need is of accurate information and effective decisions. We have to increase the level of computerization for generating information. What is required is ERP applications that effectively integrates the functions and data of all departments, and reduces redundancy Pharmaceutical companies have typical business processes. The market of products is dynamic with frequent introduction of newer upgrades. There are a lot of regulatory requirements to be complied with and these require extensive control over production, stores, QC processes and data. Hence, ERP is needed to keep track of the data. In addition to strong order-to-cash processing, Enterprise provides tight control over both process and mixed-mode manufacturing environments. Enterprise's planning and manufacturing capabilities offer complete ECN tracking with online approvals, multi-level formula definition and management, batch controls with multiple batch sizes, multi-level yield management, ingredient-based lot control and integrity, lot designation at time of work order creation, finished goods lot control, and the preservation of lot integrity when repackaging or renumbering a given product Pharma Company, production/Manufacturing Department drug manufacturing and. Drug formulation related pharmaceutical base and to provide this information to other department with unified and customized interface. this project help make the material Requisition and approved material receipt and filling &sealing details cleaning and dispensing process details and row material and packing material details and make the batch manufacturing register record the all activity drug manufacturing activity And to automate all the working procedures of different departments maintain a single common database of
Pharmacy company Production/ Manufacturing Management All work perform in Pharma Company

manually Production/manufacturing Coming out the problem for manage all resources they can not properly coordinating all department Related to production activity. The project manage the all activity related to production department of Pharma company this is concern with the development of a application that helps remove the manually work and that project more help production manager appropriate activity related to production simply find out and properly co-ordinate all department of pharmacy company . Remove the all manually work through this software etc.

OVERVIEW OF DESIGN PATTERNS

Design pattern as the general outline of a solution to a commonly occurring problem that can be reused over and over. A design pattern has four essential elements:

- ✓ a pattern name that allows efficient communication about the pattern—in fact, we will be referring to patterns by name in the balance of this paper,
- ✓ a problem statement that describes in general terms when to apply the pattern,
- ✓ a solution that "describes the elements that make up the design, their relationships, responsibilities, and collaborations," and
- ✓ Consequences of applying the pattern, including tradeoffs.

Using design patterns often incurs costs in terms of space and time, but increases the flexibility, extensibility, and maintainability of the system. There are three varieties of patterns Creational, Structural, and Behavioral. Creational patterns separate the creation of objects or classes from their use in the system. For example, Builder separates the construction of a complex object from the creation of the simpler components that comprise it. In particular, one creates an interface Builder with a method to build each type of component. Concrete subclasses build components for the specific system. A Director calls the Builder to create the components needed for a complex object. Structural patterns provide ways to combine classes or objects into larger structures. Many of these patterns provide a uniform interface between a complex object or class structure and the rest of the system. For example, the Adapter pattern converts the interface of a server class to the interface that its clients expect. This allows the developer to easily adapt the system to different server classes. Another structural pattern, Proxy, represents a surrogate that controls access to another object. Proxies have multiple uses, including allowing requests to a real object in a different address space (remote proxies), caching information about the real object to postpone accessing it (virtual proxies), or Enterprise ERP software provides complete compliance management for pharmaceutical manufacturers and distributors delivers a fully-integrated ERP software solution that is both functionally rich and designed to support of the pharmaceutical industry's business software requirements .Enterprise enables pharmaceuticals manufacturers and distributors to produce and ship the right product, at the right time, and in full compliance with regulatory agencies. The object-oriented design pattern introduced in this paper uses the notion of organizational system as a vehicle for obtaining a better comprehension of a continuous process application domain. It provides a framework for representing the application domain from a systemic point of view. The pattern is a reusable set of generic classes that can be specialized or used as templates for accommodating the specific requirements of particular application in the domain of continuous production industries. Using our design pattern has the following benefits:

- ✓ A better understanding of the ends, process, actors, rules, job structure, events and entities of a continuous process system is achieved.
- ✓ The role of a continuous process application is understood from a major and wider business perspective.
- ✓ It reduces the cost and time needed for developing a continuous process application.

Although the pattern is oriented to continuous process applications in industrial Organizations, it could be adapted to be used as a reference framework for

- ✓ organizational modeling in Business Process Reengineering
- ✓ designing information systems architectures and
- ✓ Designing enterprise integration models.

Design patterns mean that we do not have to solve every problem from "first principles", but can instead rely on the experience of others who have come up with reusable solutions Despite the versatility of most

known Pharma ERP software systems there are situations where companies still use legacy applications. Similar situations grow from new business needs based on contemporary technologies not covered by ERP software that must be build from the scratch as new applications. All these software packages must be integrated in order to cut data redundancy and to form one functional system. A major programming language representative for the former could be C#.Net Pharma ERP software is supposed to be treated as the central point inside company's software so one should know that its integration implies adapting other software to fulfill ERP's specifications. This is consequence of complexity of ERP system, especially MRP (Manufacturing Resources Planning) and MPS (Master Production Scheduling) modules. They have to consolidate oscillations in supply chain management by balancing demand and production. Demand enters system through forecasted and actual sales. According to demand system plans production which then backflushes to purchasing. If any of these subsystems is realized outside ERP e.g. Order Fulfillment via Internet (e-commerce) it has to be aligned to ERP, otherwise MRP I1 module can not work. Therefore it could be a good idea that legacy applications integration must be foregone by their reengineering, thereby procedural code will be mapped into design artifacts. Today's favorite design artifacts are design patterns and as the programming paradigm is object oriented they are mainly expressed in that way. Some experiences about reengineering legacy application using design patterns can be found there exist different approaches, for instance, in case of Tim constraints when reengineering is out of question and in case of object-oriented technology lack of skills also pays its tribute. One can design simple but only one purpose solution that is bound to single ERP and its DLL. Again we propose applying design pattern but in this case more exactly, design patterns known as Builder, Factory Method and Bridge. We see their role as a mechanism to widening functionality to more ERPs where appropriate design patterns, among their others functions, encapsulate DLL from different ERPs in a uniform way Such an extension is treated as a wrapper around designated ERP but could be easily modified for another ERP. That gives better Market prospect in comparison to single ERP solution. The same packaging principle gives excellent results on the other side of integration (e.g. legacy and new applications) presents insight into nominated packaging systems. Introduction /The Internet as a global network and local networking known as corporate Intranets ask for modified approach in an application design. One of the most obvious characteristics of such applications is a heterogeneous environment. It is understandable that in such environment applications also could be distributed. In a modern, object-oriented approach they consist of objects that communicate regardless of their location, platform and development language. teams in different programming languages but supported by appropriate ORBS. Those hybrid integrated systems have positive attributes as intermediary solutions but in depth reengineering of legacy applications is almost unavoidable when those systems are planned to function for longer period of time. A final result should be a system mainly consisting of abstract classes where concrete classes are subclasses of particular abstract classes. Collaboration between all those classes makes system adaptable/configurable to many situations. The classes with their collaborations form structure called a framework. Designing the framework assumes detailed knowledge about the application domain. This knowledge must be formalized and systemized in modules which will describe elementary ideas that will form simple reusable software components known as Design patterns. Basically a common technique of system integration compares them according to the waste and flexibility. Waste presents the amount to which integration method adds overhead, errors and information transfer delays. Flexibility presents capability of integrated information system to adapt various business and organizational changes. “People and paper” are still used as “integration techniques’’ especially during transition phase. It is slow, error prone and expensive, yet highly flexible. It is therefore recommended during periods of finding the right answer for integration issues. File transfer is data oriented approach in which loader-generator interaction is started periodically (manually or timer-based). The process is not performed in real time and systems are isolated with periodic data synchronization. Transfer file formats are adapted to organization needs or standard. In this category we can also put data synchronization through database replication. Such way of data interchange can be slow and inefficient with higher volume of data. It may be enhanced by using database triggers and get near real time performance. However this requires detailed knowledge of ERP database structure because it can corrupt overall system performance.

THE O-O DESIGN PATTERN

The central component of our design pattern is the process associated with a production unit. A continuous production process is a composite object whose components are other processes which, in turn, are made of

sub-processes at a lower level. A transformation process, for instance, is a composite process that can be decomposed into a hierarchy of processes at several levels of depth. The processes of a production unit are of three different types or classes: decision making processes, transformation processes and information processes. A unit has a decision making process (DMP) that supervises a transformation process by means of the information managed and provided by the information process. A DMP regulates a transformation process by setting production constraints. An information process is updated by a transformation process. Decision systems must work according to those changes. The information system must provide updated information to the decision support systems and must transmit the decisions to the actors that drive the process by using the channels of the information system.

Seven Proposed design patterns for implementing Pharma ERP system are as follows:-

1 Interface: Can be used to design a set of service provider classes that offer the same service so that a client object can use different classes of service provider objects in a seamless manner without having to alter the client implementation

2 Abstract parent class: Useful for designing a framework for the consistent implementation of the functionality common to a set of related class.

3 Private methods: Provide a way of design a class behavior so that external objects are not permitted to access the behavior that is meant only for the internal use.

4 Accessor methods: Provide a way of accessing an objects state using specific method .This approach discourages different client object from directly accessing the attributes of an object, resulting in a more maintainable class structure.

5 Constant data manager :Useful for designing an easy for maintain ,centralized, repository for the constant data in an application.

6 Immutable object: Used to ensure that the state of an object cannot be changed may be used to ensure that the concurrent access to a data object by several client object does not result in race conditions.

7 Monitor: A way of designing an application object so that it does not produce unpredictable when more than one thread tries to access the object at the same time in a multithreaded environment.

In this paper forces the following point

The design solution for object communication must resolve the following forces:

Encapsulation. Distributed communication issues should be encapsulated from the functionality.

Classes. Distributed communication should be transparent for functionality classes, the object-oriented interaction model should be preserved.

Extensibility. The solution should be extensible to the variations described in the problem analysis section.

Modularity. Distributed communication should be separated from application functionality. In Particular, the underlying communication mechanisms should be isolated and it should be possible to provide different implementations.

Reusability. The solution for distributed communication should be reusable in different situation

When grouped together, these variations form part of a cluster of patterns that visually represents common approaches to copying data. Clustering, used in this context, simply means a logical grouping of some set of similar patterns and their relationships. Usually the relationship is one of refinement, as shown above. Other relationships can be added, however. This guide adds a relaxed relationship, which means "can use, but there is no refinement between the patterns. This notion of a cluster is quite useful for expanding the view of patterns to encompass an entire solution, and for identifying clusters of patterns that address similar concerns in the solution space.

PHARMA ERP DEPARTMENT	Store Department	ITEM ANALYSIS		PURCHASE MANAGEMENT		INVENTORY MANAGEMETN SYSTEM			PATERN NAME ERP WORKING
		Interface	Abstract parent class	Private methods	Accessor methods	Constant data manager	Immutable object	Monitor	
	PRODUCTION / MANUFACTUREING DEPARTMENT	BMR	MONTH PLAN	GENERATE BMR		APPROVE ISSUE		ETC.	
		Interface	Abstract parent class	Private methods	Accessor methods	Constant data manager	Immutable object	Monitor	
	HR DEPARTMENT	PAY ROLL	PERSONAL ADMINISTRATION		LEAVES & ATTENDANCE		ETC.		
		Interface	Abstract parent class	Private methods	Accessor methods	Constant data manager	Immutable object	Monitor	
	QUALITY CONTROL DEPARTMENT	SHOP FLOOR CONTROL PARAMETERS				ETC.			
		Interface	Abstract parent class	Private methods	Accessor methods	Constant data manager	Immutable object	Monitor	
	FINANCE DEPARTMENT	GENERAL LEDGER	BUDGET COSTING		PAYABLES	TENATION	ASST. MANAGEMENT etc.		
		Interface	Abstract parent class	Private methods	Accessor methods	Constant data manager	Immutable object	Monitor	

Framework for ERP System Using Design Pattern

CONCLUSIONS

The object-oriented design pattern introduced in this paper uses the notion of organizational system as a vehicle for obtaining a better comprehension of a continuous process application domain. It provides a framework for representing the application domain from a systemic point of view. This paper suggests the proposed solution for PHARMA ERP SYSTEM using various design patterns. The pattern is a reusable set of generic classes that can be specialized or used as templates for accommodating the specific requirements of particular application in the domain of continuous production industries. In this paper seven proposed design patterns are included like Interface, Abstract parent class , Private methods , Accessor methods, Constant data manager , Immutable object , Monitor . Design patterns uses often incurs costs in terms of space and time, but increases the flexibility, extensibility, and maintainability of the system This paper shows a solution that describes the elements that make up the design, their relationships, responsibilities, and collaborations, and consequences of applying the pattern, including tradeoffs.

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WEBSITE IMPLEMENTATION USING WEB ROBOT

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ABSTRACT

This paper proposes users with moderate computer skills can use the new web robot from to create web sites or online stores with little or no web design experience. The robot hosts the web site on the local PC using a broadband connection to the Internet, so that there is no need for a web hosting company. Operating a web site is generally a multi-step process whereas someone with web design skills starts from scratch or edits a template, then uploads the resulting HTML file to a remote server provided by a web hosting company. With the web robot, anyone with basic computer skills can copy common files like image, sound, video, a text to a specific folder on the local PC, and have the robot update the web site in minutes. The robot is quite similar to the web browser in the way information is exchanged between the local computer and the Internet.

Keywords: *HTML(Hypertext Markup Language) ,web robots, Blog*

INTRODUCTION

Web Site Robot is an easy to use site builder with blog tool, shopping cart, and online photo album. It does not require additional software, HTML, programming, or hosting company. It enables secure online payments with credit cards, automatically creates and links thumbnails and music samples. There is unlimited storage space for your html, document, blog, photo, music, video, or any multimedia content. It allows an unlimited number of blogs and automatically archives old blogs. Creating your web site is straight forward, you copy files and folders into Your web site folder and the Robot does all the rest. It automatically creates thumbnail and builds your online photo album or picture gallery. It is very flexible and the visitor can even change templates on the fly, directly from the web browser.

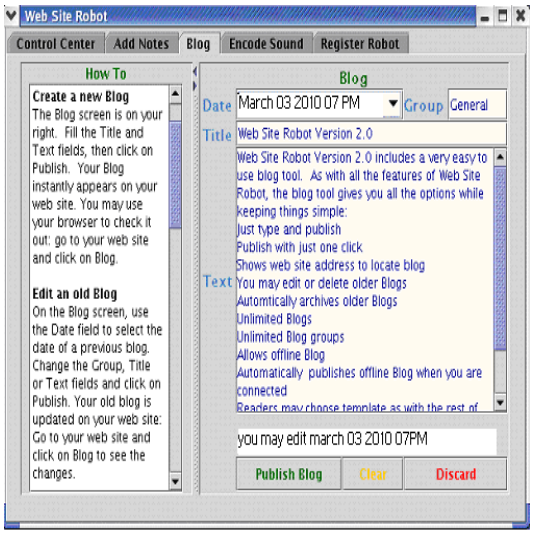
The Robot is designed to enable ordinary computer users, artists, authors, vendors, students, teachers, and others to easily publish or commercialize their material on the Internet, using the format that they want. They can focus on what they do best, while the Robot takes care of thumbnails, music samples, mp3, ogg, wma, previews, IP addresses, html, and other Internet related duties. It's great for blog page, e-commerce, small business, online photo album, education, hobby, and personal web site. It does everything you need to publish on the web, in just minutes without learning new skills. Robots can be used for a number of purposes: Indexing,HTML validation, Link validation monitoring, mirroring. is not intrusive and runs in the background, using minimum system resources. The user can carry on with the normal work and not bother with the web site. The robot instantly make the files available to millions over the Internet as soon as they are saved locally. Computer users around the world have valuable information in their hard drives, in the form of pictures, drawings, charts, recipes, computer code, and more that may be useful to others. So far, there was no simple and convenient way to put that information on the web without taking a web design class. Things are due to change with Web Site Robot and the rapid expansion of broadband technology

Unlike peer-to-peer technology that confines peers to a specific file sharing network, Web Site Robot only uses standard web technology and thus offers a lot more flexibility. It may be used for an online store, photo album, art gallery, music catalog, education, small business as well as a personal web site. A Web robot program that automatically traverses the Web's hypertext structure by retrieving a document, and recursively retrieving all documents that are referenced. Note that "recursive" here doesn't limit the

definition to any specific traversal algorithm; even if a robot applies some heuristic to the selection and order of documents to visit and spaces out requests over a long space of time, it is still a robot. Normal Web browsers are not robots, because they are operated by a human, and don't automatically retrieve referenced documents (other than inline images). Web robots are sometimes referred to as Web wanderers, Web robots, or spiders. These names are a bit misleading as they give the impression the software itself moves between sites like a virus; this not the case, a robot simply visits sites by and collection data generate aromatically site requesting documents from them.

SEARCH ENGINE

A search engine is a program that searches through some dataset. In the context of the Web, the word "search engine" is most often used for search forms that search through databases of HTML documents gathered by a robot. Internet .This paper covers Web robots, commerce transaction agents, Mud agents, and a few others. It includes source code for a simple Web robot based on top of libwww-perl4.



Its coverage of HTTP, HTML, and Web libraries is a bit too thin to be a "how to write a web robot" paper but it provides useful background reading and a good overview of the state-of-the-art, especially if you haven't got the time to find all. In general they start from a historical list of URLs, especially of documents with many links elsewhere, such as server lists, and the most popular sites on the Web. Most indexing services also allow you to submit URLs manually, which will then be queued and visited by the robot. Sometimes other sources for URLs are used, such as scanners through USENET postings, published mailing list. Given those starting points a robot can select URLs to visit and index, and to parse and use as a source for new URLs.

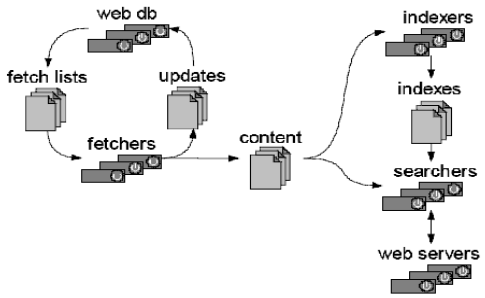


FIG.-1 Robot Fetch content
Supplying helpful information to the website

When a robot downloads texts and images, the objectionable Web content classifier takes only them as input. Therefore the classifier can miss important information for decision. For instance, Internet users might have experienced many redirections when attempted to connect to porn site, which is the characteristic of porn site. the classifier can use this. As opposed to the robots for search engines which usually collect only text from the Web, this robot gathers both text and image because objectionable Web content classifier analyzes both. The downloading of image files severely damage the crawling speed as image data is bigger than that of text data and there are several images in one hypertext document. Therefore, we analyzed the characteristics of irrelevant images such as menus and lines, and created a profile for the images.

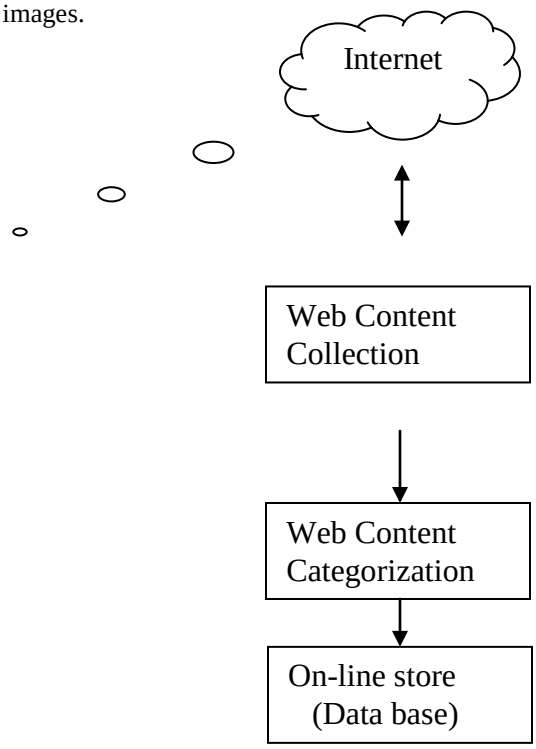


Fig-2 Robot database

ROBOTS DATABASE

The Robots Database lists robot software implementations and operators. Robots listed here have been submitted by their owners, or by web site owners who have been visited by the robots. in the wild,. the robots database is currently undergoing re-engineering. Due to popular demand we have restored the existing data, but addition/modification are disabled.

WEB ROBOT AGENT

Autonomous agents-are programs that do travel between sites, deciding themselves when to move and what to do. These can only travel between special servers and are currently not widespread in the Internet. Intelligent agents:-are programs that help users with things, such as choosing a product, or guiding a user through form filling, or even helping users find things. These have generally little to do with networking. User-agent:-is a technical name for programs that perform networking tasks for a user, such as Web User-agents like Netscape Navigator and Microsoft Internet Explorer, and Email User-agent like Qualcomm Eudora etc.

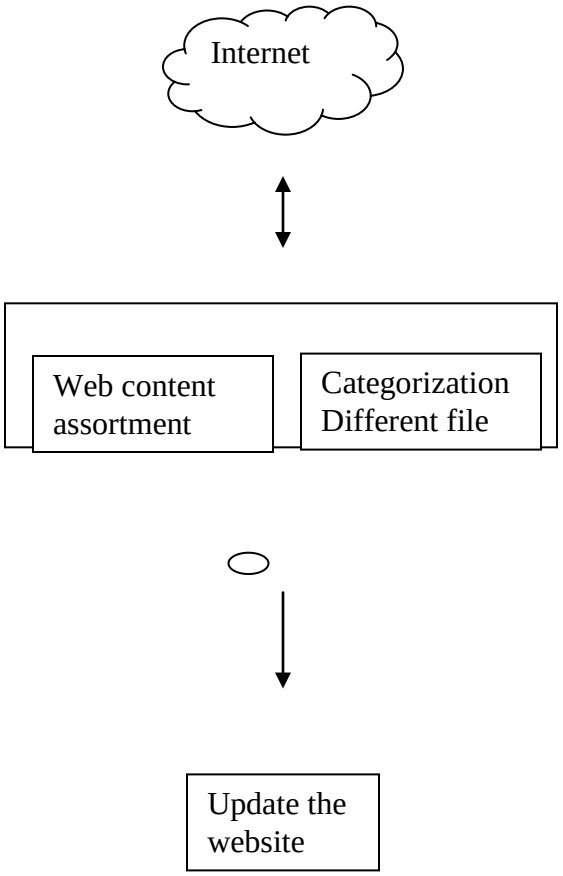


FIG.-3 Robot make indexing

ROBOT DECIDE WHERE TO VISIT

This depends on the robot, each one uses different strategies. In general they start from a historical list of URLs, especially of documents with many links elsewhere, such as server lists, and the most popular sites on the Web. Most indexing services also allow you to submit URLs manually, which will then be queued and visited by the robot. Sometimes other sources for URLs are used, such as scanners through USENET postings, published mailing list achives.Given those starting points a robot can select URLs to visit and index, and to parse and use as a source for new URLs.How does an indexing robot decide what to index .If an indexing robot knows about a document, it may decide to parse it, and insert it into its database. How this is done depends on the robot: Some robots index the HTML Titles, or the first few paragraphs, or parse the entire HTML and index all words, with weightings depending on HTML constructs, etc. Some parse the META tag, or other special hidden tags.

I register my page with a robot
it depends on the service Most services have a link to a URL submission form on their search page. Fortunately you don't have to submit your URL to every service by hand:

I know if I've been visited by a robot
You can check your server logs for sites that retrieve many documents, especially in a short time. If your server supports User-agent logging you can check for retrievals with unusual User-agent heder values. Finally, if you notice a site repeatedly checking for the file '/robots.txt' chances are that is a robot too.

A robot is traversing my whole site too fast
This is called "rapid-fire", and people usually notice it if they're monitoring or analyzing an access log file.First of all check if it is a problem by checking the load of your server, and monitoring your servers' error log, and concurrent connections if you can. If you have a medium or high performance server, it is quite likely to be able to cope a high load of even several requests per second, especially if the visits are quick. However you may have problems if you have a low performance site, such as your own desktop PC or Mac you're working on, or you run low performance server software, or if you have many long retrievals (such as CGI scripts or large documents). These problems manifest themselves in refused connections, a high load, performance slowdowns, or in extreme cases a system crash. If this happens, there are a few things you should do. Most importantly, start logging information:, what happened, what do your logs say, what are you doing in response etc; this helps investigating the problem later. Secondly, try and find out where the robot came from, what IP addresses or DNS domains, and. If you can identify a site this way, you can email the person responsible, and ask them what's up. If this doesn't help, try their own site for telephone numbers, or mail postmaster at their domain. If the robot is not on the list, mail me with all the information you have collected, including actions on your part.

Robots.txt standard be extended
Probably there are some ideas floating around. They haven't made it into a coherent proposal because of time constraints, and because there is little pressure. Mail suggestions to the robots mailing list, and check the robots home page for work in progress.

The Method -The method used to exclude robots from a server is to create a file on the server which specifies an access policy for robots. This file must be accessible via HTTP on the local URL "/robots.txt". The contents of this file are specified This approach was chosen because it can be easily implemented on any existing WWW server, and a robot can find the access policy with only single document retrieval. A possible drawback of this single-file approach is that only a server administrator can maintain such a list, not the individual document maintainers on the server. This can be resolved by a local process to construct the single file from a number of others, but if, or how, this is done is outside of the scope of this document. The choice of the URL was motivated by several criteria
The filename should fit in file naming restrictions of all common operating systems.

- The filename extension should not require extra server configuration.
- The filename should indicate the purpose of the file and be easy to remember.
- The likelihood of a clash with existing files should be minimal.

THE FORMAT

The format and semantics of the "/robots.txt" file are as follows: The file consists of one or more records separated by one or more blank lines. Each record contains lines of the form"<field>:<optionalspace><value><optional space>". The field name is case insensitive. Comments can be included in file using UNIX bourne shell conventions: the '#' character is used to indicate that preceding space (if any) and the remainder of the line up to the line termination is discarded. Lines containing only a comment are discarded completely, and therefore do not indicate a record boundary. The record starts with one or more User-agent lines, followed by one or more Disallow lines, as detailed below. Unrecognized headers are ignored. User-agent:-The value of this field is the name of the robot the record is describing access policy for. If more than one User-agent field is present the record describes an identical access policy for more than one robot. At least one field needs to be present per record. The robot should be liberal in interpreting this field. A case insensitive substring match of the name without version information is recommended. If the value is '*', the record describes the default access policy for any robot that has not matched any of the other records. It is not allowed to have multiple such records in the "/robots.txt" file.

Prohibit -The value of this field specifies a partial URL that is not to be visited. This can be a full path, or a partial path; any URL that starts with this value will not be retrieved. For example, Disallow: /help disallows both /help.html and /help/index.html, whereas Disallow: /help/ would disallow /help/index.html but allow /help.html. Any empty value, indicates that all URLs can be retrieved. At least one forbid field needs to be present in a record.The presence of an empty "/robots.txt" file has no explicit associated semantics, it will be treated as if it was not present, all robots will consider themselves welcome.

Examples

The following example "/robots.txt" file specifies that no robots should visit any URL starting with "/cyberworld/map/" or "/tmp/", or /foo.html:
#robots.txt for http://www.example.com/
User-agent: *
Disallow: /cyberworld/map/ # This is an infinite virtual URL space
Disallow: /tmp/ # these will soon disappear
Disallow: /foo.html
This example "/robots.txt" file specifies that no robots should visit any URL starting with "/cyberworld/map/", except the robot called "cybermapper":
#robots.txt for http://www.example.com/
User-agent:*Disallow: /cyberworld/map/ # This is an infinite virtual URL space
Cybermapper knows where to go.
User-agent: cybermapper
Disallow:This example indicates that no robots should visit this site further:
goawayUser-agent:*Disallow: /writing a structured text file you can indicate to robots that certain parts of your server are off-limits to some or all robots. It is best explained with an example:
#/robots.txt
file for http://webcrawler.com/
mail webmaster@webcrawler.com for constructive criticism
I can't make a /robots.txt file?
Sometimes you cannot make a /robots.txt file, because you don't administer the entire server. All is not lost: for using HTML META tags to keep robots out of your documents.The basic idea is that if you include a tag like:<META NAME="ROBOTS" CONTENT="NOINDEX">
in your HTML document, that document won't be indexed.If you do:
<METANAME="ROBOTS" CONTENT="NOFOLLOW">the links in that document will not be parsed by the robot.

CONCLUSION

This study aims to solve the problem of knowledge discovery in a internet. The knowledge base need to discover new knowledge outside the system. This article proposes a new way to acquire new knowledge. Web robots technology can automatically acquire the knowledge from Internet and update the knowledge base there is general rule of knowledge extraction from the raw web page.

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HTTP SERVER AND CLIENT PERFORMANCES OF MULTITHREADED PACKETS

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ABSTRACT

To manage the network efficiently, real-time packet capture and analysis is the right way, since it plays a vital role not only in identifying the problem and the causing entity. The network administrator has to know the network bandwidth and other resources that are used for accounting and auditing. This creates an emphasis to monitor network traffic and conduct analysis to ensure smooth operations performed routinely. Time is an important factor, which contributes to the variations of packet flow. In this paper, the readings of the real-time packet flow with respect to sent and received data by varying the time, applications and the type of requests are noted and analyzed. The delay and throughput were measured, studied and calculated. Initially, the packet movement in the network was monitored with only hypertext transfers using HTTP. The same movement was analyzed with respect to other file transfer applications. The number of file downloads between the HTTP server and clients are also varied to follow the behavior of data. We also designed and developed multithreaded socket applications using java which was again monitored and analyzed using the above methodology. We compared the reading and the experimental results shows that the developed application outperforms in terms of packet acceleration compared to the previous ones.

Keywords*: packet, bandwidth, delay, throughput, hypertext, HTTP, server, client, multithread and socket.*

INTRODUCTION

Flow of packets plays an important role in the network sending and receiving process. More the packets received are good for the network users as the speed would be more leading to user satisfaction. A network can be tracked based on the packet flow throughout the network. The available and achievable throughput differs due to various performances related issues. The network performance characteristics like delay, throughput were measured and studied. The Local Area Network in networking lab of Bahir Dar University was chosen for this case study and data readings were noted at the server by varying the time. The delay D of a network is minimum either if the volume of data has to be decreased or increase the throughput (Prathap et al; 2005). Trans-port Control Protocol (TCP) is a reliable, end-to-end, transport, protocol that is widely used to support applications like telnet, ftp, and http (Stevens W. R, 1994). Though TCP/IP had gained much importance, the standard TCP does not perform well in high bandwidth delay environments (Kelly T, 2003). Kelly's Scalable TCP on real networks with a set of systematic tests using different network were already tested (Li Yee-Ting et al; 2004). This paper analyzes the bandwidth distribution with respect to http and file transfer by defining and studying the delay and throughput

Table 1. Effect of delay

Users in Percentage	Status of delay
0	Minimum
50	twice
100	Maximum

If the network is idle then the effective delay D will be D_0. When the network is utilized to half of its capacity then the effective delay will be twice and when the all the users are utilizing the effective delay becomes infinity. As the numbers of users are close to the maximum, delay increases rapidly to maximum as shown in Table 1. This shows clearly that as the delay increases the traffic increases, resulting the bit in slower transmission. As the users increases the delay increases which shows that they are directly proportional. Hence in order to make the delay D to minimum, either the volume of data has to be decreased or increase the throughput. The throughput of the network was measured using the client server interactions.

METHODOLOGY

The configurations of the network server supporting 930 clients inclusive of two campuses are specified in table 2.

Table 2. Configuration of server

Server Description	**Configuration**
Processor	Sunblade 2000, V880
Operating system 2	Sun solaris 10
OS bit size	32 bit Operating system
Proxy details	Linux Squid 2.7
Switch capacity Access	10/100/1000 (44 numbers)

The Client configurations used are shown in table 3.

Table 3. Configuration of client

Description	**Configuration**
Processor	Intel (R)Pentium(R) Dual CPU T 2330 @ 1.60 GHz
Operating system	Windows Vista Home Basic
OS bit size	32 bit Operating system
Temporary memory	1 GB of RAM
NIC	PCI – E Fast Ethernet Controller

Network Interface Card Properties were set as per the below mentioned table 4.

Table 4. Changed properties of NIC

Properties	**Settings**
Flow control	Tx & Rx Enabled
Max.IRQ/sec	5000
Receiving bytes	256
Transmission bytes	256

The results of the HTTP requests were made by varying URL frequently are shown in table 5. The readings were noted periodically with an interval of sixty seconds and later on increased 300 seconds and 600 seconds.

Table 5. Readings showing the flow of bits under broadband network

Time	**Received**	**Sent**
03:17:23	86,516	87,680
03:18:23	86,735	87,890
03:19:23	86,821	87,975
03:20:23	86,911	88,076
03:25:23	87,293	88,484
03:35:23	90,935	91,592

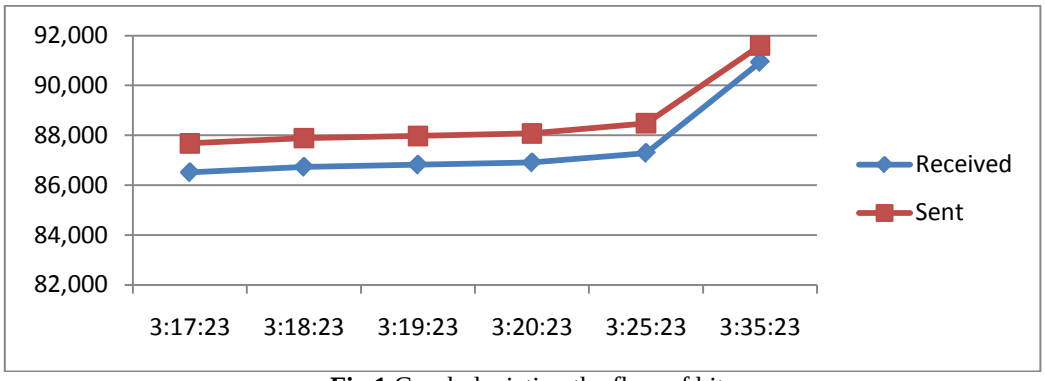

Fig 1 Graph depicting the flow of bits

Calculations were done to find the received diffferenece from the present time with respect to previous time of data as shown in table 6.

Table 6. Readings showing the difference in flow of bits

Time	Received	Sent	R.Diff	S.Diff	S-R
3:17:23	86,516	87,680	219	210	-9
3:18:23	86,735	87,890	86	85	-1
3:19:23	86,821	87,975	90	101	11
3:20:23	86,911	88,076	-	-	-
3:25:23	87,293	88,484	-	-	
3:35:23	90,935	91,592	-	-	
		Total	395	396	

From the above table the average of sent and received calculated

Average of received is 2.19 packets per second

Average of sent is 2.20 packets per second

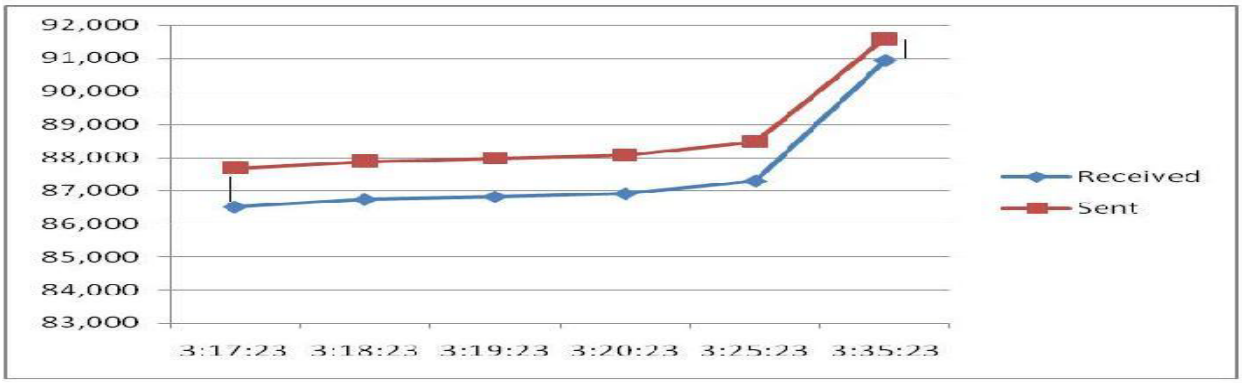

Fig 2 Gap between difference in sent and received.

The difference between the received and sent data at the start and end points are marked in the f1igure which is narrow showing that as the time goes on the difference between them is becoming less. This leads to the conclusion that the data flow gradually increased with respect to received data.

Based on the readings from Table 2 and the time difference, the minimum and maximum received and sent bits per second were calculated and the results are shown in Table 7.

Table 7. Throughput analysis

T	Minimum		Maximum	
	Received	Sent	Received	Sent
Bits / sec	1.43	1.41	6.36	6.80

Packet Analysis

Packet analysis could be done by capturing and analyzing traffic passing by the machine where the tool is installed with results displayed. It also decodes all major and frequently used protocols including TCP/IP, UDP, HTTP, etc. It comprises user friendly interfaces to display technical information. It is possible to

filter the network traffic to focus on the specified needed information. It is flexible and allows powerful filters during or after capture to isolate traffic by specific node, protocol, and packet content. Hence the tool was initialized as per the settings and HTTP server response time was configured as shown in fig 3.

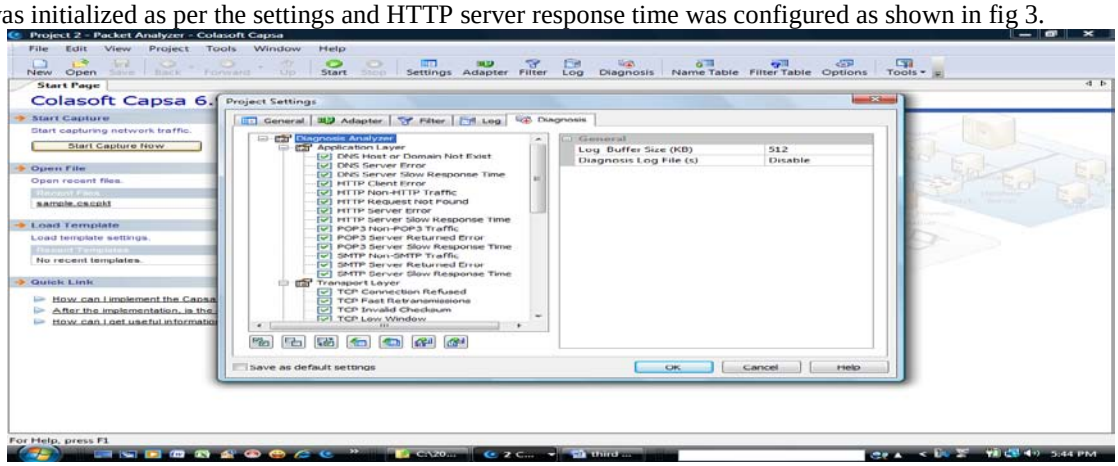

Fig 3 Initial seeting showing buffer size of 512 KB.

Network performance and security prevent network problems, conduct effective troubleshooting and take actions quickly to solve possible problems. The network bandwidth and other resources are used for accounting, auditing or for network planning purposes and analysis of the packets passing through the network. Network Packet Analyzer CAPSA is an advanced network traffic monitoring, analysis and reporting tool, based on Windows operating systems. It captures and analyzes all traffic transport over both Ethernet and WLAN networks and decodes all major TCP/IP and application protocols. Its advanced application analysis modules allows to view and log key communication applications such as emails, http traffic, instant messages and DNS queries. The comprehensive reports and graphic views enable to understand network performance and bandwidth usage quickly, to check network health (Colasoft capsa, 2008). Initial HTTP readings were noted by varying the requests as shown in fig 4. Hypertext transfer protocol was designed to be quick, simple, and non instructive. The connection between a server and a client program is temporary and must be reestablished for every data transfer. A URL is always a single, unbroken line of text with no spaces. Web browser generally displays the URL of the Web page currently being viewed near the top of the windows.

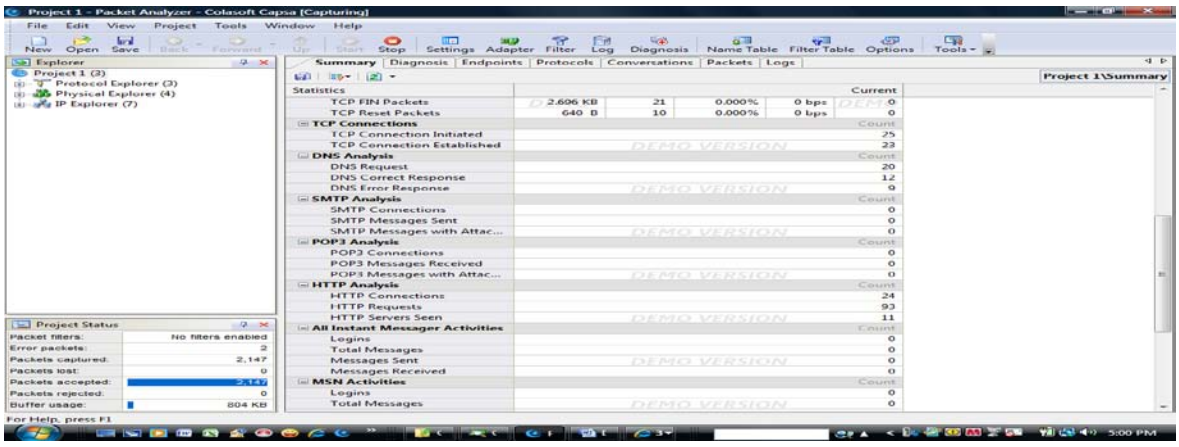

Fig 4 initial analysis of HTTP at the start

The packets used were noted and the readings for corresponding protocols are shown in fig 5 and the initial HTTP requests were shown in fig 6.

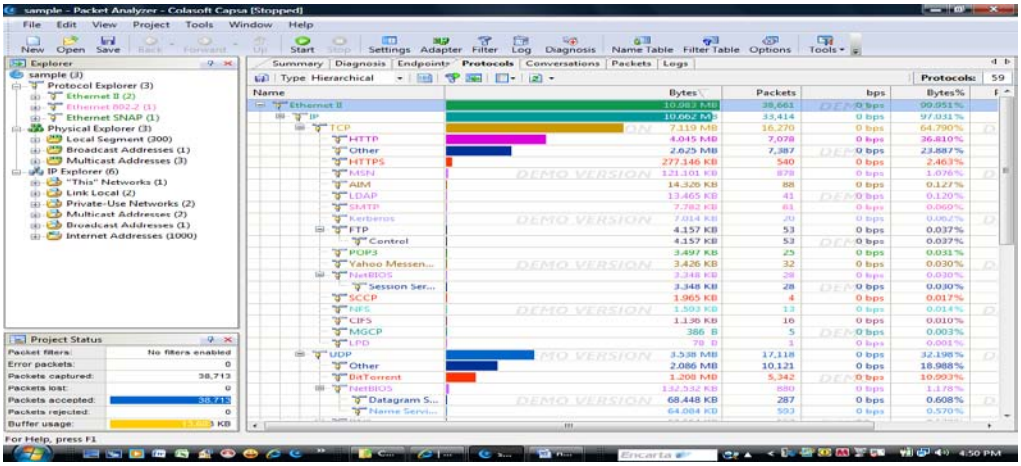

Fig 5 packets used by protocols

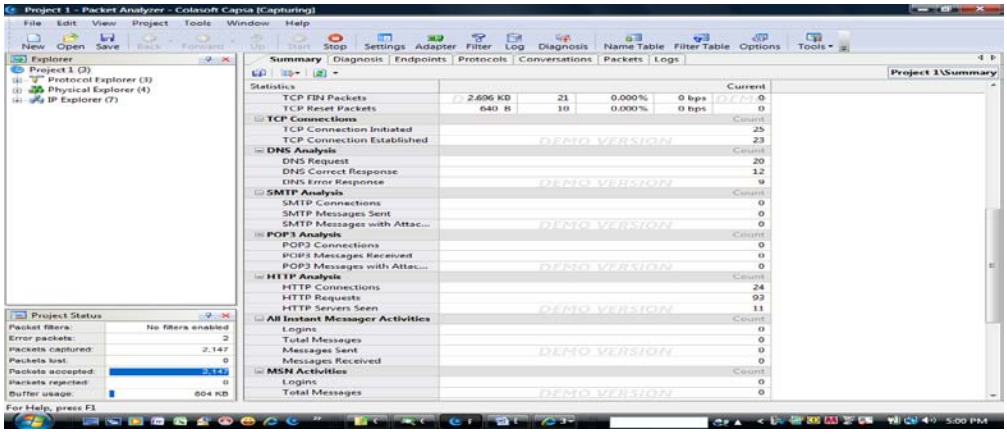

Fig 6 Buffer usage after the HTTP requests made without download

The two sites of same URL were requested and the same file of same size was downloaded. Now in order to invoke downloads of same size file single HTTP were noted and two HTTP requests were done for the same URL. The readings were noted for the same file of same size but as different requests as shown in fig 7. From the figure we can view that the buffer usage is almost nearing its capacity indicated in red.

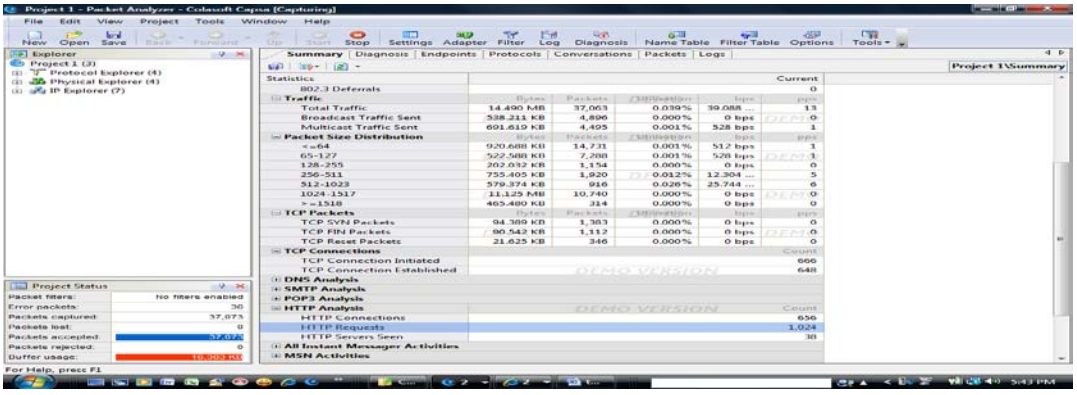

Fig 7 Buffer usage of HTTP with two downloads

This is due to the fact that when more hypertext transfers are made the allocated buffer usage increases.

Results of Socket Application Performance

A socket is a software endpoint that establishes bidirectional communication between a server program and one or more client programs. The socket associates the server program with a specific hardware port on the machine where it runs so any client program anywhere in the network with a socket associated with that same port can communicate with the server program. Typical system configuration places the server on one machine, with the clients on other machines. The clients connect to the server, exchange information, and then disconnect. Moreover, the processes that use a socket can reside on the same system or on different systems on different networks. Initially, client and server create sockets. The server binds to an address and port and it is automatically done in Java. The client knows server's address and port whereas the server listens on that port. The client connects to the address and port server accepts the connection. Hence the client and server read from and write to their sockets.

Client Side Program:

```
import java.io.*;
import java.net.*;

public class myClient {
   public static void main(String[] args) throws IOException {
                ……..    }}
```

The Server side program:

```
import java.net.*;
import java.io.*;

public class myServer {
   public static void main(String[] args) throws IOException {
                ……..       }}
```

The application of the client side and server side execution

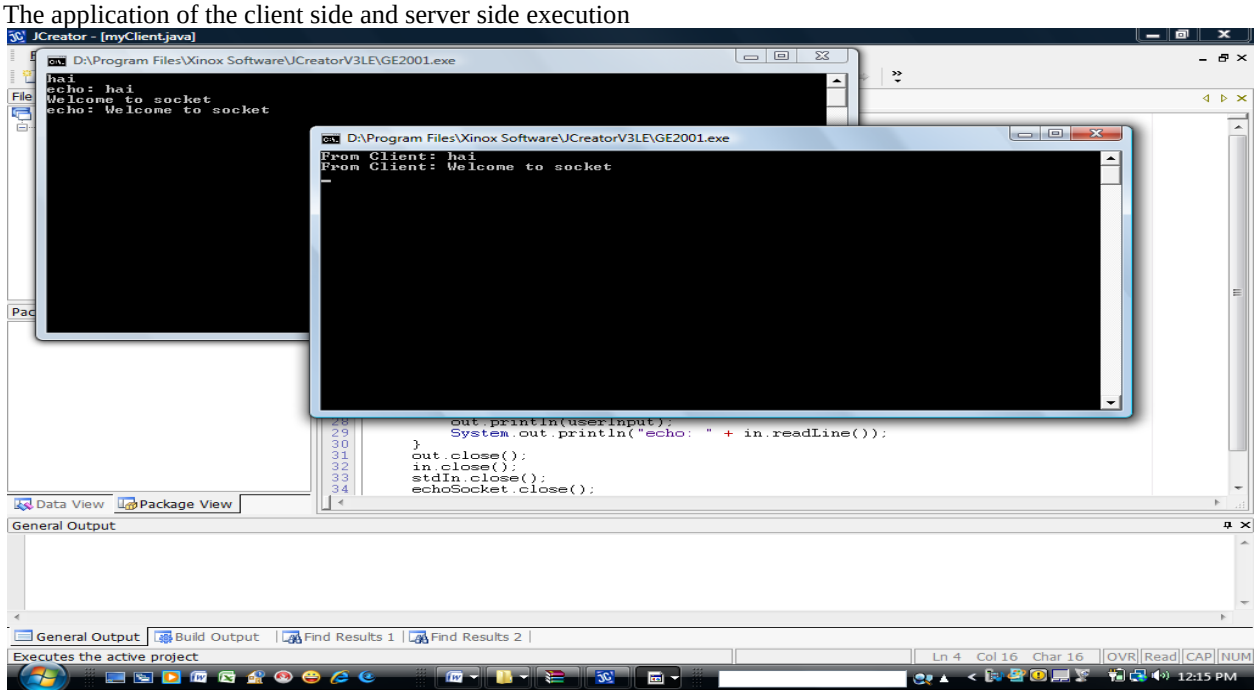

Fig 8 Interaction of server and client programs

Table 8. Performance measurement of socket application

Time	Received	Sent	R.Diff	S.Diff	S-R
4:03:00	2,534,091	474,244	178	172	-6
4:04:00	2,534,269	474,429	108	113	5
4:05:00	2,534,377	474,543	136	144	8
4:06:00	2,534,513	474,687	-	-	-
		Total	422	429	

CONCLUSION

The network performance factors delay and throughput were discussed and measured. Real-time packet capture and analysis had been done using packet analysis technique. Also the network comprises Netest which helps in monitoring the bad performing hardware and provides way for better performance. The observation include the load of a large user population among multiple servers were not spread. Reduce network usage and improve server performance when there is a significant user population in distributed locations. Though there were five servers functioning but the configurations are inefficient. The better solution could be the application of same time server which the network lacks currently. The tool had been tested under various HTTP requests and the increased requests are shown. Moreover, the analysis was done with variable number of downloads. The socket application was designed and implemented. The server side and client side communicated effectively and the measurements as well as the performance of this application was also measured repeatedly and shown in table 8. From the above table 8 the average of sent and received calculated are 2.34 packets per second for receiving and average of sent 2.38 packets per second. Finally, the behavior of the system was compared against the previous reports. Average of received is 2.34 packets per second the average of sent is 2.38 packets per second compared to 2.19 and 2.20 respectively. The results obtained shows the application sent and received bytes for the application increases compared to that of the previous throughput.

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CLOUD COMPUTING: BUSINESS VALUES, RISK MANIFESTATION AND ASSURANCE VIEWPOINT (WITH SPECIAL REFERENCE TO THE DEVELOPING AND UNDER DEVELOPED COUNTRIES)

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ABSTRACT

Recent economic pressures in the globalization have resulted in increased requirements for the availability, scalability and efficiency of organization information technology (IT) solutions. A broad base of world business leaders has become increasingly interested in the costs and the underlying technology used to deliver such solutions because of their growing impact on business. In this research paper efforts have been made to analyze the business values, risk manifestations and assurance viewpoints associated with cloud computing. This study gives a new sign towards future of cloud computing with all expected objectives and consequences. The study also focused upon the critical analysis of cloud-computing in a developing country like Ethiopia that promises the higher return on investment (ROI) in increased requirements of lower total in cost of ownership (TCO) with increased efficiency, dynamic provisioning, scalability and the utility like pay-as-you-take services. This research paper investigates and presents a new conceptual idea for the careful use of cloud computing technology for future generation of business especially in developing and under developed countries. The paper indicates that the cloud computing may be a revolutionary technology for developed countries and their organizations but it will be just an infancy for the developing and under-developed countries as they are still facing serious digital devoid and this new shift will again throw them into a new problem of multifold digital devoid.

Keywords: *Cloud computing, scalability, return on investment (ROI), total cost of ownership (TCO), risk manifestations, pay-as-you-take, multifold digital devoid, business values.*

INTRODUCTION

The role of information technology is changing rapidly, and now forms an invisible layer that increasingly touches every aspect of our lives. Power grids, traffic control, healthcare, water supplies, food and energy, along with most of the world's financial transactions, all now depend on information technology. In 1984, 1,000 devices were connected to the Internet; by 2015, this number will grow to a staggering 15 billion, leading to unprecedented pressures on IT systems worldwide. Two legacy computing models continue to dominate information technology, the time-tested centralized mainframe model, and the more recent client-server model. Now a third model, cloud computing has evolved to address the explosive growth of Internet-connected devices, and to complement the increasing presence of technology in our lives and businesses. Cloud Computing, the long-held dream of computing as a utility, has the potential to transform a large part of the IT industry, making software even more attractive as a service and shaping the way IT hardware is designed and purchased. Developers with innovative ideas for new Internet services no longer require the large capital outlays in hardware to deploy their service or the human expense to operate it. They need not be concerned about over provisioning for a service whose popularity does not meet their predictions, thus wasting costly resources, or under provisioning for one that becomes wildly popular, thus missing potential

customers and revenue. Moreover, companies with large batch-oriented tasks can get results as quickly as their programs can scale, since using 1000 servers for one hour costs no more than using one server for 1000 hours. This elasticity of resources, without paying a premium for large scale, is unprecedented in the history of IT. Cloud Computing refers to both the applications delivered as services over the Internet and the hardware and systems software in the datacenters that provide those services. The services themselves have long been referred to as Software as a Service (SaaS). The datacenter hardware and software is what we will call a Cloud. When a Cloud is made available in a pay-as-you-go manner to the general public, we call it a Public Cloud; the service being sold is Utility Computing. We use the term Private Cloud to refer to internal datacenters of a business or other organization, not made available to the general public. Thus, Cloud Computing is the sum of SaaS and Utility Computing, but does not include Private Clouds. People can be users or providers of SaaS, or users or providers of Utility Computing. From a hardware point of view, three aspects are new in Cloud Computing. 1. The illusion of finite computing resources available on demand, thereby eliminating the need for Cloud Computing users to plan far ahead for provisioning. 2. The elimination of an up-front commitment by Cloud users, thereby allowing companies to start small and increase hardware resources only when there is an increase in their needs. 3. The ability to pay for use of computing resources on a short-term basis as needed (e.g., processors by the hour and storage by the day) and release them as needed, thereby rewarding conservation by letting machines and storage go when they are no longer useful. We argue that the construction and operation of extremely large-scale, commodity-computer datacenters at low-cost locations was the key necessary enabler of Cloud Computing, for they uncovered the factors of 5 to 7 decrease in cost of electricity, network bandwidth, operations, software, and hardware available at these very large economies.

LITERATURE REVIEW

In the changing world of business and technology, most of the organizations are focusing on technology based management. Cloud computing consists of shared computing resources that are virtualized and accessed as a service, through an application programming interface (API). The cloud enables users in an organization to run applications by deploying them to the cloud, a virtual datacenter. The physical resources may reside in a number of locations inside and outside of an organization. Software-as-a-service (SaaS) usage is on a staggering path to growth, according to a recent survey of Gartner. More than 95 percent of organizations will maintain or grow their SaaS use through 2010 fueled mostly by integration requirements, a change in sourcing strategy, and total cost of ownership. Gartner conducted the survey in December 2009 and January 2010, querying 270 IT and business management professionals involved in the implementation, support, planning and budgeting decisions regarding enterprise application software. Additionally, 53 percent of organizations expect to increase their SaaS investment slightly over the next two years and 19 percent expect to boost SaaS investments significantly. Still, about 25 percent of respondents expect SaaS investments to remain level and 4 percent will reduce their SaaS spend slightly. Meanwhile, 72 percent of respondents believe SaaS investments will increase compared to current investments while 45 percent said on-premise budgets will increase compared to where they currently are. [0]

Cloud computing is a technology that uses the internet and central remote servers to maintain data and applications. Cloud computing allows consumers and businesses to use applications without installation and access their personal files at any computer with internet access. This technology allows for much more efficient computing by centralizing storage, memory, processing and bandwidth. A simple example of cloud computing is Yahoo email or Gmail etc. as to use the Gmail or yahoo; don't need a software or a server to use them. All a users/consumer would need is just an internet connection and you can start sending emails. The server and email management software is all on the cloud and is totally managed by the cloud service provider Yahoo, Google etc. The consumer gets to use the software alone and enjoy the benefits. The analogy is, '*If you only need milk, would you buy a cow?* Cloud computing is broken down into three segments: "applications," "platforms," and "infrastructure." Each segment serves a different purpose and offers different products for businesses and individuals around the world. In June 2009, a study conducted by *VersionOne* found that 41% of senior IT professionals actually don't know what cloud computing is and two-thirds of senior finance professionals are confused by the concept, highlighting the young nature of the technology. In Sept 2009, an Aberdeen Group study found that disciplined companies achieved on average an 18% reduction in their IT budget from cloud computing and a 16% reduction in data center power costs.[1] Cloud computing and Virtualization allow computer users access to powerful

computers and software applications hosted by remote groups of servers, but security concerns related to data privacy are limiting public confidence and slowing adoption of the new technology. Now researchers from North Carolina State University have developed new techniques and software that may be the key to resolving those security concerns and boosting confidence in the sector. [2]

Internet is the backbone to the cloud computing environment. Since 2000, the number of Internet users in the world has more than doubled. However, certain regions have grown faster than others. Google seems to be positioning itself to grow even more substantially internationally and as the slowdown in the US, especially in the Financial Sector, continues to put pressure on earnings, and advertising Google is poised to hold its own and continue to deliver top notch results. The US market is responsible for around 48% of Google's revenue by geography while 39% comes from the rest of the world (the UK brings in around 13%).[3] The following table below shows that Africa, the Middle East, and South America have grown far faster than Europe, North America, and Asia. This is due in part to the low absolute penetration rates that exist currently in that region. The low rates of penetration in the fast growing areas, particularly in Asia, imply opportunities for companies to gain market share. This indicates that there is a lot of scope for the expansion of cloud computing in developing and under developed countries as internet is the main backbone to it.

World Internet Usage in March 2009

World Regions	Internet Usage (millions of users)	% of Population	Usage Growth (since December 31, 2000)
Africa	**54.2**	**5.6%**	**1,100%**
Asia	**657.2**	**17.4%**	**474.9%**
Europe	**393.4**	**48.9%**	**274.3%**
Middle East	**45.9**	**23.3%**	**1,296.2%**
North America	**251.3**	**74.4%**	**132.5%**
Latin America and the Caribbean	**173.6**	**29.9%**	**860.9%**
Australia	**20.8**	**60.4%**	**172.7%**
Total	**1,596.3**	***23.8%***	**342.2%**

Table 1: Internet World Statistics

Cloud computing has matured from buzzword to a dynamic infrastructure used today by several organizations, yet many technology experts have differing views about what it means to the IT landscape and what cloud computing can do for business. However, leading analysts including thought leaders from Gartner, Forrester, and IDC agree that this new model offers significant advantages for fast-paced startups, SMBs and enterprises alike. Today, forward-thinking business leaders are using the cloud within their enterprise data centers to take advantage of the best practices that cloud computing has established, namely scalability, agility, automation, and resource sharing. By using a cloud-enabled application platform, companies can choose a hybrid approach to cloud computing that employs an organization's existing infrastructure to launch new cloud-

enabled applications. This hybrid approach allows IT departments to focus on innovation for the business, reducing both capital and operational costs and automating the management of complex technologies.

METHODOLOGY

This research paper surveyed and analyzed the literature made available by cloud computing offering organizations like Amazon.com, IBM, Google and yahoo etc. The research also investigated the current situation of IT implementations in various developing and under developed countries like India and Ethiopia with scope of cloud computing in business, education and governance processes. The case studies and white papers provided by the different researchers have been analyzed to accept the hypothesis made at the initial stage of the research. As this is a conceptual research therefore the conclusion and analysis is drawn only on the basis of the analytical findings rather than implementation in real world situations as most of the developing and under developed countries are still thinking for adopting cloud computing. This study also interviewed the 50 IT managers, 25 programmers in India and Ethiopia and 10 Director and Information Security managers. The survey was conducted via telephone and email and was performed in April and May 2010.

CLOUD COMPUTING: TECHNOLOGY AT VIRTUAL PLACE

Cloud computing is a term used to describe both a platform and type of application. A cloud computing platform dynamically provisions, configures, reconfigures, and deprovisions servers as needed. Servers in the cloud can be physical machines or virtual machines. Advanced clouds typically include other computing resources such as storage area networks (SANs), network equipment, firewall and other security devices. Cloud computing also describes applications that are extended to be accessible through the Internet. These *cloud applications* use large data centers and powerful servers that host Web applications and Web services. Anyone with a suitable Internet connection and a standard browser can access a cloud application. Cloud computing is related to a number of other technologies, it is best defined by the presence of a number of characteristics. These represent ideals that people want for the applications that run on the cloud. Cloud computing derive the-*Incremental Scalability:* Cloud environments allow users to access additional compute resources on-demand in response to increased application loads. *Agility:* As a shared resource, the cloud provides flexible, automated management to distribute the computing resources among the cloud's users. *Reliability and Fault-Tolerance:* Cloud environments take advantage of the built-in redundancy of the large numbers of servers that make them up by enabling high levels of availability and reliability for applications that can take advantage of this. *Service-oriented:* The cloud is a natural home for service-oriented applications, which need a way to easily scale as services get incorporated into other applications. *Utility-based:* Users only pay for the services they use, either by subscription or transaction-based models. *Shared:* By enabling IT resources to be consolidated, multiple users share a common infrastructure, allowing costs to be more effectively managed without sacrificing the security of each user's data. *SLA-driven:* Clouds are managed dynamically based on service-level agreements that define policies like delivery parameters, costs, and other factors. *APIs:* Because clouds virtualize resources as a service they must have an application programming interface (API). Although the term 'cloud computing' is relatively new, the technologies that make it possible have been used for some time. For example, cloud computing is enabled by grid computing, virtualization, utility computing, hosting and software as a service (SaaS).

THE BUSINESS VALUES AND PAYBACKS

Cloud Computing is a new term for a long-held dream of computing as a utility, which has recently emerged as a commercial reality. Cloud Computing is likely to have the

same impact on software that foundries have had on the hardware industry. To clearly appreciate the benefits of cloud computing for businesses, it is important to distinguish between the promise of the cloud and necessity of a cloud-enabled application platform. Ultimately, the greatest advantages of cloud computing can't be realized if an organization's applications are unable to take advantage of the cloud's inherent flexibility. For example, just because an organization is running applications on Amazon's EC2 or employing virtualization does not mean those applications can scale like amazon.com. In order to take advantage of the scalability, agility and reliability of the cloud, applications, applications must be built on a cloud-enabled platform. Building truly robust applications that make it easy for organizations to take advantage of the cloud's characteristics is a difficult, time-consuming task that can severely tax an organization's resources. Cloud based application platforms dramatically simplify the delivery of cloud-enabled applications by abstracting the complexity and dynamic nature to quickly and inexpensively bring new capabilities to market, with the agility, reliability and scale demanded by their businesses as shown in figure1.

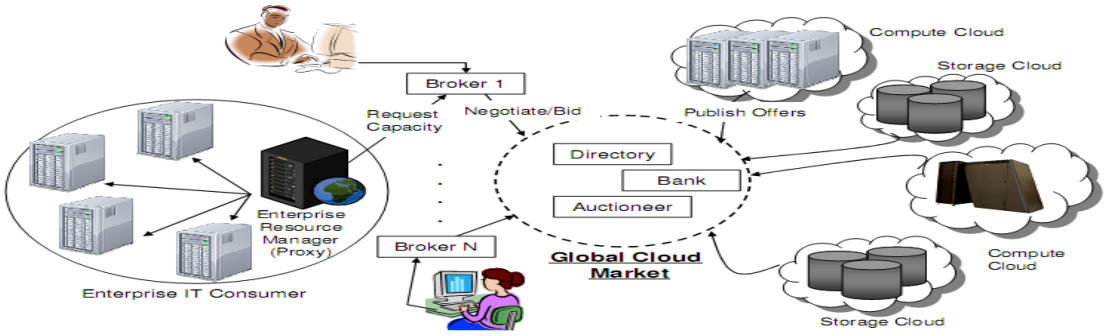


Figure 1: Global cloud exchange and market infrastructure for trading services

Several trends are emerging that will enable business to make good use of cloud computing, such as shared, virtualized and automated IT architectures. However, the introduction of cloud-enabled application platforms will certainly accelerate cloud adoption among businesses of all sizes [Gartner and Forrester 2010]. Appistry is a leading provider of cloud application platform software, and is on the forefront of cloud computing solutions that provide organizations with a competitive advantage by to making it easier and more cost-effective to develop, deploy and manage critical business applications. If cloud is used as a social service then it has many benefits for educational institutions like 1) universities can open their technology infrastructures to businesses and industries for research advancements, 2) the efficiencies of cloud computing can help universities keep pace with ever-growing resource requirements and energy costs, 3) the extended reach of cloud computing enables institutions to teach students in new, different ways and help them manage projects and massive workloads and 4) when students enter the global workforce they will better understand the value of new technologies.

The cloud is a metaphor for the Internet and is an abstraction for the complex infrastructure it conceals. It is a style of computing in which users access technology-enabled services from the Internet without knowledge of, expertise with, or control over the technology infrastructure that supports them. Cloud computing incorporates software as a service (SaaS), Web 2.0, virtualization, multi-tenancy and other recent technology trends in which the common theme is reliance on the Internet for satisfying the computing needs of the users. Infrastructure utility providers are building out platforms at a phenomenal rate. In the case of Amazon Web Services, the reason was to ensure enough capacity to support Amazon buying patterns around peak times of the year. Microsoft began building data centers to support a tremendous upturn in use of its hosted version of Microsoft Exchange. Google constructed their data centers to support the search business. Gradually these companies realized they could make excess capacity

available through controlled Web service interfaces to create "Platform-as-a-Service" (PaaS). Enterprise business users' interest in Cloud computing comes in the shape of numerous potential benefits. The Pay-As-You-Use consumption model traditionally associated with utility consumption can now be applied to IT to both the hardware and, perhaps even more interestingly, to the business applications themselves. Cloud computing converts the traditional capital expenditure model (CapEx) common in data centers today to an operational expenditure (OpEx) model. Micro Focus Enterprise Cloud Services allows CIOs and CFOs to control costs through these hardware and software leasing environments. To business software ISVs, Cloud computing is a potential new distribution channel for their applications. Modernizing the digital intellectual property (IP) of the COBOL application to create Web 2.0 versions allows them to hook into the growing trend of subscription, transaction or even ad-based revenue models. Hardware alone is insufficient to support mission critical or traditional IT data center use of these new operating models. Micro Focus Enterprise Cloud Services provides the vital layer enabling organizations to leverage PaaS offerings in support of an evolutionary, low-risk transition to SaaS-based COBOL applications, providing the expected level of scalability, security and availability, and meeting service level agreements with the users of such core enterprise systems. [4]

With the Azure Services Platform, businesses are enabled to develop and deploy critical and non-critical applications with a higher performance/price ratio by running them on Microsoft's platform data centers on a pay–as-you-go basis. Whether you are building new applications, augmenting / cloud enabling existing systems, or connecting with trading partners, you can take advantage of the Azure Services Platform to do it quickly, inexpensively, and across the Web and a range of connected devices. For ISVs, they can take advantage of the Azure Services Platform to deliver software as a service without having to maintain data centers or build new capabilities on existing investments in on-premises applications, while leveraging the same Microsoft development tools and technologies they are familiar with. What makes cloud computing cloud computing is the fact that the physical resources used are operated to deliver abstracted IT resources "on-demand," at scale, and usually in a multi-tenant environment. It is how you use the technologies involved that matters most.

For the most part, cloud computing uses the same operating systems, management software, middleware, databases, server platforms, network cabling, storage arrays, and so on, that we have become familiar with in enterprise IT. Sure, Azure Services Platform, Google App Engine, Amazon EC2, and others, have different technologies and IP implemented, but in the end, it's not significantly different than what enterprise IT is familiar with. It's the scale and elasticity, and the pay–as-you-go model that makes the difference. The combination of on-demand, at scale, in a multi-tenant infrastructure is the reason why cloud computing is disruptive today, rather than just another technology fad. [5]

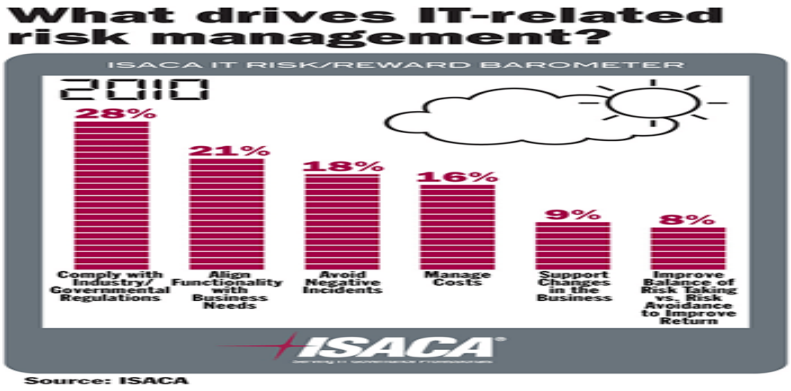
A cloud infrastructure can be a cost efficient model for delivering information services, reducing IT management complexity, promoting innovation, and increasing responsiveness through real-time workload balancing. The Cloud makes it possible to launch Web 2.0 applications quickly and to scale up applications as much as needed when needed. The platform supports traditional *Java* and *Linux, Apache, MySQL, PHP (LAMP)* stack-based applications as well as new architectures such as *MapReduce* and the Google File System, which provide a means to scale applications across thousands of servers instantly. Large amounts of computer resource, in the form of *Xen virtual machines,* can be provisioned and made available for new applications within minutes instead of days or weeks. Developers can gain access to these resources through a portal and put them to use immediately. Several products are available that provide virtual machine capabilities, including proprietary ones such as *VMware,* and open source alternatives, such as *XEN*. Many customers are interested in cloud infrastructures to serve as platforms for innovation, particularly in countries that want to foster the development of a highly skilled, high-tech work force. They want to provide startups and research organizations with an environment for idea exchange, and the ability to rapidly develop and deploy new product prototypes. In fact, *HiPODS* has been hosting IBM's innovation portal on a virtualized cloud infrastructure in our Silicon Valley Lab for nearly two years. We have over seventy active innovations at a time, with each innovation lasting on average six months. 50% of those innovations are Web 2.0 projects (search, collaboration, and social networking) and 27% turn into products or solutions. IBM's success with the innovation portal is documented in the August 20 *Business Week* cover story on global collaboration. Cloud computing can play a significant role in a variety of areas including internal pilots, innovations, virtual worlds, and e-business, social networks, and search. Here we summarize several basic but important usage scenarios that highlight the breadth and depth of impact that cloud computing can have on an organization. *Internal innovation,* Innovators request

resources online through a simple Web interface. They specify a desired start and end dates for their pilot. A cloud resource administrator approves or rejects the request. Upon approval, the cloud provisions the servers. The innovator has the resources available for use within a few minutes or an hour depending on what type of resource was requested. Virtual worlds require significant amounts of computing power, especially as those virtual spaces become large or as more and more users log in. Several commercial virtual worlds have as many as nine million registered users and hundreds and thousands of servers supporting these environments. A company that hosts a virtual world could have real time monitors showing the utilization level of the current infrastructure or the average response time of the clients in any given 'realm' of the virtual world. Realms are arbitrary areas within a virtual world that support a specific subset of people or subset of the world.

RISKS MANIFESTATION AND ASSURANCE VIEWPOINTS

The move towards cloud computing is inevitable, but that doesn't mean the related security challenges aren't avoidable. Around 45 percent of IT professionals recently surveyed by the ISACA (formerly known as the *Information Systems Audit and Control Association*) said the risks involved in cloud computing outshine any benefits. A global organization focused on the auditing and security of information systems, the ISACA conducted its first annual IT Risk/Reward Barometer survey in March, 2010. Questioning more than 1,800 IT professionals in the U.S. who are members of the group, the ISACA found that only 10 percent of them plan to use cloud computing for mission-critical IT services, 15 percent will use it only for low-risk services, and 26 percent don't expect to tap into the cloud at all. [6]

The cloud represents a major change in how computing resources are utilized, so it's not surprising that IT professionals have concerns about risk vs. reward [Robert Stroud]. "If cloud computing is treated as a major initiative involving many stakeholders, it has the potential to yield benefits that can equal or outweigh the risks." Beyond the specific topic of cloud computing, the survey also measured the general risk management policies of IT professionals. Only 22 percent of those questioned said their companies are very effective at incorporating IT risk management into their overall risk management strategy. Of the organizations that do pay attention to IT risk management, many do it more because of the pressure of regulatory compliance than because of any perceived benefits or improvements to the business.



(Credit: ISACA)

While compliance is critical, it is unfortunate that more enterprises do not see performance improvement as a primary reason for implementing effective risk management [Brian Barnier 2010]. IT also found that employees often engage in behavior that puts themselves or the business at risk. Among those surveyed, 50 percent said that people at their companies don't adequately protect their confidential documents, 33 percent said that employees don't understand IT policies, and 32 percent found that workers use unapproved software and online services. The ISACA compiled the results for its IT Risk/Reward Barometer from an online poll that received responses. Cloud computing is picking up grip with businesses, but before you fly into the cloud, you should know the unique security risks it entails. ***Cloud computing*** is fraught with security risks. Smart customers will ask tough questions and consider getting a security assessment from a neutral third party before committing to a cloud vendor. Cloud computing has "unique attributes that require risk assessment in areas such as data integrity, recovery, and privacy, and an

evaluation of legal issues in areas such as e-discovery, regulatory compliance, and auditing. Sensitive data processed outside the enterprise brings with it an inherent level of risk, because outsourced services bypass the "physical, logical and personnel controls" IT shops exert over in-house programs. Customers are ultimately responsible for the security and integrity of their own data, even when it is held by a service provider. Traditional service providers are subjected to external audits and security certifications. When you use the cloud, you probably won't know exactly where your data is hosted. In fact, you might not even know what country it will be stored in. Ask providers if they will commit to storing and processing data in specific jurisdictions, and whether they will make a contractual commitment to obey local privacy requirements on behalf of their customers. The identified most serious risks with the highest impact were: Loss of governance, Compliance challenges, Risk of change of jurisdiction, Isolation failure, Cloud provider malicious insider, Insecure or defective deletion of data and Network management.

According to a panel of cryptographers at the 2009 RSA Conference, cloud computing security issues are similar to those that come with any new technology. It is believed that cloud computing will get to that status where no program or major industrial design will ever be done anymore on the computers of the company that's doing it [Whitfield Diffie et. Al, 2010]. Security issues aside, industry observers note that companies are turning to cloud computing in growing numbers as they look for new ways to cut costs. Research firm Gartner Inc. estimates that by 2011, early technology adopters will purchase 40% of their IT infrastructure as a service, "untying applications from specific infrastructure." VMware Inc. released APIs to security vendors under its VMsafe program. The company also released the next version of its OS for cloud computing. Symantec Corp., McAfee Inc., Trend Micro Inc. and others are integrating security tools to address virtualization. One cryptographer warned that cloud computing could result in increased dangers [Adi Shamir, 2009]. He said cloud computing introduces a world in which large computations are conducted by a small number of huge data centers hosted by Microsoft, Amazon, Google Inc. and others. He stated that we are facing real danger that hackers will be able to take one of those data centers out of commission, and then we would have a catastrophic effect. Still, Bruce Schneier, chief security technology officer of BT Counterpane, said he doesn't see many fundamental differences with cloud computing and the current risks inherent in software. Still have to trust our vendors," Schneier said. [7]

Penn State researchers have developed software that allows databases to "talk to each other" automatically without compromising the security of the data and metadata because the queries, data communicated and other information are encrypted. The Privacy-preserving Access Control Toolkit (PACT) acts like a filter but is resilient to eavesdropping or other attacks because of the encryption. "The software automatically regulates access to data, so some information can be exchanged while other data remains confidential and private. [Prasenjit Mitra 2010]. Often when we implement security, we decide not to give access to data. This tool preserves security while allowing permitted access. Organizations like government agencies, non-profits and corporations frequently need to access data belonging to other organizations. But sharing data is difficult because databases are typically constructed using different terms or vocabularies. Consequently, in order to share data, organizations have to develop special-purpose applications. But organizations also need to protect sources, intellectual property and competitive advantages, so the applications must address security. In addition to being time consuming to develop, such applications are expensive as they have limited use. Unlike those special-purpose applications, PACT is more generic. That means it can be applied to a wide range of scenarios. It addresses security concerns through encryption and access control. [8]

CLOUD COMPUTING: A CRITICAL ANALYSIS

In Ethiopia and India, U.S. companies begin exploring cloud computing. Recently Ethiopia is rolling out 250,000 laptops to school teachers all over the country, all running on Microsoft's platform called *Azure*. The internet infrastructure in Ethiopia is just not robust, widespread or reliable enough for teachers to just connect up their shiny new laptops to some data centre in the US. For example, The Ethiopian telecom sector has monopoly on the telecom market in the country with a poor bandwidth. This study interviewed a couple of technocrats and end users who are using the internet and it was surprising that even Addis Ababa, capital of Ethiopia disconnected for 10 days from the rest of the world due to critical internet failure. The Internet condition is far better in India but still in rural areas the situation of India is similar to the urban status of Ethiopia. The same situation exists in the power supply systems. It's very difficult to predict about cloud computing for Ethiopia like countries then villages and towns are far less well connected than Addis

Ababa. There are obviously other options to delivering internet access through copper or fiber networks, such as through VSAT or the mobile phone network. But again to get these installed, or made reliable for the proposed project, would be a massive (and costly) undertaking in its own right. Secondly, there's a critical problem of training and support that would be need to be given to cloud users. The support infrastructure would need to be huge, who is going to fix the machines when they (almost inevitably) get a virus, or overheat after being choked with dust. On the basis of multilateral investigation in both the countries it is observed that developing country like Ethiopia and India has yet not achieved the complete state of computerization/automation then how can we think about the cloud computing and its successful sustainability. It's not that developing/under developed countries should be kept away from technological revolution but just very wary that it's yet another white elephant project which sounds good and gets them in the headlines. The money could be far better spent working with ETC (Ethiopia's sole telecoms company) to improve the general internet infrastructure, and training people to work better with the technology already available to them. Only then might Ethiopia be able to take advantage of the possibilities afforded by cloud computing. The India's situation is different where world's leading IT companies has already established their offices only cloud establishment is undergone. The internet ISPs are also better than Ethiopia and a competitive stage has established. A new project in Ethiopia is promising that teachers across Ethiopia are getting laptops to improve education around the country. The laptop software is managed remotely by Boston Company FullArmor through Azure, Microsoft's cloud-computing network. The laptops will allow teachers to download curriculum, keep track of academic records and securely transfer student data throughout the education system, without having to build a support system of hardware and software to connect them. "There's no way we could have built up a new data center" in Ethiopia, Kim said, given the local technology environment. Rolling blackouts and slow response times in the Internet backbone would have made it difficult to develop a data network from the ground up. A data center the central element of cloud computing would have taken months to build and required downtime to expand as each new batch of teachers joined the network. What's happening in Ethiopia captures the possibilities of the cloud, "the agility, decreasing time to market, keeping it out of your own data center and allowing you to reach a broad audience regardless of where they are in the world." This looks like an experiment. The research interviewed technocrats and network managers and found an amazing situation that most of the big organizations are having only 1mbps bandwidth. Almost 80 percent organizations are still facing the problem of digital devoid. If cloud computing is adopted and unfortunately if failed then a new multifold digital devoid will retard the speed of computerization in business and governance processes in the country like Ethiopia and India where situations are comparable in rural vs. urban.

Microsoft promises that cloud computing have the potential to drastically reduce time and cost of developing applications accessible to massive numbers of users in developing countries. Many compare it to the rise of the electrical utility. Before utilities came to dominate the generation and distribution of electricity, businesses had to generate their own power, much the way companies now build their own networks by building data centers. The establishment of electrical-utility companies freed businesses from generating their own electricity. By building massive data centers in towns such as Quincy, Grant County, Microsoft hopes to provide computing as a utility for businesses. And just as the rise of electrical utilities set off an explosion of assembly-line manufacturing, the cloud could seed a new wave of computing at a scale and speed that would be impossible now. The question is whether corporations will trust their core applications to Microsoft or Google, Salesforce.com, Amazon.com and other data-center providers. For instance, would a bank feel secure having its entire repository of financial data hosted on a third party's equipment? A Seattle data center caught fire over the Fourth of July and shut down the businesses of several Internet companies, including a Microsoft search engine, Bing Travel. While Microsoft did not run that data center, the incident highlighted physical risks in an online world. Then questions arise that how developing countries will feel that they have given their security and integrity of information base in the hands of outsiders.

Education in Ethiopia has undergone dramatic changes over the past 20 years. Decades of civil unrest eroded the school system, and when the current government came to power in the early 1990s, primary-school enrollment was about 30 percent of school-age children. It has risen to more than 80 percent, according to some estimates. "They're really focused on broad access, but the quality is still very lacking," said David Makonnen, executive director of the International Leadership Institute Academy of Ethiopia, Seattle nonprofit raising money to build an academy there. Students don't have enough textbooks, the student-teacher ratio is high, and teachers are poorly paid, he said. A system of keeping track of academic

performance, for instance, would allow his academy to spot talented students throughout the country. FullArmor's Kim estimates building a network for thousands of teachers would have cost hundreds of dollars per teacher, compared with a few dollars per month via the cloud. Through the cloud, FullArmor can push software updates, clean out viruses and send curriculum software to each laptop. To deter theft, the teacher's laptops are tracked by location, and if they leave an area the laptop's hard drive can be wiped clean remotely. Makonnen said that although technology alone cannot improve the quality of education, the laptop program has potential. "Any effort that includes education through technology capability is something we would support if it improves access and improves technology capability of teachers who today are constrained by resources. The beginning of its widespread adoption, cloud computing has become a boon to IT and world of data centre environments by stemming sprawl and reducing costs. Nevertheless, despite its many benefits, cloud computing has a darker side that has been identified by many researchers. Cloud computing is inherently more insecure than standard server deployments, the research firm do claim that security concerns arising from virtualized server deployments are seldom adequately addressed. Over half (60%) of cloud servers deployments will fall short of their physical counterparts' security level through 2012. In light of the increasing adoption of cloud computing this number indicates a dreadful lapse in security across almost the entire IT and data centre board. Nevertheless, these security shortfalls should not be the death knell for cloud computing. Cloud computing is not inherently insecure [Gartner et. Al 2010]. Most virtualized workloads are being deployed insecurely. Thus security is serious concerns for most cloud server deployments. Improving security to the level of standard physical deployments should be possible. On the bright side, these less secure virtualized deployments will fall to 30% by 2015. [Gartner et al]. The primary problem identified is the lack of involvement of the information security team during cloud deployments. New IT technologies almost invariably carry with them new avenues of attack for hackers and other malicious agents, so a failure to involve information security professionals when deploying such technologies is a practical invitation to trouble. Although many aspects of a cloud server deployment are the same as those of a standard deployment, the virtualized alternative adds a new software layer; security for this layer must be considered and integrated with that of the balance of the system.

Other potential security concerns, including the need to pay careful attention to the cloud computing layer, since a security breach at this layer can leave all hosted workloads vulnerable. Another concern is that separation between workloads having different trust levels may not be sufficient, which could leave sensitive workloads open to attack. Similarly, consolidation of processes in fewer machines (or a single machine) can potentially increase the chance that users and system administrators can, either accidentally or through malicious attack, access data that should have been unavailable to them. Among other security concerns; the need to scrupulously restrict administrative access to the cloud computing layer, since this layer is critical to the operation of the entire system. Server virtualization has numerous advantageous characteristics. With the budget problems that many companies in developing and under developed countries faced as a result of the recent economic downturn, the benefits of these characteristics have become even more desirable. Companies and IT departments of these countries looking to exploit cloud computing, however, must be aware of the associated security risks. Currently, over half of all virtualized server deployments are more vulnerable than their physical counterparts; nevertheless, through involvement of information security personnel in the deployment and through careful examination of certain potential security lapses, virtualized deployments can be performed such that companies can reap their benefits and still maintain adequate security.

CONCLUSION

Innovation is necessary to ride the inevitable tide of change. A cloud computing platform dynamically provisions, configures, reconfigures, and deprovisions servers as needed. Cloud applications are applications that are extended to be accessible through the Internet. These cloud applications use large data centers and powerful servers that host Web applications and Web services. Cloud computing infrastructure accelerates and fosters the adoption of innovations. Companies are increasingly making innovation their highest priority. They realize they need to seek new ideas and unlock new sources of value. Driven by the pressure to cut costs and grow simultaneously they realize that it's not possible to succeed simply by doing the same things better. They know they have to do new things that produce better results with cloud computing innovations. It alleviates the need of innovators to find resources to develop, test, and make their innovations available to the user community. Innovators are free to focus on the innovation rather

than the logistics of finding and managing resources that enable the innovation. Cloud computing helps leverage innovation as early as possible to deliver business value to cloud computing and its customers. Fostering innovation requires unprecedented flexibility and responsiveness. The organization should provide an ecosystem where innovators are not hindered by excessive processes, rules, and resource constraints. In this context, a cloud computing service is a necessity. It comprises an automated framework that can deliver standardized services quickly and cheaply. Cloud computing also increases profitability by improving resource utilization. Pooling resources into large clouds drives down costs and increases utilization by delivering resources only for as long as those resources are needed. Cloud computing allows individuals, teams, and organizations to streamline procurement processes and eliminate the need to duplicate certain computer administrative skills related to setup, configuration, and support. This paper introduces the value of implementing cloud computing.

Research efforts discovered that how a business can use cloud computing to foster innovation and reduce IT costs and the risks with high level of assurances. This study gives a new sign towards future of cloud computing with all expected objectives and consequences. This paper is focused upon the critical analysis of cloud-computing in a developing country like Ethiopia and India that promises the higher return on investment (ROI) in increased requirements of lower total in cost of ownership (TCO) with increased efficiency, dynamic provisioning, scalability and the utility like pay-as-you-take services. Paper investigates and presents a new conceptual idea for the careful use of cloud computing technology for future generation of business especially in developing and under developed countries. The paper clearly indicates that developing and under developed countries is willing to adopt cloud computing technology for e-businesses, e-education and e-governance as many companies promise them to establish the cloud computing infrastructure free for them. But with great care and sustainable promised values, risk remedies and assurances cloud computing may be new paradigm for their developments. The paper also indicates that it will be just infancy for the developing and under-developed countries if they will not be serious to overcome the problem of digital devoid and this new shift will again throw them into a new problem of multifold digital devoid.

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THE EFFECT OF ONLINE BRAND IMAGE ON BRAND LOYALTY

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ABSTRACT

E-Commerce offers many ways for retailers to reach consumers and conduct business without the need of a storefront. The virtual environment provides consumers a shopping experience distinct from the physical-based market such as convenience, search cost, delivery, and price. Our study aims at examining the relationship between online brand image and brand loyalty in the Canadian market and the empirical results show a positive association between brand image and brand loyalty. A further investigation reveals that three items of brand image (I think this brand is unique to me compared with other online retailers' brand; The brand is attractive to me; I think the brand can grant me various kinds of benefits, e.g., security, purchase warranty, etc.) have statistical significance and are positively associated with brand loyalty.

Keywords*: brand image, brand loyalty, online retailing*

INTRODUCTION

Online retailing offers consumers a shopping experience distinct from physical-based retailing such as convenience, search cost, delivery, and price (Chen & He, 2003) Compared to a brick and mortar shop, online selling provdes the advantages of having an open store operating 24 hours a day and allows retailers to display their merchandise in any part of the world without additional expense (Nittana, 2008) With the increasing competition on the Web for the attention of prospective customers, it is necessary to establish a strong, distinct brand identity for your Web site and the products or services you offer, so that potential users or customers think of your organization first when they're searching for a particular product or service.

A corporate brand is more about the intangible and emotional values associated with a brand or company name and these values are the most sustainable source of competitive advantage (Rui & Sharifah, 2008)]. Corporate brand differs from product branding as it stresses the importance of brand values (Rui & Sharifah, 2008). A strong positive brand image will help a company achieve higher levels of performance (Rui & Sharifah, 2008).

Developing and maintaining brand loyalty has been a central thrust of marketing theory and practice in establishing sustainable competitive advantage (Huang, 2008). The advantages enjoyed by a brand with strong customer loyalty include ability to maintain premium pricing, reduced selling costs, a strong barrier to potential new entries into the product/service category, and synergistic advantages of brand extensions to related product/service categories (Reichheld & Schefter, 2000).

Customer loyalty has been discussed extensively in the marketing literature. However, there have only been limited empirical studies aimed at investigating the impacts of online brand image on brand loyalty in the Canadian market. Ourt study therefore focuses on exploring the effects of online brand image on brand loyalty.

The remainder of this article reviews literature of brand management and purchase intentions, followed by a discussion of methodology used in this study. The results drawn from the investigation are also presented. The final section gives a summary and discussion regarding the findings of the study.

LITERATURE REVIEW

Brand image is defined as perceptions about a brand as reflected by the brand associations held in consumer memory (Keller, 1993). Brand associations are the other informational nodes linked to the brand node in memory and contain the meaning of the brand for consumers (Keller, 1993). Loyalty is a behavioural response and loyal customers are more likely to repurchase the same service or brand, and provide positive word of mouth (Kwon & Lennon, 2009). Rui and Sharifah (2008) investigated the corporate brand image of a book retailer and found that corporate brand image in a bricks and mortar environment is more likely to relate to loyalty via consumer satisfaction. In addition, their research also discovered that corporate brand image has a direct positive relationship with consumer loyalty.
Kwon and Lennon (2009) examined the effect of the interplay between a multi-channel retailer's offline and online brand images on consumers' online perceived risk and loyalty. Their study showed that perceived risk has no significant effects on online brand loyalty after controlling for the effects of online and offline brand images. Hung (2008) explored the relationships among customer perceived public relations, brand image and loyalty. The empirical findings demonstrate that public relations perception positively affects brand image, which in turn has the impact on customer loyalty. Furthermore, the direct effect of brand image on consumer loyalty is stronger than that of public relations perception.

Based on the literature, our study argues that a direct, positive relationship between brand image and customer loyalty existed in the Canadian market and the hypothesis is:

H1: Brand image is positively associated with brand loyalty

METHODOLOGY

Research Sample

The researchers recruited several students (marketing majored) to randomly collect data on a public university in Western Canada. The survey is an anonymous survey. The target samples are undergraduate students. Students are recognized as important online shoppers and student samples are more homogeneous than a sample from the general population, thus are ideal for testing the relationships among variables. The student population represents a major market segment for the measurement of brand image and loyalty. Internet users were first identified by one screening question before the survey begins. The screening questions ask respondents whether they were using the online shopping. The target online retailer-CanadaRetail, is a famous online retailer in Canada and CanadaRetail was created to help Canadians find and organize Canadian retailers selling niche and mainstream products on the Internet and shipping them from Canada in Canadian dollars, in order to "Save" on additional shipping costs, high exchange rates, duty fees, and higher delivery costs, reducing returns and additional costs associated with dealing with foreign countries (www.canadaretail.ca). Only those students indicating they had purchased online through this identified retailer were selected to participate in the survey. The valid samples consisted of 47 students, 61.7% of them are male students and 38.3% of them are female students. The mean age is 22.98.

Measures

Our study adopted Kwon and Lennon's (2009) attitudinal measure to assess online loyalty and four loyalty behavioral intention dimensions used in this study: browsing, purchase, price premium, and recommendation. Four items were used to measure online brand loyalty. Regarding the measurement of brand image, our research adopted Keller's (1993) measures and six items were used in measuring brand image. The measurement scale of brand image is 5-point scale ranging from strongly disagree (=1) to strongly agree (=5) and the scale for brand loyalty is 5-point scale ranging from unlikely (=1) to likely (=5). Table 1 lists the different items used to measure brand image and loyalty.

Table 1 Measures of Brand Image and Loyalty

Brand Image
Overall, I think the brand is good
The brand is prestigious
I think this brand is unique to me compared with other online retailers' brand
The brand is attractive to me

I think the brand can grant me various kinds of benefits, e.g., security, purchase warranty, etc.
Overall, I think the brand is valuable
Online Brand Loyalty
Intention of Purchasing items from the web site
Intention of recommending the web site to friends or family
Continue to purchase from the web site even its prices increase somewhat
Intention of returning to the web site and browsing it to shop items from the web site

RESULTS

A confirmatory factor analysis was performed with the pooled dataset to test the construct validity of the scale items. A factor loading of an absolute value higher than 0.6 is considered to be important (Hair et al., 2010). Cronbach's coefficient alpha is employed to estimate the internal consistency of the multi-item scales used in this study. It is the most widely-used measure of scale reliability. Those coefficient alphas exceeding a 0.7 benchmark demonstrate reliable internal consistency (Hair et al., 2010). The reliability tests of brand image and brand loyalty indicate they were internally consistent. The results are also shown in Table 2.

Table 2 Reliability Test of Brand Image and Brand Loyalty

Factors	Factor Loading	Cronbach's Alpha
Brand Image		0.759
1. Overall, I think the brand is good	0.714	
2. The brand is prestigious	0.693	
3. I think this brand is unique to me compared with other online retailers' brand	0.775	
4. The brand is attractive to me	0.726	
5. I think the brand can grant me various kinds of benefits, e.g., security, purchase warranty, etc.	0.781	
6. Overall, I think the brand is valuable	0.759	
Brand Loyalty		0.898
1. Intention of Purchasing items from the web site	0.914	
2. Intention of recommending the web site to friends or family	0.864	
3. Continue to purchase from the web site even its prices increase somewhat	0.779	
4. Intention of returning to the web site and browsing it to shop items from the web site	0.861	

To examine the relationship between brand image and brand loyalty, linear regression method was employed. The items within each of brand image and brand loyalty were averaged and then the overall brand image regressed on the overall brand loyalty. The results (presented in Table 3) indicated that 47.6% of the variance was explained by brand image and the test is significant, showing that brand image has a positive relationship with brand loyalty. More specifically, when the six items regressed on the overall brand loyalty, the results indicated that 44.1% of the variance was explained by the six items and only three items (I think this brand is unique to me compared with other online retailers' brand; The brand is attractive to me; I think the brand can grant me various kinds of benefits, e.g., security, purchase warranty, etc.) have statistical significance (presented in Table 3). The three significant items are positively associated with brand loyalty. Therefore, our research hypothesis is supported, meaning that the positive association between brand image and brand loyalty in the Canadian market. The test results are consistent with the previous research.

Table 3 Regression Analysis of Overall Brand Loyalty

Model	Standardized Coefficients	t-Value	F for the equation	R^2
1.				
Overall Brand Image	0.576	2.724*	7.422*	0.476
2.			6.607*	0.441
Overall, I think the brand is good	0.08	0.789		
The brand is prestigious	0.03	0.930		
I think this brand is unique to me compared with other online retailers' brand	0.173	2.052*		
The brand is attractive to me	0.264	2.378*		
I think the brand can grant me various kinds of benefits, e.g., security, purchase warranty, etc.	0.188	2.178*		
Overall, I think the brand is valuable	0.078	0.462		

** $p < 0.05$*.

CONCLUSIONS

The test results show there is a positive association between brand image and brand loyalty in the Canadian market. A further investigation reveals that three items of brand image have statistical significance and are positively related to brand loyalty. To maintain customers' loyalty, we suggest Canadaretail.ca enhance online shopping security (protect customers from cyberspace crook), ask consumers conditional expectations about associations, and keep the uniqueness (sells more than 90 categories of products and services, like clothing, travel, home and garden, Canada cottage listings, computers, gifts, books, electronics, etc.).

This study contributes to understanding the online brand management in Canada. However, three major research limitations are identified in this study. First, our study uses the samples from one public Canadian university only. The results might not be able to be generalized to other universities in Canada. Secondly, due to the limitation of time and budget, there are only 47 valid samples. Those samples are relatively small and will affect the validity of the results. Thirdly, male students participated more actively in the study and were slightly over-represented in the sample. To add values to the online retailing research, a cross-cultural survey, e.g., a comparison between Eastern (China) and Western cultures (Canada), is suggested for future research.

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A METHOD FOR DETERMINATION OF THE DYNAMIC STATUS OF COMPETITION ON THE RUSSIAN ALCOHOL MARKET

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ABSTRACT

Determination of competitive advantages on local markets is extremely important for a business, especially in developing countries, such as Russia. Identification of competitive advantage level becomes a major issue due to the aggressive competition which might slow businesses' growth. Achieving competitive advantage is one of the main determinants that affect strategic decisions such as entering a new market or developing market expansion. This paper explains the different points of view (classical, neoclassical, male and female theories) on this problem and provides the justification of the relational theory.

The objectives of this paper are to prove two tenets that come from feminist theory:

1) State of competition is not determined by the number of competitors in a market, but rather the ability of their firm's products to meet consumer needs. Even a single seller in the market will behaves in accordance with the law of free competition, if he is fully focused on consumers' needs.

2) Traditional methods of assessing the state of competition, such as the concentration indexes and their derivatives, are based on the assumption that the number of competitors currently in the market is an indication of actual competitiveness, and may not accurately provide an assessment of the actual state of competition.

Two research methods have been adopted in this paper: a quantitative (using the regression model) and qualitative approaches (conducting semi-structured interviews). Some possible factors have been identified which justify that the main determination of the competition is the ratio of competitors to the needs of consumers, rather than their total number in the market that may be a good indicator of determining the state of competition.

Several management implications have been discussed. The limitation and the direction of the further studies are also presented.

LITERATURE REVIEW

Problems that are arising from the implementation of market activity always have a lack of information, methods weaknesses and model's mistakes that leads to mistakes in the selection of analysis methods and techniques of management.

The competition is the driving force and the main tool for efficient resources allocation by sector. The phenomenon of competition can be explained by the different ways that used, depending on the approach: behavioral, structural and functional.

The first approach defines the competition as the only competition for the market. It is based on everyday understanding of competition for the best results in any field. The ideas of the behavioral approach of competition were developed by representatives of the neoclassical school: A. Marshall, G. Moore, William Jevons, P. Heine. (5) They described the competition as a fight for limited economic resources, and especially for the consumer's money. Behavioral interpretation of the competition was perfectly viewed by M. Porter, who understood it as the behavior of rival firms in the two aspects of a profitable distribution of resources: cost reduction and differentiation properties of the product. It is inevitable influence of the external environment is assessed as a factor in determining the state of competition. (3)

The second approach is based on the morphology of the modern theory of the market. It allows us to develop criteria and approaches to assessing the state of competition, to ensure government intervention in the course of development of competition in the markets. Structural approach and the assessment to competition predominate over the Behavioral. This competition has been seen as a market condition in which the number of firms selling a homogeneous product should be as large as the share of the firm's market; no one firm can not affect the price of goods by changing the volume of their sales.(1) In this approach, it is believed that the state of competition characterizes the degree of dependence of the overall market conditions on the behavior of individual participants. The classification of markets structural approach laid the different criteria. The most common include the number of market participants, the number of vendors, the nature of the product, the share of firms in the market, etc.

Structural approach to the explanation of competition can be traced in the works of C. Menard, J. Robinson, E. Chamberlin and other leading scientists. They laid the foundation and developed concepts of modern Western theory of four basic types of markets: perfect competition, monopolistic competition, oligopoly and monopoly. Such a sequence of markets types is related to the degree of decrease of competitiveness, the nature of the change of state competition. In perfect competition and monopoly are mutually exclusive opposites, yet possessing a dialectical unity. This approach focuses on the analysis of market structure on the composition of participants and their shares. (2)

GOAL OF THE PAPER

However, the goal of this paper is to prove two tenets that have come from feminist theory:

1) State of competition is not determined by the number of competitors in a market, but rather the ability of their firm’s products to meet consumer needs. Even a single seller in the market will behaves in accordance with the law of free competition, if he is fully focused on consumers’ needs.

2) Traditional methods of assessing the state of competition, such as the concentration indexes and their derivatives, are based on the assumption that the number of competitors currently in the market is an indication of actual competitiveness, and may not accurately provide an assessment of the actual state of competition.

In this article I want to show this approach as an improving of the methodology for assessing the state of competition based on the example of the Russian alcohol market.

Research carried out by the rule "OMMT" (outlook - methodology - method - the technique): the development of theoretical knowledge: the theory of free competition -> a cumulative approach in dealing with competition -> operator method “Laplace transforms” -> the method of estimating the dynamic states of the competition. Application of this rule in my mind can prove that the state of competition can be determined by the ratio of competitors to the needs of consumers, rather than their total number in the market.

TABLE 1. COMPETITIONS ON DIFFERENT AREAS

Competition on different areas	**Product - Vodka**		
		Market share	
Competitors	**Volume,000$**	**%**	**Accumulated share %**
Counterfeit Products	1665,00	35,37	35,37
Bushkiria republic	890,10	18,91	54,28
Moscow Region	675,10	14,34	68,62
Urals Region	657,70	13,97	82,59
Tatarstan republic	549,40	11,67	94,26
Republic of North Ossetia-Alania	159,80	3,39	97,66
Peterburg Region	67,74	1,44	99,09
Khabarovsk Region	37,15	0,79	99,88
Import	2,80	0,06	99,94
Far-East region	2,67	0,06	100
Sum	4707,46	100,00	

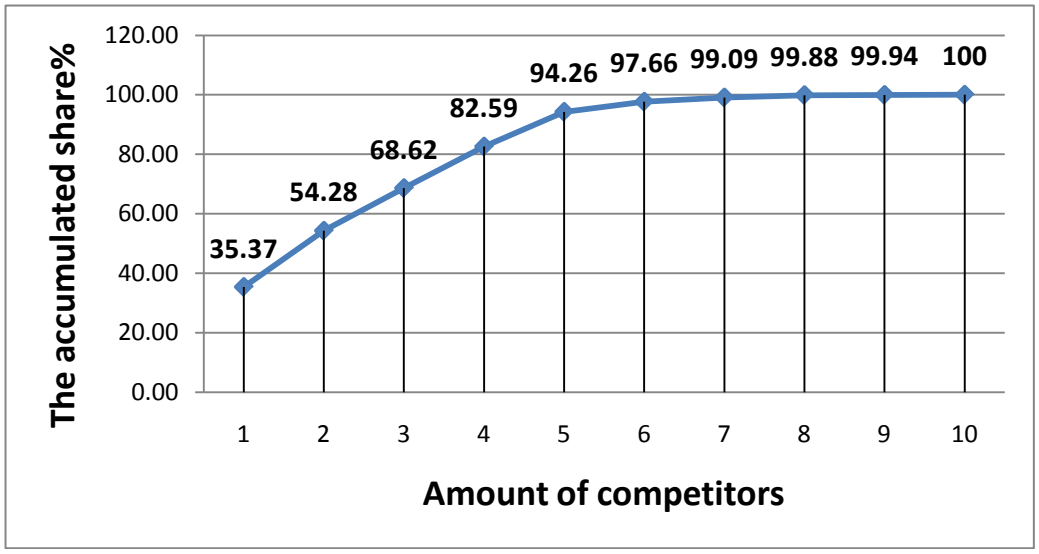

Figure 1. Number of competitors on Russian market

The graph on the figure 1 can be divided on two groups of competitors: a group of oligopolists (1-7) and freely competing parties (8-10).

The emergence of the eighth, ninth, tenth, etc. competitors has almost no effect on the state of competition in the market. The system parameters are not changed under the influence of competitors. Such a process is indisputable is consistent with the notion of a clean (free) competition.

Construction of the empirical cumulative depending on the majority of actually existing markets (book publishing markets, beer, juice, ice cream, sales of mobile phones, etc.) leads to the same result it intergroup differentiation, but with different speeds and with one or a number of competitors in its various phases.

We obtained an empirical relationship study to identify the mechanism that causes the differences in the rate of reaching the market of pure (free) competition.

In this way, the first stage of the study is to construct a model describing the dynamic properties inherent in the system under study the market. To carry out its proposed using the operator method for Laplace transforms, are widely used in operational terms, the dynamic challenges of modern control theory.

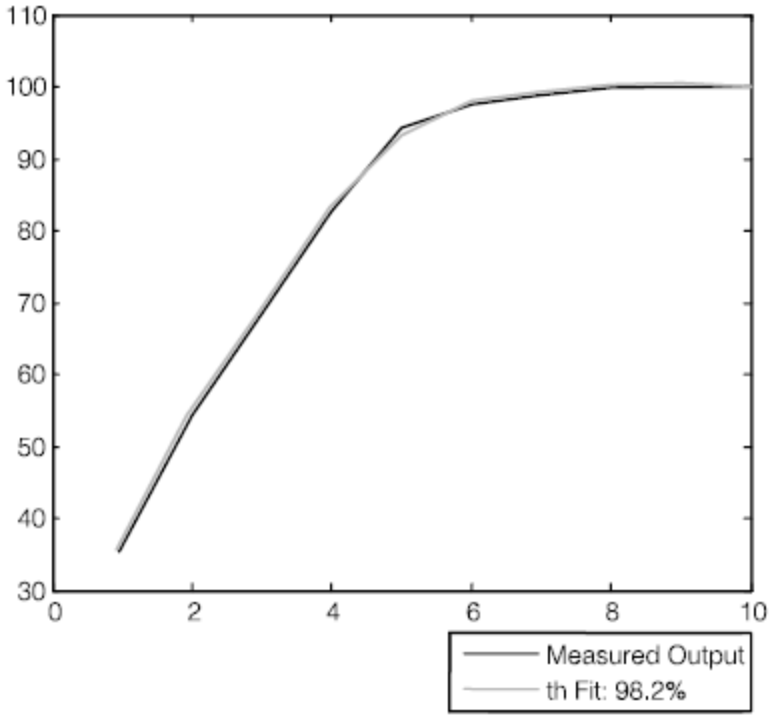

Figure 2.

Construction and identification of a dynamic model of the system is designed to determine its structure and parameters on the dynamics of actually observed data: Driving Force (the number of competitors) and output values (the values of the accumulated market share). Obtained parameters of the operator model reveal the mechanism of competition, and especially its specific characteristics of the market in the process of its formation.

The objectives of the consideration of a competition dynamic system are:

- Problem solving analysis system, while the values of system parameters are given, and its properties are required to determine;
- Identify tools to evaluate and predict the state of competition in different phases of the formation of the market;
- Establishment of conditions of competition in the market of producers.

Applying the application of mathematical program "MatLab identification section", I found that in the theta format (th) data of the empirical cumulative data adequate for most the following structural model of the considered dynamical systems: th = arx (z, [3 3 1]), where ar x - autoregressive model, differential equations, which at the outlet and inlet are third degree, as well as the unit interval emergence of competitors.

Autoregressive model takes the form:

A (q) y (t) = B (q) u (t) + e (t), where

A (q) = 1 - 0,9485 (± 0,3668) q ^ -1 + 0,5916 (± 0,5318) q ^ -2 - 0,2849 (± 0,384) q ^ -3
B (q) = 20,63 (± 6,455) q ^ -1 - 0,253 (± 0,5423) q ^ -2 - 21,14 (± 7,041) q ^ -3,
in the operator form:

$$Z = \frac{20{,}63\ z^{\wedge}2 - 0{,}253\ z - 21{,}14}{z^{\wedge}3 - 0{,}9485\ z^{\wedge}2 + 0{,}5916\ z - 0{,}2849}$$

Where Z = [B (q) u (t) + e (t)] / A (q) y (t), A, B - parameters of input and output;

y (t), u (t) - signals the entrance and exit;
e (t) - a discrete white noise;

q - differentiable function.

The next step is to assess the adequacy of the methodology derived operator model. It is implemented through the functions compare and Fit, implemented by MatLab: [yh, Fit] = compare (z, th); Fit = 98,1953.

Obviously, the graphical depiction of the received model, which characterizes the state of competition, with a high degree of accuracy (98.2%) reflects the nature of the dynamics of changes in competition.

Assurance on the adequacy of the constructed model I can begin to study the formation mechanism of competition in the market. The first step in this part of the methodology is the establishment of competitive forces - units managing competition, which form the mechanism by constructing transition model through the relation of values to the output to the values at the input.

To competitive forces include:

1) counteract existing competitors to each other;
2) impact on market processes of institutional bodies;
3) the ratio of buyers to the products supplied to the market;
4) the introduction of the goods or services - substitutes;
5) the influence of suppliers of components and the like;
6) the introduction of new competitors; (4)

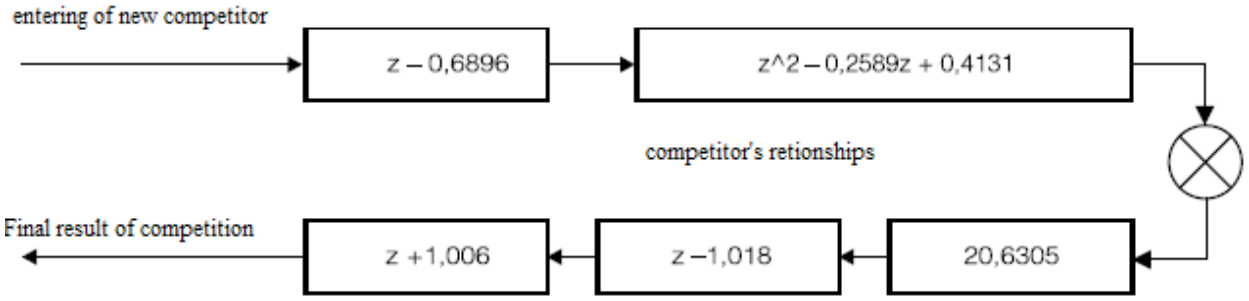

Figure 3.

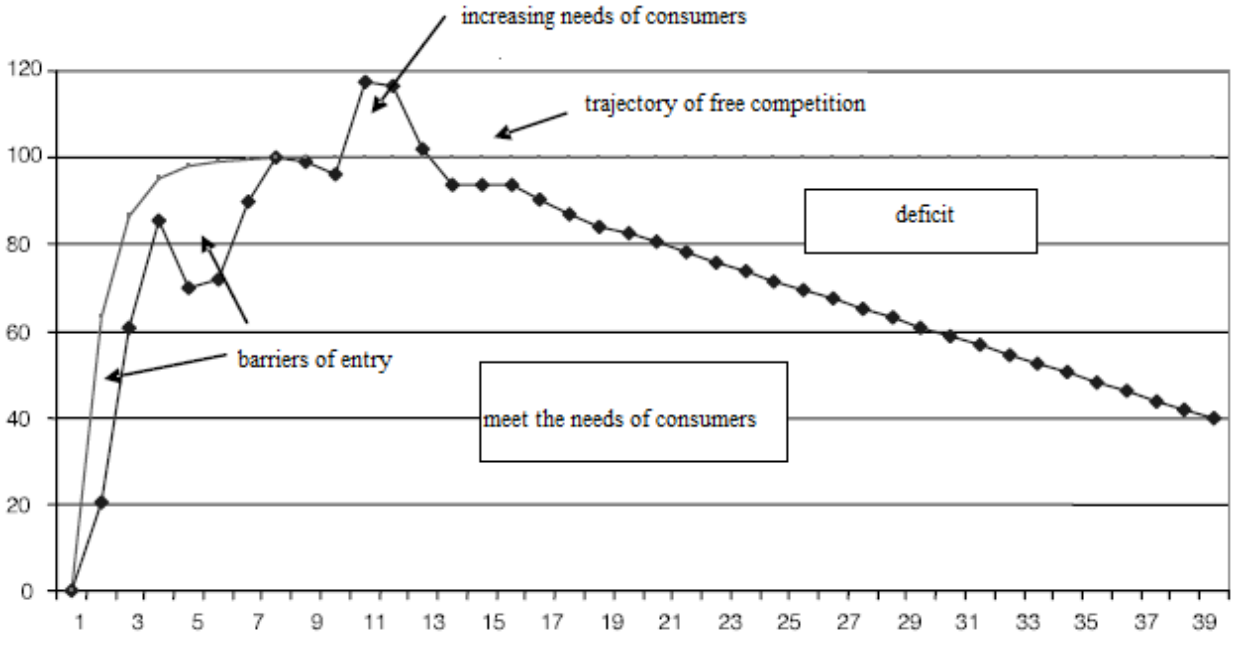

Figure 4.

The interpretation of the forecast mean that the deviation of the competitors amount shows the deterioration of the adaptive properties of price and market policy of the company, that leads to distortions of crises and the degradation of the market.
In oligopolistic markets respond to the needs of market users is narrower than the market of free competition. The needs of consumers are the only point in company's development, the main tendency of which leads to a shortage of products on the market. In the phase of formation of the market competitors face barriers to entry; employees are the other important characteristic of its structure. The constructed model allows the operator more accurately characterize and quantify the impact on competition barriers to entry.

In general, I evaluate the dynamic state of competition in the as a typical oligopolistic market. The main trend of the development is reducing the supply of products to the market. The different from the properties that characterize the state of the classical "standard" free market competition, the defining property of which is as follows: "the emergence of new competitors does not cause changes in the market."

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EXAMINING THE RELATIONSHIP OF NOSTALGIA, THE EXTENDED SELF, AND LIMINAL TRANSITIONS IN A MARKETING AND CONSUMER BEHAVIOUR CONTEXT

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ABSTRACT

Nostalgia has been a recurring theme used throughout marketing and has seen much success. It has been shown to influence consumers' purchases for a variety of goods and services and has been shown to be more effective on men over women. Due to the way in which nostalgia is thought of, it tends to conjure images of a past that was "greater" than the present. In reality, not everyone looks back at his or hers past fondly. This is little recognition of this idea throughout the literature written on the use of nostalgia in marketing. Much literature also notes that consumers make purchases based on the idea that those goods will become a part of them: their extended self. Noble and Walker, 1997, examined the idea behind the relationship of the extended self and liminal transitions. This paper seeks to find the role nostalgia may play within the relationship of the extended self and liminal transitions.

INTRODUCTION

The study of Consumer behaviour, at the most basic level, attempts to determine specific goods and services consumers are willing to purchase, how and when those goods and services will be consumed and, lastly, how those products will later be disposed of. Marketers have a keen interest in the area of consumer behaviour for obvious reasons. If marketers have a better understanding of consumer behaviour, they will have a better understanding on how, when, and who to market to. This area of study can assist marketers in determining preferences of their target markets, identify new trends in consumption behaviours, and when the behaviour is understood, marketers can capitalize on the research produced from academics and practitioners of consumer behaviour. There are many different areas of research that fall within the field of consumer behaviour, two of which being nostalgia and the idea of the extended self. Liminal transitions occur throughout one's lifetime and are likely to affect a person's consumption patterns. Throughout this paper an attempt is made to determine nostalgia's role in the areas of extended self and transitional periods.

NOSTALGIA

The term nostalgia itself was first acknowledged by Johannes Hofer in 1968 and he described it as a feeling someone who longed to return home would have. He used it to explain ill effects to the body and suggested that when the patient returned home, they would be cured. Today, in the context of consumer behaviour, nostalgia is not viewed as a psychological state, but as a longing to return to a past that is somehow thought of as "better" than the present (Goulding, 2001). Holbrook and Hirschman have defined nostalgia as:

> a preference (general liking, positive attitude or favourable effect) towards experiences associated with objects (people, places or things) that were more common (popular, fashionable or widely circulated) when one was younger (in early adulthood, in adolescences, in childhood or even before birth (as cited in Holbrook and Schindler, 2003b, p.108).

The use of nostalgia in marketing is not a new concept and it has been a recurring theme in popular culture and has influenced consumer preference (Muehling and Sprott, 2004; Havlena and Holak, 1991; Schindler and Holbrook, 2003a; Rindfleisch, Freeman, and Burroughs 2000). Muehling and Sprott (2004) tell us that

food and beverage ads are more likely to have a nostalgic message. The use of nostalgia in promotion strategies can also be found in several instances within the automobile industry. Volkswagen brought to market the new beetle that was essentially a replica of the original style. Dodge has recently released the Charger to give consumers yet another "blast from the past".

The study of nostalgia in a consumer behaviour and marketing context leans towards the belief that nostalgia only creates visions of a pleasant past and the feelings attached to our past would be happy and thus appealing. Marketing relies on the idea that a consumer's recollection of the past will create a positive response, and that people tend to filter out the negative thoughts (Sierra and McQuitty, 2007; Havlena and Holak, 1991). Lyon and Colquhoun note that we retrieve our memories of the past selectively and focus on the best that the past had to offer, while also noting that past experiences cannot be authentic. The idea that all nostalgic reflections are positive is shown to be untrue. Holbrook and Schindler note "there are negative as well as positive emotions in the experience of nostalgia" (2003, p.122). Other negative reactions during nostalgia based research were noted by Muehling and Sprott (2004) and the authors also note a marketers desire to focus on the positive side of nostalgia. Even though there is an acknowledgement of the negative side of nostalgia, this "dark side" has not been examined further and is often ignored. In Sierra and McQuitty's study on nostalgic purchases and social identity theory (2007), analysis was carried out on consumer's intent to purchase nostalgic products. Consumers were originally asked if they had ever made a nostalgic purchase and if the response was no, they were removed from the sample. This could have been an excellent opportunity to explore those people who had not yet made purchases based on a nostalgic intention.

THE EXTENDED SELF

In 1998 Russell Belk noted that in order to better understand the area of consumer behaviour there had to be some understanding of how consumers viewed their possessions. Belk took many areas of study, combined them in his work and concluded that to some degree, a person's possessions became part of their extended self. Throughout his work Belk discusses varying degrees of the extended self and notes that possessions often serve a role in the creation or maintenance of a person's connection to the past. There are many different ways in which a consumer could conceivably consider a possession as part of their extended self, however; for the purpose of this paper the focus will be on a person's connection to the past and the idea of self-concept. Mittal (2006) explains that when you choose a product, you do so because in your mind, it is the best choice to coincide with your own self-concept. Saren (2007) offers a critique to self-creations to consumption and notes that the self is constantly shifting and that consumers have multiple identities. The idea of the saturated consumer is brought forward to note that because consumer are constantly over inundated with choices for consumption, there cannot be an end feeling of satiety.

The extended self can also be the person's own body and their desire to change it through means of dieting, tattooing, and other self alterations (Belk, 1988). Noble and Walker note that a person may restructure their own identity through physical alterations when experiencing liminal transitions (1997).

There is a connection between nostalgia and the extended self in that many objects we view as the most important to us and are a symbolic part of us, are often those gifted to us by a loved one (Mittal, 2006). Belk noted that as we age our reliance on material possession decreases yet we seek reminders from our past experiences and accomplishments (1988). The idea that our nostalgic preference would increase at a later stage in life would seem logical, and that as we age we would be more inclined to long for the past.

LIMINAL TRANSITIONS

Major life altering events are faced by individuals at varying stages of their lives. Everything from marriage to divorce or widowhood, from securing your first job to retirement, and almost anything in between can be deemed to be life altering. The liminal period is the time that passes during the transition from one phase of your life to another, that in the past has often been referred to as a rite of passage (Noble and Walker, 1997; Schouten, 1991). The authors also note that shifting from single to married, or student to employer will inevitably alter one's role and their idea of self. During liminal transitions it is noted that symbolic possession can ease the transition. Belk (1992) notes that when moving locations people tend to take possession from their past in order to help us transition into the future (as cited in Noble and Walker, 1997).

The direct relationship between nostalgia and transitional periods is noted by Nikelly (2004), when he states that nostalgia is longing for the past and it is "basically associated with abrupt transitions in personal life that threaten social cohesion and stability" (p. 184). An abrupt transition in a person's everyday existence is likely to lead to a change in self-identity, but to what extent? Just as liminal events affect individuals in a variety of ways; nostalgia is not experienced by any two individuals in the same way (Havlena and Holak, 1991; Kessous and Roux, 2008). What has not been examined is whether liminal transition periods affect a person's feelings toward nostalgia.

METHODOLOGY – A CONSUMPTION BIOGRAPHY

Although there is only one consumption biography available for analysis, it will serve as the starting point for examining the relationship between nostalgia, the extended self and liminal transitions, and will point to areas of possible further study. The participant was Rosalind, a 24 year old female, who was at the time, perusing a Degree in Education. The participant was instructed to take photographs of those items that she felt were the most important to her. For the purpose of this investigation into consumer behaviour, the participant was not instructed as to what "type" of items to take photos of and she was given only one instruction: the items chosen must be considered possessions. Once the participant had provided photos of her possession, she was asked to briefly explain why those items were chosen.

Individual, Family, Community, Group are the four basic levels defined in most Consumer Behaviour textbooks and each item chosen by Rosalind could be sorted in the two categories of individual and family. Items selected by the participant are listed below, along with a brief explanation as provided by Rosalind.

Item Selected	**Reason for choice**
Boterhamkorrels (chocolate candy sprinkles	Reminds her of her childhood, having breakfast with her mother and their Dutch heritage
Her jacket	Makes her feel loved, beautiful and warm; both inside and out, as it was a gift from her partner
Carolans (Irish Cream Liqueur) and Hot Chocolate	Make her 'feel good on the inside'
Car (Volkswagen Golf) She has named the car Mildred	Livelihood as she uses it to get to work and school, she likes that she can do, say and think whatever she wants when she's on the road with 'Mildred'
Shelving unit	Reminds her that she is finally home, she displays many pictures of loved ones on that shelf
Vase	It belonged to her mother, describes the vase as beautiful and natural, which in turns reminds her of the natural beauty she saw in her mother
Snowboard gear	Allows her feel as though she is totally free and allows her an escape from the stresses of everyday life, she often heads to the mountain and boards alone. She finds it to be peaceful but it still allows her the opportunity to challenge herself.
Sweatpants, toques and hoodies	Allow her to be comfortable, relaxed and to just be herself

DISCUSSION

After reviewing some of Rosalind's favourite items that compose her consumption biography, it appears to have a pattern; a pattern that those 'things' she holds closest to her heart as those that help her to feel warm, secure, and loved, and those that remind her the times with her mother or other loved ones. The only two 'things' that do not fit this mould are her snowboard and car; both of which allow her a sense of freedom and independence.

In further discussion with Rosalind it was discovered that her mother had passed away suddenly when Rosalind was only 20 years old. Her attachment to goods and possessions that remind Rosalind of her mother evoke feelings of nostalgia as described in consumer behavior research. The death of one's mother would most definitely be considered a life-altering experience, particularly at such a young age, which would be considered a liminal transition.

Rosalind's desire to hang on to objects and products that link her to one of the worst times, yet best memories, shows the correlations between the ideas of extended self, nostalgia, and liminal transitions.

When looking at the extended self, as it would relate to Rosalind, it may also be categorized in the framework discussed by Noble and Walker (1997) where the authors examine the idea of the relationship between consumption and liminal transitions. The experience of losing one's mother would definitely be described as a life-altering event, thus creating a liminal transition. The idea that one may use certain possessions to help them identify who they are is one echoed by Belk (1998) when he discusses the extended self as it relates to knowing one's past and the desire to hold on to the feelings attached to the item.

We may think that to be constantly reminded of what has been the greatest loss in your life thus far, may push you away from these products, but this is not the case. Another area of study conducted by Noble and Walker (1997) is that a person may restructure their identity through physical alterations when going through a liminal transition. The authors go on to suggest such acts as dieting, tattooing, and cosmetic surgery as some of the ways people go about altering themselves when transitioning. This is a means of using the actual body as a part of the extended self (Belk, 1988). This theory does hold true in Rosalind's case, as she has tattooed her mother's name along with her mother's horoscope sign, on to her body.

LIMITATIONS AND IDEAS FOR FURTHER RESEARCH

There are some obvious limitations for this paper. The fact that there is only one consumption biography to examine and the limited time available in which to conduct research, however, this does provided a basis for continued research on a large sample. The second limitation that should be noted is that the literature reviewed for this paper was limited to availability within the Thompson Rivers University library system.

In our own personal experience and observations, we may notice that many people choose to commemorate significant moments in their lives by altering their appearance. Think of the friend, co-worker, or relative that after a nasty divorce cut off their long hair and dyed it from brown to blonde for example. There are, without a doubt, times in our lives that mark a significant milestone that we want to remember. Jokes are often made with regard to mid-life crisis purchases of items, by middle-aged men who hit a particular age, and suddenly feel the need to purchase a flashy new sports car. Perhaps this too is an example of consumption during a liminal transition. Perhaps that person just recently became a divorcee and no longer requires a minivan. Yes, this is a basic example, but could carmakers find this market and capitalize on it? The answer to this question would require in depth market research or perhaps a look through statistical sources to show which geographic areas tend to have the highest divorce rate matched with the highest per capita income. The question not answered during my research on these topics is how are marketers able to capitalize on these events, and will a consumer continue to purchase these products once they are through the liminal transition and onto the next role in their lives, or will these purchases be a one-time deal?

The study of nostalgia in a consumer behaviour context would have us believe that the feelings attached to our past would always be "happy" times that have a positive relationship (Sierra & McQuittty, 2007), yet the theory of liminal transitions mentions certain milestones such as widowhood, divorce and crippling injuries. The very thought of remembering such times, may prove to be too overwhelming for certain individuals and marketers should be aware of such cases. Muehling and Sprott (2004), point out the darker side of nostalgia and its relationship to marketing in their discussion of nostalgia and tell us "…it is often viewed as an idealized recollection of the past, manifested as a distinctive and often bittersweet association with a past to which we can never return" (p. 26). The idea of needing a certain possession, as it would relate to the extended self, to ease the transition from one point in your life to another is something many people do, they just may not realize it.

There has been a shift towards using nostalgia as a marketing tool and its use in popular culture (Sierra & McQuittty, 2007). Muehling and Sprott (2004) go on to tell us that food and beverage ads are more likely to have a nostalgic message. When thinking of nostalgic based marketing, we may be reminded of the ads used by Pepsi Cola. The ads featured a person who is reflecting on the past and while consuming a Diet Pepsi. The ad showed them living in their 'past', accompanied by the appropriate soundtrack. The Pepsi drinkers are asked if they want anything else from their past back, and are granted that request. Once they have received that particular haircut, pair of jeans, van, or other object, they then realize their past no longer fits into their present. It is a great laugh at the expense of those who long to relive their youth, and yet they are realistic enough to know that will never happen, no matter what products they purchase. I believe this to be an example of effective advertising using the theme of nostalgia.

If marketers choose to use the idea of nostalgia in campaigns used to sell their products and services, they must be aware that not everyone looks longingly toward their past. Many people never want to be

reminded of who or what they were previously. I believe this area of study requires more research directed to the negative side of nostalgia based marketing and how that could potentially hurt, rather than help sales. This may only be applicable to a limited number of consumers, but I feel marketers should be aware of who they are and how they could be marketed to in a more effective manner.

In the study of liminal transitions, is there potential for a new market based solely on life altering events? Will consumers continue to purchase those products once they have become settled into their new role, or will those purchases be a one-time deal? If it is a one-time purchase, where will marketers look for the new target market and will it be difficult to find because it is constantly changing? What entrepreneur would not want to find the perfect good or service that can take from who you were up until that moment, through a life-altering event, and lead you directly to who you want to become? The extended self is not only who we are, but moreover, who we seek to become.

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THE EVOLUTION OF CHINESE SUPERMARKETS: A CASE OF CHINA

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ABSTRACT

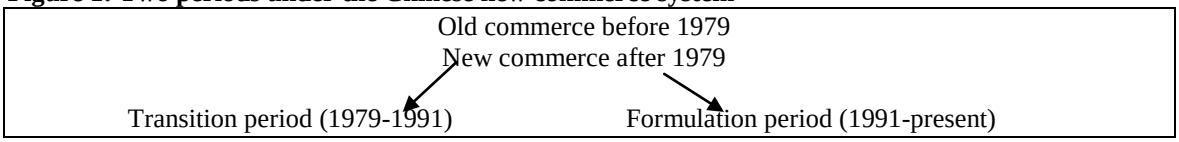
This article presents the possible characteristics of the supermarket development in China via the interviews with the managers and consultants in Shanghai as well as the documentation survey. The term "supermarket sector" or "supermarket" in this study includes standard supermarkets, hypermarkets, warehouse clubs, convenience stores and discount stores. Four periods of supermarket development in China have been identified. The limitation of the study and further research direction has also been provided.

***Keywords**: China, Chinese supermarket, Old commerce, New commerce, Retailing*

INTRODUCTION

This study has explored some possible patterns of Chinese supermarket evolution. A total of ten managers from six major supermarkets and five consultants from retailing management in China have been contacted. In addition, thirty three pieces of documents, e.g., company memorandums, reports, and company websites as well as trade journals have been surveyed and researched. It is important to emphasize that the anonymity required by informants makes direct attributing of quotes and contents of the company documents difficult. There are two significant systems of development for Chinese commerce: The old commerce system before 1979 and the new commerce systems after 1979 (Chen, 2004). Under the new system, i.e., after 1979, it can be divided into two sub-periods: the transformation and formulation periods. The first period was from 1979 to 1990, and the second one was from 1991 to the present. See Figure 1

Figure 1: Two periods under the Chinese new commerce system



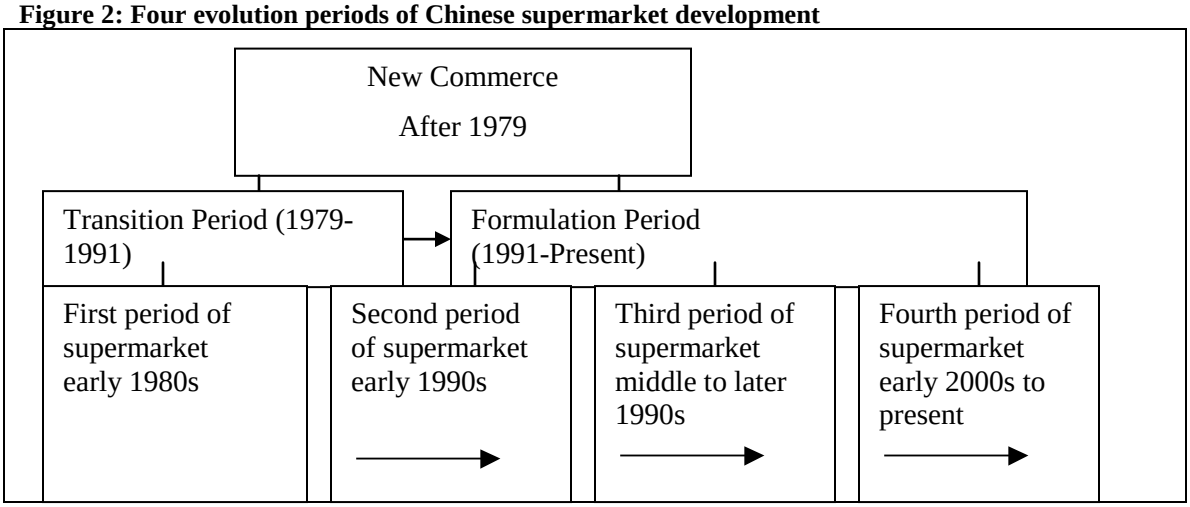
*Source: Adapted from Chen, 2004; Goldman, 2000, R1, R3, R4, R10 and C1, C2, C3.**
**R1 stands for Retailer1 interviewed; C1 stands for Consultant 1 interviewed and so forth.*

In the transition period (1979-1991), the main objective was to form new ownership, i.e., private and collective in the retail sector by removing the government monopoly status. In the formulation period (1991 and onward), further reform was continued by introducing a standardized and modernized retail format, i.e., the supermarket, to China's market, which established the foundation for the later developments of multiple retail formats in the Chinese retail industry.

FOUR PERIODS OF CHINESE SUPERMARKET EVOLUTION

According to the research (Goldman, 2000; Chen, 2004; Yiu, 2003), there are four main periods of supermarket evolution in China, which have been overarched by the period of Chinese new commerce shown in Figure 2.

Figure 2: Four evolution periods of Chinese supermarket development



Source: Adapted from Yu and Li, 1995; Hu and Xiao, 2003; Chen, 2004, R2, R5, R6, C4, C5

The first period of Chinese supermarket development

The first period started in the early 1980s and ended in the early 1990s. The supermarket was just a special form of self-selection store with some very basic staple goods. This period is called the embryonic stage. The opening of the first small Chinese food supermarket named the Guangzhou Friendship Supermarket, at Guangzhou on April 12, 1981, marked the beginning of implementing the new retail format in China's market (Hu and Xiao, 2003). Soon after the first supermarket, other supermarkets appeared in major cities, mainly along the east coast (C1, R2, R7).

By the mid-1980s, there were about 155 supermarkets in China (Yu and Li, 1995). Most of these supermarkets during this period were government subsidiaries, owned by the State rather than private or collective entities. For example, a significant number of Shanghai supermarkets during that period were affiliated with Shanghai First and Second Commercial Bureau, which was a very typical situation in the evolution of China's supermarkets. During that period, China's market was underdeveloped and the overall economic structure was obsolete.

The emerging retail format, i.e., supermarket, at that time called the self-select store, could not fit into the old system; therefore, the operation was inefficient and the businesses were operated poorly (Qiang and Harris, 1990; Yu and Li 1995). Since 1986, the majority of these supermarkets went out of business, except one in Beijing and one in Shanghai (Yu and Li 1995; Hu and Xiao, 2003).

These supermarkets were products of government intervention rather than the results of competition; thus, their failure was predictable. Yet, the failure of this supermarket model has provided a valuable experience for Chinese retailers and preparation for the next generation of supermarket development.

The second period of Chinese supermarket development

In the second period, China's retailing modernization of supermarkets was still in the early stage of the process. The second period of supermarket development began in the early 1990s and ended in the mid-1990s. In this period, a supermarket in the full sense of the word, and meeting international standards, began to appear. This period was called the growth period. The typical example of this period was the Lianhua Supermarket, established in 1991 (Yu and Li, 1995; Hu and Xiao, 2003; Chen, 2004; C2, C5, R6, R9). The emergence of the Lianhua Supermarket in Shanghai represented the real model of the

supermarket format in China's market, which opened a new chapter in China's commercial revolution (Chen, 2004).

Chain supermarkets were also formed during this period, but the size of the chain stores was very small. Each chain store company had less than 10 stores, but the development was evident. Some modern, full-service supermarkets have rapidly developed since the early 1990s.

Although the growth of China's supermarkets exponentially increased in the early 1990s, development of supermarkets 'cooled off' around 1993 (Yu and Li 1995). It was partly due to the haphazard opening of new stores and inappropriate locations with higher operating costs. However, the temporary slow pace provided the opportunity for the Chinese to rethink and relearn how to manage the new retail format in ways that could best fit Chinese consumers' needs in order to fulfill the future development.

The third period of Chinese supermarket development

In the third period, from the middle 1990s to the late 1990s, retailers started to adopt various formats in the supermarket sector. It was a growing period. In addition to the existing format, i.e., the standard supermarket, the new formats, such as hypermarkets, warehouse clubs, convenience stores and discounters entered China's retail market (C1, C2, R10).

Then international retailers made the major move into China's retail market. In 1996, both Carrefour and Metro opened their first store in Shanghai, which became one of the early movers in the supermarket/hypermarket sector of China. The growth of China's supermarket sector was much quicker than that of many countries (China Report Room, 2005).

Towards the end of 1999, there were around 1800 chain store companies with 26,000 units (Chen, 2004). Based on the survey conducted by the Shanghai Commercial Net, the increase of the store units was very strong over the four-year period from 1996 to 1999 as shown in Table 1.

Table 1: The development of China's chain stores, 1996-1999

Items/Years	1996	1997	1998	1999
Sales (billion yuan)	30	42	100	150
Increased by (%)	----	40	138	50
Firms	700	1000	1100	1800
Increased by (%)	----	43	10	64
Stores	10,000	15,000	21,000	26,000
Increased by (%)	----	50	40	24

Source: Adapted from Chen, 2004, p.22, R7, R8, R9

The fourth period of Chinese supermarket development

The fourth period started from 2000 to the present. Geping Guo, the director of the Chinese Chain Store Association, has stated that China's supermarket sector has entered the fourth period, as it has completed the transition from the single format to the multi-formats in the supermarket sector. Both major domestic and international retailers began new ventures by expanding their businesses to other provinces and cities, including some less developed inland provinces and cities. In 2003, there were 74,000 supermarket outlets nationally with total sales of around 460 billion yuan (China Report Room, 2005; R3, R6, R7, C5).

The data from the top 100 chains provides a snapshot for the overall growth of supermarkets as shown in Table 2.

Table 2: Sales and store units of the top 100 retail chains, 2001-2005

Year	Sales (billion yuan)	Increase (%)	Stores (units)	Increase (%)
2001	162	----	13,117	----

2002	246.5	52.2	16,986	29.5
2003	358	45.2	20,424	20.2
2004	496.8	38.8	30,416	48.9
2005	707.6	42.4	38,260	25.8

Source: Li & Fung Research Center: China Trading and Distribution, Issue 33, 2006, C1. C3, C5,R3, R8

Since the middle of the 1990s, China's supermarkets have grown and expanded rapidly. In 2005, the sales of the top 100 chains increased to 707.6 billion yuan, which was 42.4% higher than that of 2004. The development of this period continues to this day.

CONCLUSION

The study of the evolution in Chinese supermarket is very relevant in gaining a better understanding on the emergence of Chinese multiple retail formats. It is also very relevant to the research on building Chinese own label - a strategy to achieve a competitive advantage in the retailing market. Nevertheless, the relationship between Chinese supermarket evolution and Chinese own label strategy development has not been fully explained. The main deficiency of this study is that data sources were only limited to the small groups of retailers and consultants, and thus, the study may be incomplete or biased. The further study, i.e., a larger scope of the investigation, therefore, is encouraged.

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EXPLORING THE CONSUMER INTENTION TO USE MOBILE PHONE SERVICES IN RURAL INDIA

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ABSTRACT

As the mobile phone services in urban market has shown a phenomenal spurt in the growth of tele-density and on the verge of saturation, rural market has become a significant frontier for industry growth. The creation of Universal Service Obligation (USO) Fund and various policy initiatives have been taken by the Indian government to enhance the rural telecom growth and to reduce the widening gap between urban and rural tele-density. To accelerate the rural growth possible, mobile service providers are constantly facing certain challenges in confronting the rural market-understanding rural consumer and communicating with the heterogeneous rural audience. While mobile phone services usage in rural areas has not been explored as much in academic literature, the paper is an attempt to understand the relationship of consumer skills, service provider support and willingness of the rural consumer. Paired difference t-test was used to analyse the average difference between the current and desired use of technology and support of service provider. Based on a sample of 450 rural consumers, the mean differences were statistically significant at 0.05 per cent demonstrating, firstly, that number of rural mobile users who desired the future use of mobile services exceeded the users who currently used the mobile services and secondly, the rural consumer desired more service provider support to adopt the mobile services.

***Keywords**: Mobie Phone Services, Rural Consumers, Current and Desired Intentions.*

INTRODUCTION

Over the past few years, mobile phone adoption have generated a significant amount of hype and interest especially in India, where wireless industry is the fastest growing market in whole of the Asia-Pacific region. But, Indian telecom infrastructure in rural areas is increasing day by day but lagging behind the expected levels and consequently, the gap between the urban and rural tele-density has been increasing. The urban tele-density has surged over 101 per cent, while rural tele-density has gone up to only 18.97 percent (domain-b.com, December 2009). The two major reasons for this are 'the challenge is to deliver a mobile service to rural users that can not only be viable, but be profitable at these low levels of Average Revenue Per User (ARPU) and lack of appropriate policies (VNL, March 2009) and strategies to provide universal access[1]. Experiment such as Hindustan Lever's project Shakti, ITC's e-chaupal and n-Longue's etc., are an attempt to wiring up rural india. The efficient policy development is required at the government and corporate level, but at the same time, the actual conditions at the ground level for the effective penetration of mobile market in rural areas cannot be neglected.

REVIEW OF LITERATURE

Frempond (2009) the paper examined the contributions of mobile telephones to the development of micro and small enterprises in less urban and rural areas of Ghana. Invariably the technology improved the efficiency of these operatives and boosting their competitiveness. The majority of the respondents were positive about the impact of mobile telephones on their businesses in terms of ease of contact with customer and suppliers, reduced cost of transportation and profitability.

Dunn (2009) the paper examined how the prevailing widespread and popular access to mobile phones among Jamaica's poor might be used to support the public policy goal of transitioning these users from mainly voice to more advanced applications, including m-government, personal educational growth and teleworking, via increased connectivity to mobile internet and other forms of broadband access. The study showed the positive disposition among Jamaicans of all social classes for the use of higher levels of work related communications technologies, once these are priced in a manner that make them accessible. Mobiles are potential bridges for low-income users from their present voice-dominated usage to higher end applications such as further education, better access to public services and other more intensive work-related uses.

Kesti and Ristola (2003) Kesti, and Ristola (2003) investigated consumer intentions to use different mobile services. To this end mobile services had been tested in a real, interactive situation by voluntary test users. This paper also considered the needs people see themselves having in the mobile commerce context in the future. The field trial's focus was on testing mobile services and technology in an actual end user environment. The main findings of the study indicated that the perceptions users got from testing mobile services affect their intention to use those kinds or similar services in the future. The results also indicated that there are significant differences when examining two kinds of groups; low interest users and high interest users. The test users regarded the guidance services as the most important, followed by mobile ads and communication services. Furthermore, there were statistically significant differences in means between different types of users and their evaluation of the three services groups.

OBJECTIVES OF THE STUDY

The paper attempts to study the present and expected adoption of mobile phone services by the rural people. Since the behavioural pattern of rural consumers is starkly different from region to region (Pareek 1999, p.58), they require more attention and efforts so that they can adopt the technology constantly without any complexity. So, the study also explores the service provider's efforts to get rural people aware about the technology and their future expectation from the mobile service provider. The following hypotheses are developed to analyse the objectives of the study:

METHODOLOGY

The study is based on primary data collected from the 450 adopters of mobile phones in the rural areas of Punjab state with the help of well drafted, pre-tested, and structured questionnaire in Punjabi (regional language) and English. Gupta (1979) emphasizes that specific area study has advantage of overcoming the regional differences in natural and geographical endowment. The respondents being the adopters of

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[1] www.itu.int/ITU-D/univ_access/telecentres/papers/NTCA_johan.html

mobile phone services are selected by following the non-probabilistic and convenience sampling techniques. It will be necessary here to mention two things; firstly, in convenience sampling, respondents who were seen using/have possession of mobile phones are selected because they happen to be in the right place at right time and secondly, convenience sampling is not recommended for descriptive or casual research, but it can be used in exploratory research for generating ideas (Malhotra, 2005). Since there is a gap in the literature to know the rural people usage pattern of mobile phone services and their desirability and also the service provider present and desired support to get them aware about the services, 11 prevalent services were selected. The calling service was again bifurcated into two parts as work related calls and social call and mobile banking service had been dropped as there was hardly any person in the villages having adopted mobile banking service, resulting into 10 mobile phone services as a base of the study.

DATA ANALYSIS

Previous studies on mobile phone services as well as theories of consumer behaviour have shown demographics to be a factor influencing the adoption of technology-based product and services (Agarwal and Prasad, 1999). The demographic characteristics of the respondents depict that male members have the majority (73.3 percent) in using the mobile phones over the female members (26.7 per cent). 40 percent of

Table No. 1: Demographics Characteristics of Sampled Respondents

Gender			Age			Occupation			Education			Income		
Number		Percentage	Number		Percentage	Number		Percentage	Number		Percentage	Number		Percentage
Male	330	73.3	<20 Years	59	13.1	Farmers	139	30.9	Below Matric	84	18.7	< Rs. 10,000	165	36.7
Female	120	26.7	20-30 Years	180	40.0	Micro Entrepreneurs	112	24.9	Matric	88	19.6	10,000 – 20,000	143	31.8
			30-40 Years	117	26.0	Employed	82	18.2	Higher Secondary	95	21.1	20,000 – 30,000	92	20.4
			40-50 Years	74	16.4	Businessmen	54	12.0	Graduation	95	21.1	> 30,000	50	11.1
			>50 Years	20	4.4	Professionals	42	9.3	Post Graduation	52	11.6			
						Students and others	21	4.7	Vocational Courses	36	8.0			

Source: Compiled from the research data

the respondents belong to the age group of 20-30 years revealing that the adopters of mobile services are relatively young. It is further disclosed that the farmers comprise the maximum proportion (30.9 percent) followed by Micro-entrepreneurs (24.9 percent) give an idea that mobile phone is beneficial for the rural people who are engaged in agricultural and small businesses. The table no. 1 also shows that most of the respondents (59.4 percent on cumulative basis) belong to less than or equal to higher secondary level signifying the critical dimension for the adoption and expansion of mobile services in rural areas. As far as the income level of the respondents is concerned, most of the respondents (36.7 per cent) are below Rs.10,000 income level followed by (31.8 per cent)to Rs. 10,000-Rs.20,000 representing the idea of fixation of low charges for mobile phone services usage in rural areas by the service providers

Research Question No. 1

What is the current adoption of mobile phone services in the rural areas and what is the desired future adoption of mobile phone services?

Table 2: Current Use of Mobile Phone Services

Services	Never Use	Rarely	Occasionally	Often	Constantly	Total
Work Related Calls	47	53	173	**129(28.66)**	48	450
Social Calls	49	51	167	**133(29.55)**	50	450
SMS	39	47	146	**140(31.11)**	78	450
Gaming	69	75	144	**118(26.22)**	44	450
Mobile Internet	89	99	103	**95(21.11)**	64	450
Music	68	83	146	**114(25.33)**	39	450
Updates of Agriculture/commodity Prices	52	82	150	**122(27.11)**	44	450
News/Sports Updates	37	62	142	**135(30.00)**	74	450
Horoscope	101	57	140	**112(24.88)**	40	450
Ring Tones and Downloads	42	78	136	**124(27.55)**	70	450
Weather Report Updates	64	61	139	**118(26.22)**	68	450

Source: Compiled from research data

Table 3: Desired Use of Mobile Phone Services

Services	Never Use	Rarely	Occasionally	Often	Constantly	Total
Work Related Calls	32	48	53	68	**249(55.33)**	450
Social Calls	35	40	47	62	**266(59.11)**	450
SMS	38	36	58	75	**243(54.00)**	450
Gaming	37	49	47	74	**243(54.00)**	450
Mobile Internet	44	47	54	76	**229(50.88)**	450
Music	36	39	49	91	**235(52.22)**	450
Updates of Agriculture/commodity Prices	29	32	42	80	**267(59.33)**	450
News/Sports Updates	31	36	38	89	**256(56.88)**	450
Horoscope	35	41	40	83	**251(55.77)**	450
Ring Tones and Downloads	44	50	58	67	**231(51.33)**	450
Weather Report Updates	48	40	55	69	**238(52.88)**	450

Source: Compiled from research data

Table 2 shows that presently some of the respondents are oftenly using mobile services or about once or twice in a day, but however, Table 3 reveals that an overwhelming number of rural people desire to use mobile services several times in a day.

Table 4: Paired difference t-test for current and desired use of Mobile Phone Services

Services	Desired Use	Current Use
Work Related Calls	249	173
Social Calls	266	167
SMS	243	146
Gaming	243	144
Mobile Internet	229	103
Music	235	146
Updates of Agriculture/commodity Prices	267	150
News/Sports Updates	256	142
Horoscope	251	140
Ring Tones and Downloads	231	136
Weather Report Updates	238	139

Size	11.0000
Average Differen	102.000
Std. Dev. Differen	14.04279

Test Statistics	24.090
df	10

Hypothesis Testing	***p value***	**α** 5%
$H_o: \mu_1 - \mu_2 = 0$	***.000***	Reject
$H_o: \mu_1 - \mu_2 > 0$	***1.000***	
$H_o: \mu_1 - \mu_2 < 0$	***.000***	Reject

Source: Calculated by author

Paired difference t-test was used to analyse the average difference between rural people current and desired use of mobile phone services. With the size of 11, average difference of 102.00 and the standard deviation 14.04, the test submit a simple t-test with n-1 degree of freedom. The computed t-test specifies that the mean difference is statistically significant at 0.05 level for p-value of .000 rejecting the null hypothesis and the test also signifies that the number of rural people who desired the future use of mobile phone services significantly exceed the number of rural consumers who are currently using the mobile phone services with p-value of 1.000.

Research Question No. 2

What are the present and desired activities of mobile services provider in rural areas to get people aware about the use of mobile phone services?

Table 5: Present Activities of Service Provider in Rural Areas to get aware about Mobile Phone Services

Service Provider Activities in Rural Areas	Never Use	Rarely	Occasionally	Often	Constantly	Total
Pictorial Pumphlets in Regional Lang.	**302**	94	24	21	9	450
Visit(s) of Representatives to train/aware	**258**	88	48	34	22	450
Special Training Program/Campaign	**283**	109	24	21	13	450
Customer Care Support to operate MP	**203**	137	37	31	42	450
Total	**1046**	428	133	107	86	1800

Source: Compiled from research data

Table 6: Desired Activities of Services Provider in Rural Areas to get people aware

Service Provider Activities in Rural Areas	Never Use	Rarely	Occasionally	Often	Constantly	Total
Pictorial Pumphlets in Regional Lang.	11	16	18	**348**	57	450
Visit(s) of Representatives to train/aware	14	15	28	**353**	40	450
Special Training Program/Campaign	15	31	29	**301**	74	450
Customer Care Support to operate MP	14	16	30	**276**	114	450
Total	54	78	105	**1278**	285	1800

Source: Compiled from research data

Table 7: Paired difference t-test for current and desired activities of Mobile Service Provider

Services	Desired Use	Current Use
Pictorial Pumphlets in Regional Lang.	348	302
Visit(s) of Representatives to train/aware	353	258
Special Training Program/Campaign	301	283
Customer Care Support to operate MP	276	203

Source: Calculated by author

Size	4.0000
Average Difference	58.000
Std. Dev. Difference	33.35666

Test Statistics	3.478
df	3

Hypothesis Testing **α**

	p value	5%
$H_o: \mu_1=\mu_2$	***.040***	Reject
$H_o: \mu_1-\mu_2>0$	***.980***	
$H_o: \mu_1-\mu_2<0$	***.020***	Reject

Paired difference t-test was used to analyse the average difference between the current and desired activities of service provider in rural areas to get people aware about the use of mobile phone services. With the size of 4, average difference of 58.00 and the standard deviation 33.35, the test submit a simple t-test with n-1 degree of freedom. The computed t-test specifies that the mean difference is statistically significant at 0.05 level for p-value of .000 rejecting the null hypothesis and the test also signifies that the number of rural people who desired more activities from service provider significantly exceed the current activities provided by the mobile service provider with p-value of 0.980.

CONCLUSION

Rural telecommunication has been a significant area where the government has been emphasizing to bring down the widening gap between the urban and rural tele-density. Several measures have been taken and many others are in queue to make rural telecom more accessible. In order to understand the impact of these measures and policies, it becomes imperative to know what actually rural consumer perceives. This exploratory study particularly emphasizes to increase the in-depth understanding of rural consumer regarding mobile phone market. The study highlights the much-unexamined area regarding the current and desired use of technology and the service provider support to get rural people know about the use of technology. The results of the study indicate that the most of the respondents had the education level of higher secondary or below higher secondary; this might be the reason that the rural respondents were not able to adopt the mobile phone services fully. It was quite evident from the results of the study that rural people showed their more desirousness to use the mobile phone services in future than currently and they also desired more support from the service providers than currently provided to enable them to use the mobile phone services. The research presented also has practical implications for mobile service providers and policymakers who have to make strategies and decision in order to cater to this hitherto unexplored new technology-based service market.

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TEACHING MARKETING ETHICS: ADVANCING A NEW PARADIGM

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ABSTRACT

This paper proposes that the time has come to move past the debate regarding incorporation of ethics into the business curriculum. Focusing on the discipline of marketing, the author proposes that it is time to make ethics part of the fiber of the coursework. Starting with the Hunt-Vitell General Theory of Marketing Ethics, this paper reviews the research on specific marketing ethics subjects and proposes that these subjects should be included in the standard required and elective courses for a degree in marketing. Some of the specific topics include ethical aspects of general marketing, advertising, sales force management and consumer relations.

INTRODUCTION

For over 40 years, the business school community has considered the subject of business ethics. Many business schools have added business ethics to their course roster. A smaller number have made a course in business ethics, in many cases paired with business law, a required course for a business degree. The leading accreditation agency for business schools, The Association to Advance Collegiate Schools of Business – International ("AACSB"), requires the inclusion of business ethics in the curriculum, although the implementation mechanism has been left to the schools (2004, p. 16; 2010). During most of this time, a debate has continued over whether business ethics should be taught in a stand alone course or integrated through the business curriculum (Brinkmann & Sims, 2001; Schein, 2005).This paper proposes that the time has come to move past that debate. Rather than viewing ethics as a disassociated part of marketing coursework, it is time to make it part of the fiber of the coursework. Starting with the Hunt-Vitell General Theory of Marketing Ethics (1986, 1993, 2006), this paper reviews the research on specific marketing ethics topics and proposes that these topics should be included in the standard requirements for a degree in marketing. Some of the specific topics include ethical aspects of general marketing, advertising, sales force management and consumer relations.

BACKGROUND

Consideration of Marketing Ethics is appropriate due to the importance of marketing to the overall business structure. Marketing is the first aspect that the consumer, whether an individual, another business, or a governmental entity, sees before making a purchasing decision. Because of the prominence of marketing to an organization, ethical failures in marketing can cause significant damage to the organization. Therefore, Yoo and Donthu argue that providing marketing students with ethical guidelines is important because it will help them make more ethical decisions when they enter the profession (2002). There are myriad aspects of marketing and certainly not all of them can be presented by a college or university in the pursuit of an undergraduate marketing major, much less all possible ethical concerns. The objective here is to identify a reasoned approach that will equip the forthcoming graduates with a reasonable "toolbox" of approaches, theories, considerations and codes in order that they will be capable of identifying ethical concerns in marketing and making reasonable and defensible decisions. The intent is to open the subject for expanded discussion and innovation and not to present this analysis as the definitive word on the subject.

Pridle argues passionately for inclusion of marketing ethics and macromarketing concepts for the good of the individual, the profession, and society in general. He proposes a broader "stakeholder" approach to marketing instruction instead of what he perceives as the single focus as serving management interests. Pridle's point is that education has focused on creating technically competent managers for industry

without providing these managers with the background to consider the position of their businesses in the greater society (1994).

To advance teaching marketing ethics, a code of ethics for marketing educators has been proposed. While beyond the scope of this analysis, the fact that experts in the field have moved past the subject of teaching marketing ethics to an ethics code for marketing educators, supports the notion that the time has come to make ethics a more formal part of marketing education (Sirgy, Johar, & Gao, 2006). The study of marketing ethics has reached the point where a recent survey of articles on marketing ethics from 1960 to 2008 found nearly 1,000 articles and then proceeded to analyze over 500 articles from nearly 60 professional journals (Schlegelmilch & Oberseder, 2010). There is no shortage of interest or materials.

HUNT-VITELL GENERAL THEORY OF MARKETING ETHICS

After its formal debut in 1986, The Hunt-Vitell General Theory of Marketing Ethics ("HVGTME") has been widely discussed and researched(1986). Hunt and Vitell themselves have updated their theory to adjust for additional research information and observations (1993, 2006). The basic theory is that marketing professionals use a formula to make ethical decisions and not a simple decision driven by a single parameter. Each decision maker is influenced by their cultural, industry and organizational environment and by personal experiences. They must perceive that an ethical situation exists and then determine that there are alternative approaches to that ethical situation. The decision maker then applies ethical analysis to evaluate the alternatives. There are two general approaches to ethical analysis. The first is deontological, or driven by duty and not based on the consequences of the action taken. The second approach is teleological, which is based on the consequences of the action under consideration. Hunt and Vitell postulate that "…any positive theory of ethics must account for both the deontological and teleological aspects of the evaluation process (1986, p. 7)." The authors describe HVGTME as a positive theory, structured to describe how decisions are actually made, rather than a normative theory, attempting to define how decisions should be made (1986). Other researchers have investigated various aspects of HVGTME with generally positive results. For instance, Cole, et al. supported the teleological aspects of the model (Cole, Sirgy, & Bird, 2000) and another study supports the incorporation of ethical judgment in marketing decisions (Sparks & Pan, 2010).

Hunt and Vitell's update in 2006 contains a review of the many studies investigating their theory that have been done over a 20 year period since their theory was first publicized. The model now has "Professional Environment" in addition to the three environmental factors noted earlier. The authors also expanded the personal component, changing the term from "Personal Experiences" to "Personal Characteristics" (2006, p. 144). Hunt and Vitell also clarified that their model is not a "causal model" where the numerous identified components lead to certain conclusions or actions, but rather that it is a "process model," describing how ethical marketing decisions are evaluated (2006, pp. 149-50). The authors also present a suggested model for teaching HVGTME to marketing students (2006). This model may be of value to marketing faculty as they begin the process of integrating marketing ethics into the marketing curriculum.

COMPONENTS FOR CONSIDERATION

Drawing from the HVGTME, each environmental component can investigated for inclusion in a marketing program to ensure the inclusion of effective ethics information.

Industry and Professional Environment

A key component of marketing ethics education is the codes of ethics of appropriate industry associations related to major areas of marketing. Studies have shown that industry codes of ethics do have a positive effect on ethical behavior (Yoo & Donthu, 2002). Sigy, et al. identified six professional association codes of ethics for consideration (2006, p. 2): The American Marketing Association , "AMA," (2010) ; the Marketing Research Association, "MRA," (2007); Council of the American Survey Research Organizations, "CASRO," (2009); Qualitative Research Consultants Association, "QRCA," (2010); American Association for Public Opinion Research, "AAPOR," (2005); and the Direct Marketing Association, "DMA," (2010). The direct links for the code of ethics for each listed organization is

contained in the Bibliography. This provides a large base of credible material for the purpose of teaching marketing ethics.

Organizational Environment

Clarke, Gray and Mearman argue that the current organizational environment should not be a choice of ethics or profits, but that profits require ethics today and therefore ethics should be an integral part of a marketing education (2006). Batory, Neese and Batory present research supporting the importance of top management in creating an ethical environment in an organization (2005). Professor Laczniak encourages consideration of the concepts of Catholic Social Teaching in the organizational approach to marketing (1999) and (Santos & Laczniak, 2009). A similar non-sectarian proposal is made by Sirgy and Lee for consideration of consumer well-being (2008).

Cultural Environment

With the increasing multi-cultural aspects of life in major developed countries including Europe and the United States, consideration of the cultural environment is a critical aspect of marketing ethics today. Further, internationalization of business effects even small domestic firms and the cultural concerns of doing business internationally are obvious. "As business activities become increasingly global, marketers will continue to confront cultural challenges to ethical decision making (Nill & Shultz, 1997, p. 16)." Nill and Shultz advocate an approach they call "dialogic idealism" which is based on two levels, a first level of idealism where there is an acceptance of universality, and a second level of actual communications. This approach is consistent with HVGTME because the first level is deontological in nature while the second level is teleological (Nill & Shultz). There are numerous other studies dealing with international ethical marketing issues now available, including China (Zhuang & Tsang, 2008), India (Bhangale, 2008), Mexico (Marta, Heiss, & De Lurgio, 2008), Korea (Kim & Chun, 2003)and Thailand (Singhapakdi, Gopinath, Marta, & Carter, 2008).

Personal Characteristics

Not only is the consideration of the cultural environment important to ethical marketing decisions, but the cultural background of marketing students is relevant to this analysis. Smith researched the role of the individual ethical orientation of marketing students by examining two constructs that have been well accepted as having cultural relevance. The first is power-distance and the second is individualism vs. collectivism. Power-distance is the extent to which persons will accept social inequalities. Individualism is a focus on the self, while collectivism focuses on the larger community. Larger power-distance and individualism are associated with the United States and countries with similar cultural orientation, while low power-distance and collectivism are associated with Asian counties. Smith's research results revealed that marketing students with high power-distance may be more inclined to act in a less ethical manner. However, the results also revealed that individualism did not point to a more unethical personal orientation. The author concludes that ethical training with simulated real life exercises may help to focus marketing students on understanding their own inclinations relative to ethical situations. (2009). Notre Dame Business School Dean Woo encourages business school faculty to teach business students individual responsibility .(2003).

METHODOLOGY

Schedules of undergraduate marketing courses for several universities were examined based on the author's convenience. This was not intended to be a comprehensive survey of required or optional marketing courses. The universities were Frostburg State's AACSB accredited business school (2009-11), University of Maryland's AACSB accredited business school (2010), and the University of Maryland University College business school (2010b). Courses with similar content which were common to all three business schools were examined for possible inclusion of ethics materials. The identified courses included Principles of Marketing, Marketing Research, Marketing Strategies, Consumer Behavior, Customer Relationships, Advertising, Internet Marketing, International Marketing and Sales Management. All three schools had an internship course. The course descriptions were contained in the course catalogs available on the schools'

websites: Frostburg State (2009), University of Maryland (2009) and University of Maryland University College (2010a).

RESULTS OF SURVEY

None of the identified course descriptions contained any reference to ethical issues related to the subject matter of the courses. In some cases, there was a reference to legal aspects, but there was no specific statement of coverage of ethical matters relevant to the selected courses' materials. This is not intended as a criticism of any of these fine schools or their marketing programs. It also does not preclude the fact that such material might be covered in the courses examined, but that the ethics material was simply not incorporated into the course descriptions in the school's undergraduate course catalogs. In light of the importance of ethics to marketing, formal incorporation of the ethical concepts identified above should be implemented.

CURRICULUM RECOMMENDATIONS

This section provides an example of utilizing the materials from the literature review and analysis above to develop an effective undergraduate marketing curriculum. This is an outline of integrating marketing ethics into the current marketing courses analyzed by the author. Specific types of undergraduate marketing courses are listed below. Some materials are listed as examples of the number and extent of professional journal articles and materials that are available to marketing faculty for use in presenting ethics material. The outline below is intended as a starting point for discussion and not as the definitive word on what type of ethics material would be included in each course.

- Principles of Marketing – Introduction of the Hunt-Vitell General Theory of Marketing Ethics (2006) and discussion of personal characteristics related to ethical considerations in marketing (Smith, 2009).
- Marketing Research – Study of codes of ethics for MRA, CASRO, AAPOR and QRCA.
- Marketing Strategies – Study of AMA Code of Ethics, information related to the organizational and professional environment, including professional values (Singhapakdi, Rao, & Vitell, 1996).
- Consumer Behavior – Examination of consumers and cultural environment of marketing including analysis of consumer needs (Rotfeld, 2007), impact of unethical conduct by marketing companies (Ingram, Skinner, & Taylor, 2005), and unethical consumer conduct (Bateman, Fraedrich, & Iyer, 2002).
- Customer Relationships –Examination of the ethical considerations of relationship marketing, including distributorships (Vermillion, Lassar, & Winsor, 2002) and all relevant stakeholders (Murphy, Laczniak, & Wood, 2007).
- Advertising – Course materials may include: DMA Code of Ethics, consumer protection statutes of host country, consideration of mass marketing of securities (Coyne & Traflet, 2008) and ethical issues related to packaging (Bone & Corey, 2000).
- Internet Marketing – Consumer privacy issues should be examined (Ashworth & Free, 2006) and the importance of trust in website marketing (Yang, Chandlrees, Lin, & Chao, 2009).
- International Marketing – Cultural environment and personal cultural issues, including journal articles noted above that discuss cultural issues in various countries.
- Sales Management – Ethical aspects of compensation and sales force management, see for instance discussion of product specific sales incentives (Radin & Predmore, 2002).
- Internship– Require an ethics component in each internship report.

CONCLUSION

Proposals for the integration of ethics into the undergraduate business curriculum are not new (McDonald, 2004). This paper advances the literature by specifically proposing integration of marketing ethics into the marketing curriculum by identifying common marketing courses and specific ethics materials for those course. Providing a more inclusive marketing education is a worthwhile objective that will enhance the value of a school's graduates not just to society, but to business. "(B)usiness firms and marketing as a

management function are not only ends in themselves. Their value and legitimacy depend on their ability to embody and serve social goals (Priddle, 1994, p. 52)."

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A SYSTEM DYNAMICS MODEL FOR REGIONAL TOURISM PLANNING AND DEVELOPMENT MANAGEMENT

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ABSTRACT

Tourism has become an established industry with tremendous economic and social development capability and large ecological and environmental implications at different scales of civilization. Tourism development planning particularly at sub-national or regional scale is no more an independent planning activity. It deals with socio-economic development; infrastructure; culture, and cultural heritage; ecological and environmental implication; peoples/ stakeholders participation, etc., for sustainable development of the system, and therefore needs greater attention. In this investigation, an attempt has been made to integrate the major control parameters of the above subsystems of the system, such as, transportation infrastructures, accommodation facilities, attraction features of destinations, investment, environmental factors, etc., which influence the tourism system to the larger extent, and evolve a System Dynamic model which can become an appropriate tool to facilitate effective decision making for sustainable tourism development in a tourism resource rich region. The model established is employed to make forecasts and evolve policy scenarios, and it is manifested that the modeling results are directly useful and form the base for plausible policy guidelines and decisions, and are thus of great significance to achieving the goal of sustainable tourism development management.

Keywords*: Tourism planning and development, System Dynamics model, Control parameters, Sustainable tourism development management, Policy guidelines.*

INTRODUCTION

Tourism is a dynamic, ever changing industry and results in creating huge impact on the economic activity of a region or country. For its large income and employment generation capabilities with tremendous economic and social development potentiality, increasingly it is looked as a viable alternative for economic and social regeneration in many regions and countries (Russell, & Faulkner, 2004; Bum, Yong., et al., 2002). It is pertinent to realize that the success of tourism destinations in world markets is influenced by their relative competitiveness; which depends on destination image or attractiveness (Enright, & Newton, 2004). The infrastructure provision helps in creating an image of the destination and functions as the nervous system for effective sustainable tourism development (Beerli, & Martın, 2004),. The importance of socio-cultural factors is widely recognized as a major driver of tourism in general, despite issues often being location specific; and the social interaction, local culture and cultural heritage assets need to be envisaged as multi-dimensional, multi-valued and multi-attributed economic resources and must be molded for tourism and tourists. It is understood that at local, or regional level interactions between residents or communities and tourists can influence positively in terms of creating opportunities for integration of different cultures, and bringing societal peace (Macdonald, & Jolliffe, 2003). In addition, a qualitative life for host communities, visitor satisfaction, and conservative use of natural and social resources are highly essential along with long-term viability of good quality natural and human resources that are essential for sustainable tourism development. Tourism being an activity related to intensive human activity on different spatial scales impact directly and indirectly on ecosystems, and environment resulting change in ecosystem and environmental stress leading to physical and psychological change at the local level, and consequently affects the global phenomena, and therefore demands greater attention in tourism development (Gossling, 2002). Thus, a need for integrated approach of tourism planning is stressed to achieve economic growth,

employment creation because of tourism, and broadening of a region's economic base, which also helps in Socio-cultural development, protection and improvement of both the natural and built environment and infrastructure and generate tourist satisfaction as well.

Therefore, an investigation was carried to explore a modeling approach by considering the complex and inter-dependent relationships among the various components within the social, economic, physical, environment and ecological environment for tourism planning, development and management of a region and for the above purpose System dynamic modeling based on Systems' Theory was employed to simulate the tourism development and management and devise plausible policy guidelines for decision making for tourism development planning and management of a tourism resource rich region- Coastal region of Orissa State India.

For the said purpose the Study area chosen in this investigation is bounded by the coastal region and flood plains of the State is located in the Eastern parts of India along the coast of Bay of Bengal on the East between the parallels of 17^0 $49^{'}$ N and 22^0 34' N latitudes and meridian of $81^0$27' E and $87^0$29' E longitudes. It is delineated for investigation based on its homogeneous physical and demographic characteristics; evenly spreading of tourist destinations; location of the settlements (districts) in one axis; and the reasonable communicable distance by road and railway from one end of the study area to the other end (about 350 KMs). It contains most of the tourist related resources of the State bestowed with splendors of unique architecture, archeological sites, important religious places, long and beautiful coastline with natural scenic beaches, wildlife sanctuaries, wild flora and fauna, hot water springs, water falls, largest backwater lake, immigration of beautiful birds and tortoises (Olive riddle), in addition to rich cultural heritage studded with colorful festivals, dances, music, fine arts and above all the resources and high-grade skill for craft based products. Yet, the growth of tourism continues to be slow- the reason being, the available physical infrastructure, such as, road, rail transport, air transport facilities, boarding and lodging facilities, civic amenities, etc., in terms of both quality and quantity are inadequate to cater the needs of tourism friendly activities in the region, followed by inadequate harnessing and propagation of cultural heritages, arts crafts and lack of integration of socio-economic, infrastructure, environmental and ecological aspects influencing tourism development.

Thus, based on the opportunities, potentials and problems of the study area, the various components considered in this exploratory study which influence tourism system of the region include population, land use, transport infrastructure, investment, accommodation, tourist satisfaction and environmental parameters for building a system dynamic model which would assist in the process of government's policy decision making concerning tourism development and management in the region.

SYSTEM DYNAMIC METHODOLOGY

System dynamics is especially designed for large-scale, complex socio-economic systems. It amalgamates ideas developed in various System theories and is a result of cross-fertilization of ideas from traditional management, cybernetics, and computer simulation (Shen, Chen, Tang, Yeung, Hu, Cheung, 2009). It is a theory of structure and behaviour system (Forrester, 1969, 1968) and this methodology, blending the art of traditional management with the science of feedback control, has been applied into various fields, including but not confined to, global environmental sustainability (Forrester, 1961, 1968; Meadows, Meadows, & Randers, 1992), regional sustainable development issues (Bach & Saeed, 1992; Saeed, 1994), environmental management (Mashayekhi, 1990), water resource planning ((Stave, 2003, 2002; Stave & Cloud, 2000; Ford, 1996) and ecological modeling (Wu, Barlas, & Wankat, 1993), agricultural sustainability (Saysel, et al., 2002), transport and land use (Heimgartner, 2001), corporate planning and policy design (Lyneis, 1989; Forrester, 1961), economic behaviour (Sterman, Forrester, Graham & Senge, 1983), public management and policy (Homer & St. Clair 1991), urban systems (Katsuhiko, 2004; Checkland, 1981) tourism systems (Patterson, et. al, 2004), etc.

The system dynamics models are made of three kinds of variables: stock or level, rate, and auxiliary, and two kinds of flows, physical/ material and information, only through both of which could variables interact and respond to others (Shen, Chen, Tang, Yeung, Hu, Cheung, 2009). Variables, together with flows, consist of the basic structure of one dynamics system, called stock-flow diagram, in which feedback loops,

the foremost concept and pivotal role in simulation of the model, could be observed. In system dynamics, simulation is governed entirely by the passage of time and is referred to as ‘‘time-step’’ simulation (Coyle, 1977, 1996). The efficacy of the analysis depends upon the ability for a simulation model which would reflect the real system to and constructing a plausible model representing the system without disturbance is crucial to the model building (Eden, et al., 2005; Love, et al., 2002). The typical purpose of a system dynamics study is to understand interactions of dynamics of concern parameters and to search for managerial policies to improve the situation. (Saysel et al., 2002).

MODEL DESCRIPTION

There are seven sub-systems in this SD model, which are, namely, population, land use, road sector, railway sector under transportation, accommodation sector, investment and environment sector and these sub systems are integrated with the primary tourism sector. The interactions/causal-effective relationships among the seven sectors and with the tourism sector are visualized as the diagram in figure. 1, which is represented at a macro level. The scope of the model is to forecast the indicators of development of tourism in the coastal region of the Orissa State. The development of tourism is measured by the inflow of tourists, income generation and employment creation followed by tourist satisfaction and environmental stress because of the tourism development in the region. The time horizon of the model is 30 years, from 2001 to 2031, with conformation to the development scheme of Government of Orissa, India. The details of the contents and structures of the several subsystems are described as follows and the stock-flow causal loop diagram as the structure of model illustrated in the figure 1.

Population

Population and population density are considered as important parameters, which influence the system in terms of infrastructure development and employment generation. A System Dynamic model is built to calculate population, and population density, by considering the influential variables, such as, Birth Rate, Death Rate, Normal Birth Rate Fraction (BRF), Normal Death Rate Fraction (DRF), In-migration Rate (IMR), In-migration fraction (IMF), Out migration Rate (OMR), Out migration fraction (OMF), and total area of the system. In this model, population (P) is considered as a function of birth rate (BR), death rate (DR), in migration rate (IMR) and out migration rate (OMR) the system experiences in the past years. Population density (PD) refers as the number of persons per square Kilometer of land area of the system and is a function of population (P) and area (A) of the system. Population is considered as the level variable, birth rate, death rate, in migration and out migration rates are taken as rate variables. Population density is considered as an auxiliary variable.

Land Use Sector

In the model, land use is considered to estimate the land availability for different land uses of the system and possible shift in land use in future. The total land area of the system is categorized into four categories, such as Agricultural land area, Forest Land area, Habitat land area, and Other land area, and are considered as stock or level variables. It is observed in the system that the demand for land for human habitation leads to transfer of a portion of Agricultural land and Other land area to Habitat land areas and a portion of Forest land are being converted into Other land areas due to deforestation and human intervention. Thus, the most important variables considered in this system dynamic model are total land area, land areas under the aforesaid four categories, conversion rate from Agricultural land and Other land to Habitat land area, conversion rate from Forest land to Other land areas. Agricultural area, Forest area, Habitat area, and Other areas are considered as level variables. Agricultural area is considered as a function of conversion rate and conversion fraction of Agricultural area. Similarly Forest area and Other area are functions of conversion rate and conversion fractions of respective areas, where as the Habitat area is a function of conversion rates and conversion fractions of both Agriculture area and Other area. The total land area is taken as an auxiliary variable, which is a function of all the four categories of land areas. The conversion rates of various land uses from one form to another are considered as rate variables which are functions of conversion fractions. It is noted here that the total land area of the region is supposed to be a constant, without incorporation of any new areas in to the region.

Road Sector

Road is one of the most important subsystem in the system for both regional and local transportation needs and accessibility, as the entire road transportation system is dependent on the availability of road lengths and their quality, and influence the tourist satisfaction. A System Dynamic model has been developed to compute the demand, supply and perceived supply of road lengths and satisfaction of the road system in the system. The important control variables considered for developing the model are normal available road length, road construction growth rate, investment in road construction contributed from annual Gross Domestic Product, average cost for construction per unit length of road, time to allocate the fund and construction, minimum requirement and desired road length, perceived road length, conversion to higher order roads are considered. The normal available (supply) road length is taken as a stock variable and is calculated based on the normal construction rate, which is a function of investment as a fraction contributed from Gross Domestic Product of the State and time allocating for the same. Desired road length (Demand) is also a stock variable is taken as a function of minimum requirement of road length per Square Kilometer of land area. Perceived road length (Stock variable) is a function of the projected investment based on priorities attached to the development of this sector from time to time. The road satisfaction (auxiliary variable) of the system is a function of the discrepancy between the demand of road length and supply of road length. The effect of road on tourism development and tourist satisfaction is a function of ratio of growth of road of perceived and normal supply of road length, and tourist perception delay. Further, in the model qualitative development of roads have been considered as a function of conversion of road lengths to higher order roads. In this model development, normal available road length, desired road length, projected road length, higher order road length and Gross Domestic Product are considered as level variables. The road construction rate, Gross Domestic product change rate, road length change rate are the rate variables and all others are considered as auxiliary variables.

Railway

Railway is another essential most subsystem in the system for national and regional transportation needs and accessibility. At regional level, availability of rail route length is considered essential for regional and local transportation needs. The development of railway in the system is considered as exogenous to the system, as the State does not contribute financially to its development, because it is a subject, which belongs to Central Government. A System Dynamic model is developed in order to compute the demand, supply and perceived supply of rail route lengths and satisfaction level of the rail sub system in the system, and effect of rail development on tourist satisfaction and tourism development. The important control variables considered for developing the model are population, available rail route length, rail route length growth rate, minimum requirement or desired density of rail route length, actual rail route length density, perceived rail route length, tourist perception delay are considered. While supply (available length) is computed based on rail route length growth rate, demand (desired rail route length is considered as a function of population and rail density as envisaged by the Planning Commission, Government of India, in Vision 2020. Perceived rail line is the projected rail route length based on priorities attached to this sector from time to time. Rail satisfaction is a function discrepancy in demand and supply position of rail route length. Effect of rail on tourism and tourist satisfaction are considered as functions of ratio of rail route length (perceived rail route length to available rail route length), ratio of growth in rail route length (perceived growth to available growth) and tourist perception delay factor.

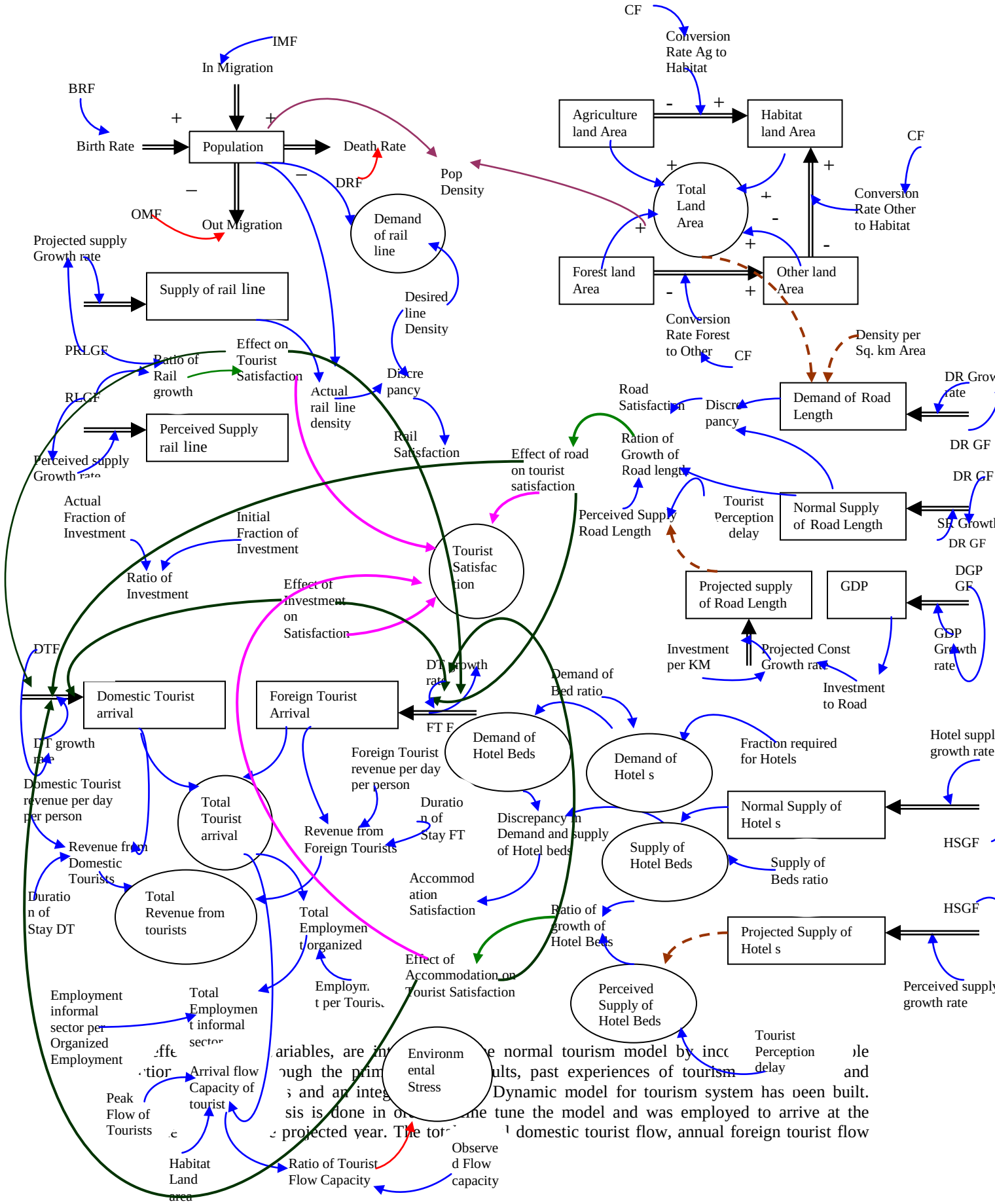
Accommodation

Accommodation is another important subsystem in the system for tourism industrial development in the system. This is considered as an endogenous factor, as development of this subsystem is highly dependent on the tourist flow and their stay in the system and the tourist stay in the destinations depends on the availability of adequate hotels at affordable costs. The accommodation facilities are taken in terms of hotel beds in organized accommodation facilities. The hotel beds are further classified into high spending and affordable category based on qualitative service. A system Dynamic model is developed in order to compute the demand and supply of accommodation facilities in terms of hotel beds under different categories, satisfaction level of the accommodation facilities in the system, and effect of accommodation

sector on tourist satisfaction and tourism development. The important control variables considered for developing the model are total tourist flow, available hotel beds, accommodation growth rate, desired fraction requirement for accommodation and demand of beds ratio, perceived accommodation, perceived growth rate, tourist perception delay are considered. In this model available accommodation, projected accommodation are considered as level variables, where as demand of accommodation is considered as auxiliary variable. While supply (available hotel beds) is computed based on normal growth rate, demand of hotel beds is considered as a function of tourists and demand of ratio of hotel beds, which is decided based on the standards and hotel occupancy rates envisaged by the entrepreneurs and hoteliers. Perceived accommodation is projected based on priorities attached to this sector from time to time by the government and entrepreneurs. Accommodation satisfaction is a function discrepancy in demand and supply position of hotel beds. Effect of accommodation on tourism and tourist satisfaction are considered as functions of ratio of accommodation, (perceived hotel beds to available hotel beds), ratio of growth in accommodation (perceived growth to available growth) and tourist perception delay factor.

INTEGRATED TOURISM MODEL

Tourism industry is one of the most dynamic and complex industries in the system and various functions, which are highly interlinked and interdependent to each other. The development of the tourism industry is influenced by various exogenous and endogenous variables those function in the system. Initially, Tourism system model was developed by taking tourist arrival in both domestic and foreign categories separately. The tourist arrival in both foreign and domestic category in the system are considered as level variables, and are computed which are based on the normal growth rate experienced in the system. Domestic tourists flow growth rate and foreign tourist flow growth rate are taken as rate variables in this model. The total tourist arrival is an auxiliary variable and computed as the sum of tourist arrival on both foreign and domestic tourists' categories. The duration of stays of tourists in both categories of tourists and per capita tourist expenditures are considered for arriving at the annual (yearly) tourist revenue generation in the system. Employment generation is considered in both informal and formal sectors of tourism, and are computed based on the employment generation per tourists in the system. In this model, the effects of road and railway infrastructure those are exogenous to the tourism development under transportation infrastructure; effect of availability of hotels in the system under accommodation sector; various endogenous variables to tourism development, such as, development of attractiveness of tourists' destinations, creation of tourists' amenities in the destinations including local infrastructure, development of cultural heritage, conservation of archeological and historical monuments and promotion and publicity, etc., are considered in the form of investment, which influence the tourist flow to the system to the larger extent are integrated to the this model.



ariables, are in e normal tourism model by inco ble
tior ough the prim ults, past experiences of tourism and
s and an integ Dynamic model for tourism system has been built.
sis is done in or ne tune the model and was employed to arrive at the
projected year. The tor l domestic tourist flow, annual foreign tourist flow

Fig. No. 1. Stock Flow and Causal Feed back loop integrated diagram for System Dynamic for Modeling consisting of Tourism System and various Sectors influencing Tourism Development.

are estimated by considering them as level/ stock variables; and total annual tourist arrival, annual tourist revenue from domestic tourists, foreign tourists and total annual tourist revenue, total employment generation from tourism activities, employment generation opportunities from informal sector activities from tourism, tourist satisfaction and environmental stress are computed by employing the integrated tourism model considering them as auxiliary variables. The total tourist satisfaction is considered as a function of the effects of roads, railways, accommodation, and tourism investment on tourist satisfaction. Total tourist satisfaction is computed by assigning different weightages to effect of these sectors on tourist satisfaction, which are estimated separately by employing respective sector models. The environmental stress is computed based on the ratio of peak tourist arrival flow rate and observed maximum tourist flow rate. The peak tourist arrival flow rate is a function of peak flow in the tourist season and habitat area available to carry the total tourists at that point of time. The observed maximum tourist flow is the tourist arrival observed during the Car festival (Rathayatra) in Puri (a tourist location in the region), which occurs for a very limited period of time of about 15 days in a year.

SIMULATION AND RESULTS

The model build was employed to simulate results based on the time series data available from 1986 to 2001 A.D. in the system from the secondary survey and data collected from the primary survey conducted in the system in 2005 A.D. Several simulations are conducted by considering the influence of variables such as in, growth in road length, growth in rail route length, growth in accommodation, growth in investment on the tourism development individually and compositely under various conditions as presented in table 1. A base year model for the year 2001 was first build and employed to understand the functions of the system. The results of the various variables computed from the model considering year 2001 as the base year are population, population density, land use pattern, demand, supply and perceived supply in various infrastructures, such as, road lengths, rail route lengths, accommodation in terms of hotel beds, total domestic tourist arrival, total foreign tourist arrival, total tourist arrival, revenue generation from tourist expenditures, total organized employment opportunities from tourism, total employment generation from informal sector from tourism, tourist satisfaction and environmental stress.

Table No. 1 Simulation Conditions of Variables influencing Tourism Development

Sl No.	Simulation conditions of the Variables	Variation in Conditions
1	Growth in Road Length	Increase from current annual growth rate of 1.0 per cent up to 10.00 Per Cent
2	Growth in Rail route	Increase from current rate of 1.4 per cent up to 5.0 Per Cent
3	Growth in Accommodation	Increase from current rate of 4.1 per cent up to 10.0 Per Cent
4	Growth In Investment	Increase of investment up to 20.00 per cent of total tourist receipts in tourism development

VALIDATION

The model was validated by structure verification test which does not contradict the knowledge of the real system followed by algorithm examination for the correctness of the parameterization equations. Further, the model is employed to compute outputs from a set of inputs for the year 2001 A.D., which is referred as the base year for the model and up to the year 2004 A.D., for which data for the study area pertaining to a number of variables are available for quantitative and behavioral validation. The model results are closely examined and compared to the data available in the real system. It is observed that the model results and real system data of various important parameters: population, land use, road length and rail route length and accommodation are very closely matched with minimum variation, thus making both behavioural and structural validity of the models.

SIMULATED PROJECTED YEAR MODEL RESULT AND POLICY RECOMMENDATIONS

The projected results of the various indicators of tourism development in the system have been computed by employing the validated model under various simulated conditions as mentioned in table 1, where the conditions are employed individually and compositely in various combinations and the scenario which provides the optimal result was chosen for policy recommendations. The various measured indicators considered for sustainable tourism development are total tourist arrival, total annual revenue (total tourist receipts) generation from tourism, total employment generation opportunities from tourism, employment opportunities in informal sector from tourism, tourist satisfaction and environmental stress generated in the

system because of the development process. It is observed that of the several simulations attempted, the simulation condition based on the composite scenario of 5.00 per cent growth rate in road length and rail route length respectively, 10.00 per cent growth rate in accommodation (hotel beds), investment of 10.00 per cent of total annual revenue generation from tourist receipts, provides the optimal result. It results that the perceived supply of road length would be 317344.00 kms and perceived supply of higher order road length would be 38081.28 kms. The perceived supply of rail route length would be 1974.00 kms in the study area. The perceived supply of accommodation facilities in terms of hotel beds under total, affordable and high spending categories would be 272835.00, 231910.00, and 40925.00 numbers respectively and a perceived investment requirement of 14335.60 million INR in the projected year 2031 A.D. This would result in tourist arrival in the study area under domestic and foreign category would be 53466343.00, and 773696.00 respectively to a total of 54204539.00 numbers. The total annual revenue generation from tourist receipts would be 1433556.60 millions INR. The level of tourist satisfaction would be 0.77 and the environmental stress would be 0.46 in the projected year 2031 A.D. It is observed that by adopting the policy scenario as mentioned above total tourist arrival, total annual revenue generation, total employment in organized sector from tourism and total employment generation in informal sector in tourism will experience multifold increase, i.e., by 11.20, 11.57, 15.95 and 16.56 times respectively in 2031 A.D., over the base value at 2001 A.D. In addition, although there shall be increase in environmental stress from 0.08 to a maximum of 0.46, which is in fact very low looking at the extent of the region, the system shall experience a significant increase of tourist satisfaction index from 0.41 to 0.77 during the same period.

Table No. 2 (a): Phase wise infrastructure requirement and Environmental Stress due to adoption of Recommended policy in the study area

Sl No	Year	Perceived rail route length in the study area	Perceived total road length in the study area	Perceived higher order road length in the study area	Perceived affordable hotel beds	Perceived high spending hotel beds	Perceived total hotel beds in the	Perceived Investment in tourism development (INR in Millions)	Environmental Stress due to tourists flow in the study area
1	2001	647	74933	7493	21979	3297	18682	1076.00	0.08
2	2006-2011	808	191670	19167	45809	8084	53893	1729.94	0.13
3	2011-2016	1010	317334*	38081	68714	12126	80840	2637.11	0.18
4	2016-2021	1263	317334*	38081	103071	18189	121280	4267.27	0.24
5	2021-2026	1579	317334*	38081	154606	27283	181890	7835.22	0.32
6	2026-2031	1974	317334*	38081	231910	40925	272835	14335.60	0.46

Note:* indicates that the perceived supply of road length would exceed demand of road lengths for the study area by the year 2016, and therefore further growth rate has been limited beyond the demand of road

Sl No	Year	Total Domestic Tourists	Total Foreign Tourists	Total Tourists	Annual Revenue generation from Domestic Tourists Expenditure (INR in Million)	Annual Revenue generation from Foreign Tourists Expenditure (INR in Million)	Total Annual Revenue generation from Tourist expenditure (INR in Million)	Total Organized 15.95 Employment Generation opportunities from Tourism in the study area	Total Employment Generation opportunities in informal sector from Tourism in the study area	Tourist Satisfaction
1	2001	4428222	16807	4445029	11293.02	156.10	11449.12	32774	4719438	0.41
2	2006-2011	6477448	84025	6561474	16518.04	780.40	17299.45	69420	9996537	0.77
3	2011-2016	9780195	153891	9934086	24941.84	1429.29	26371.14	105102	15134780	0.77
4	2016-2021	15757091	267992	16025013	40184.36	2488.38	42672.74	169544	24414428	0.77
5	2021-2026	28973078	480603	29453682	73888.30	4463.70	78352.00	315619	44873273	0.77
6	2026-2031	53466343	773696	54204539	136170.70	5185.80	143356.60	554456	82721783	0.77

lengths.

Table No. 2 (b): Phase wise Tourist arrival and Annual revenue generation from tourism receipts, Employment Generation, and Tourist Satisfaction due to adoption of recommended policy in the study area

Therefore, this scenario of simulation was considered for policy for recommendation, and phase wise tourism, infrastructure requirements (perceived supply), and perceived investment requirement are calculated from 2006 to 2031 A.D., with each phase period of five years, and consequent tourist arrival, revenue generation, employment generation, tourist satisfaction and environmental stress generation are computed and presented in Table Nos. 2(a) and 2 (b). This simulation presents that the growth in measured indicators shall be achieved by perceived supply of infrastructures such as, road length, rail route length, hotel beds and investment in phases resulting steady and continual tourism development in the region.

CONCLUSION

This analysis shows that with a gradual increase of infrastructure supply and investment in tourism development in five phases of five years each from phase–I (year 2006-2011) to phase-V (year 2026-2031), the study area would experience both social and economic development with reasonably high tourist satisfaction to the tourists and a relatively low environmental stress generation. Understanding of the complexities of the tourism system because of involvement of several socio- economic and physical control parameters, which are dynamic in nature and facilitating appropriate decision making which shall able to provide results close to the real system need an appropriate predictive model. System Dynamic model with its ability to integrate both qualitative and quantitative information of the various components of the system, as investigated and discussed in this investigation, provides an appropriate tool to predict the various measured parameters reliably and facilitate efficient and effective policy and decision making and managerial decisions in perspective planning for tourism development and management of a region.

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GAP ANALYSIS BETWEEN CUSTOMER EXPECTATION AND PERCEIVED LEVELS OF SERVICE FOR BANKS IN NORTH INDIA

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ABSTRACT

In an ever increasing competitive scenario delivery of high quality service by service providers plays an important role in creating a differentiating factor. Understanding the need and expectations of the customers is important for the bankers to deliver value to the customer. The gap between the customer expectation and perceived levels of service leads to the negative consequences for the organization. These may be in the form of customer switching behavior and increased defection rates because the service being delivered is not of value to the customer. Also the organization is not able to identify the critical elements for the customer satisfaction that can be offered through channelized efforts in the direction of customer expectations. Identification of the gap between expectation levels and perceived levels of service can help the banks in reducing the gap and work towards increasing the satisfaction levels of customers. The factors like easy access to needed information, error free bank statements, competitive interest rates on loans, convenient branch locations, provisions for standing instruction orders, etc. can be considered as determinants of the bank's performance to be evaluated by the customers.

The objective of this study is to understand the importance of the customer expectation and customer satisfaction levels with respect to the capabilities and services being offered by the banks and the perception of the banks towards these determinants. For the study primary data were collected by banks and their customers from various cities of North India.

Keywords*: customer satisfaction, customer expectation.*

INTRODUCTION

The relationship with customer in service sector is seen to be of importance by the service providers. Customer perception about the service is thus an important constituent of the relationship with customer. Customer satisfaction can be defined as that mental state which results when the customer compares the expectations that he had before purchase with the post purchase perceptions. This mental state is a "cognitive judgment", and falls in the range where the expectations exceed the perceived service which depicts lower satisfaction levels and higher satisfaction levels shown where the performance perceptions exceed the customer expectations.

Managing Customer relationship is seen as an important strategy in developing long term relations with the customer. This also leads to long term benefits for the banks because they understand the need of the customers. It is also beneficial for the customer because they are getting good value in terms of convenience, timeliness and value.

Needs and expectations of all types of customers are not the same. The SME's(Small and Medium Enterprise), academic institutions as well as the individual account holders will have a different set of needs and the task of the banker is to map the expectation of the customer with the delivery of service.

LITERATURE REVIEW

The consumer behavior has been altered lately as a result of deregulation in the sector, information revolution and the emergence of new forms of technology (Howcroft *et al.*, 2003). Bank customers have difficulties in differentiating one bank from another due to rapid changes, banking innovations and fierce competition (Boyd *et al.*, 1994). More choice and improved product offerings have made consumers more sophisticated, analytical and systematic in their buying decisions, knowledgeable and demanding (Murphy, 1996; Shelton, 1995).
The customers develop bonds with banks over a period of time. These bonds existing between customer and bank may constitute switching barriers. Bonds can be positive or negative (Storbacka, 1994). Negative bonds "tie" the customer to the relationship, for example salary and loan accounts. Positive bonds increase customer commitment toward the organisation, for example, increased customer satisfaction.

Managers frequently rely on customer feedback systems to monitor their performance and guide improvement efforts with regard to customer loyalty. This feedback typically is obtained through customer surveys which contain measures of satisfaction, repurchase intention, and word-of-mouth intention (Morgan and Rego, 2006).

MARS Consumer Satisfaction Survey (2010) conducted on 9486 respondents across 18 Indian cities covered Indian banks. The findings of the survey indicate that service quality at the private banks varies from city to city and the private sector counterparts are giving the customer homogeneous standards of quality. North Indians were seen as more demanding and voice their opinion which forces the bank to adapt to more directed efforts to meet customer expectation. According to the survey findings , there is not really very much difference in service standards to choose among the top 6-7 banks. With slight improvement in standards of services, any bank among those 6-7 banks can edge ahead of the pack. There were no private banks in Lucknow in the top 10 list according to the survey.

Fornell and Wernerfelt (1987, 1988) have found that the "satisfied" and "delighted" groups had a probability of returning of 95 and 97 percent, respectively, whereas the "dissatisfied" group had only a 45 percent probability of returning. Thus the strategic importance understanding need of customer and providing them adequate levels of service is evident.

IMPORTANCE OF STUDY

Banking in India has experienced major changes over the past two decades. Today in banking, the different players offer a wide variety of products and services. Banks are no longer in the business of only selling and buying money. Rather they are in the business of offering complete financial services to their varying corporate customers.

Investment on customers is not a random phenomenon, rather the banks analyse their customers and commit capital only when there is expectation of profits. The segment that offers the maximum benefits are looked after with more care. Through establishing profound relationships, banks can attain a greater number of satisfied customers and, consequently, gain a greater share of the financial market (Ting, 2006; Bloemer *et al.*, 2002).

The population of India is 1,150,000,000 and of UP and Delhi is 180048428 as per the census declared by the government of India which indicates that it is approximately 16% of India's population. This clearly shows that these two states of North India are of strategic importance to the banks for their growth and profitability.

As evident from the MARS survey of Hindustan Times(2010), the North Indian market is still dominated by the public banks and has lesser representation from the private banks, So, the private banks can see North India as a potential market and work towards market penetration by analysing the gap that exists

between the customer expectation and perceived satisfaction and the unmet needs of customers by the public sector banks.

RESEARCH METHODOLOGY

1) Survey instrument

The survey instrument consisted of three questionnaires namely for banks, business personnel and for customers having personal account in bank. The aim was to find the satisfaction levels of various segment of customers and their expected levels of service and the reported levels of retention by the banks and their preferences related to the attributes used for evaluation.

These attributes are taken for the purpose of study are in consonance with Hindustan Times(2010) and Hallowell(1996) which shows that these are important attributes for service performance evaluation. The respondents were asked to give their opinions on a five point Likert Scale.

Table 1

List of the service attributes that were used to measure importance to the bankers, perception of customer and expectation levels

Easy access to needed information
Understandable bank statements
Error-free bank statements
Clean and pleasant branch office facilities
Competitive interest rates on deposits
Reasonable service fees
Competitive interest rates on loans
Good value in banking products and service
Convenient banking hours
Convenient branch locations
After sales service
Change policies according to customer needs
Providing standing instruction orders

The other questions that were part of the survey instrument were the demographic variables like gender, age to act as an indicator for the representativeness of the sample.

2) Participants and response rate

For the above stated objective, both, managers of nationalized as well as scheduled banks were part of the sample where 2 scheduled banks namely ICICI and HDFC bank and three public sector banks were taken namely SBI, PNB and Oriental bank of Commerce from various cities of North India i.e. Allahabad, Kanpur, Bareilly, Baroda, Noida , Ghaziabad and Meerut.. The customers were also a part of the sample. Participants were selected randomly. The sample units were given the questionnaire for the completion of the survey. A total of 50 questionnaires were distributed to the bankers, while 100 questionnaires were distributed to customers holding business accounts & personal accounts respectively. The response rates from the bank were 60% and from the customers were 93%. The respondents belonged to the age group of 21 to 65 years.

RESEARCH FINDINGS

Table 2: Distribution of the gender and age of the respondents

Gender	**frequency**	**percent**
Female	31	24.56
male	97	75.44
Age	**Frequency**	**percent**
20-30	27	29
30-40	27	25.80
40-50	23	24.73

50-60	12	12.90
60-70	7	7.50

As seen from Table 1, out of the total 93 respondents, 24.56% were females and 75.44% were males. Analyzing the distribution of age, it was seen that % are aged between 20-30, % are aged between 30-40. % are aged between 40-50, % are aged between 50-60 and % are aged between 60-70. The customers are seen to intensify between the range of 20-30 years.

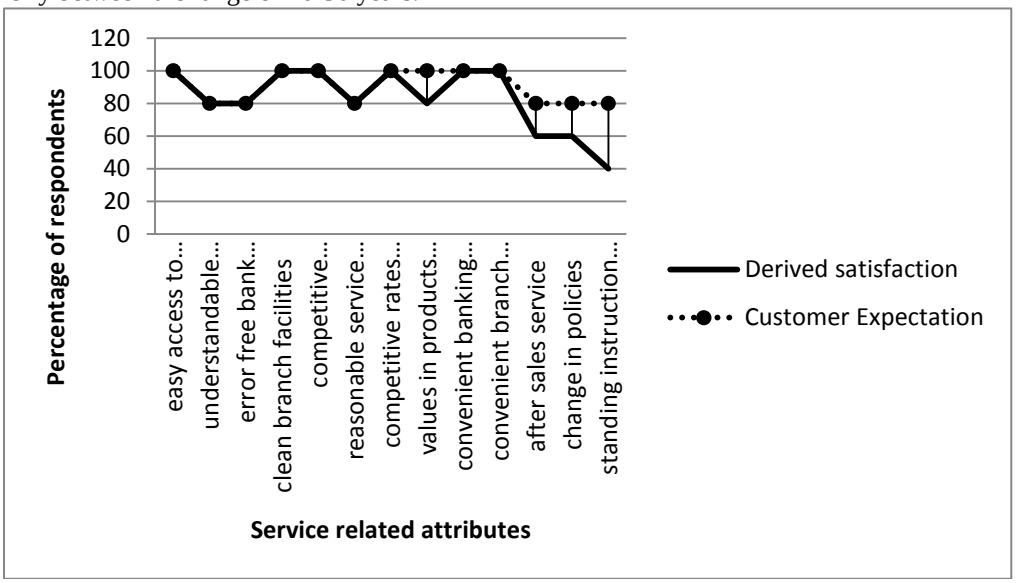
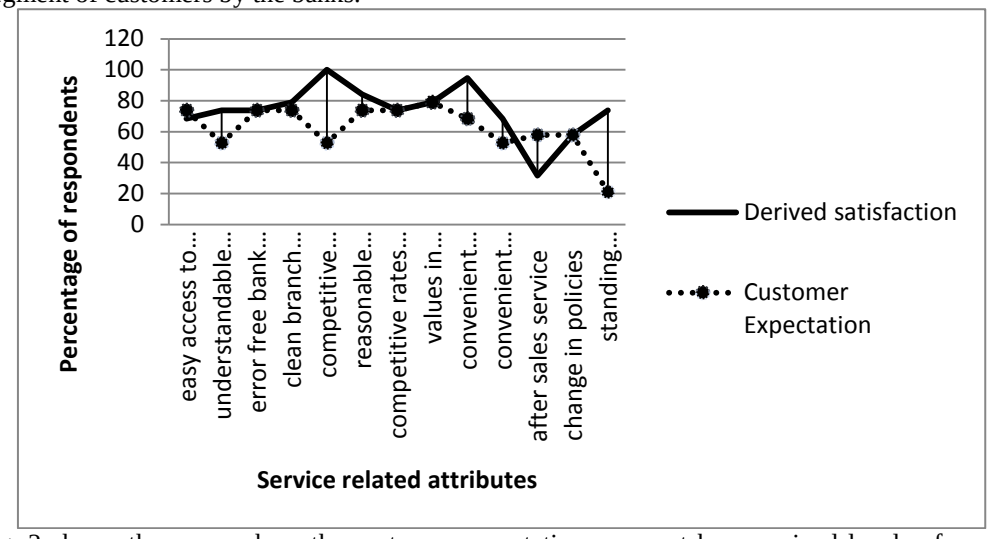


Fig. 1: The importance of relationship strategies as indicated by percentage of respondents for corporate accounts.

The corporate accounts seem to be highly satisfied with the services provided by the banks as there is very little difference between the customer expectation and perceived service. This seems to be the most looked after segment of customers by the banks.



The Fig. 2 shows the areas where the customer expectations are met by perceived levels of service and where they are not met. Error free bank statements, easy access to needed information, clean branch offices competitive interest rates on loans and value obtained from banking products and services are seen to be valued by customer. Some areas are of not much importance to customer like, competitive rates on deposits, but still the bank exceeds the expectation levels in such areas.

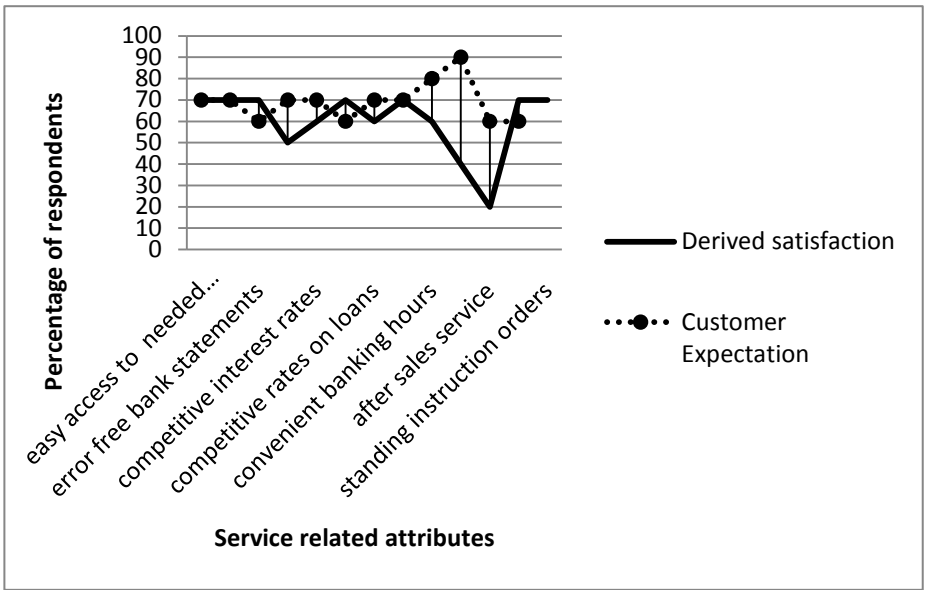


Fig. 3: The importance of relationship strategies as indicated by percentage of respondents for Academic Institutions.

Fig. 3 shows that convinient branch locations and convenient banking hours are the most inportant factors for meeting customer expectation in case of Academic Institutions but are not met by the service provided by banks. The after sales service provided by banks ie seen to be low leading to customer dissatisfaction.

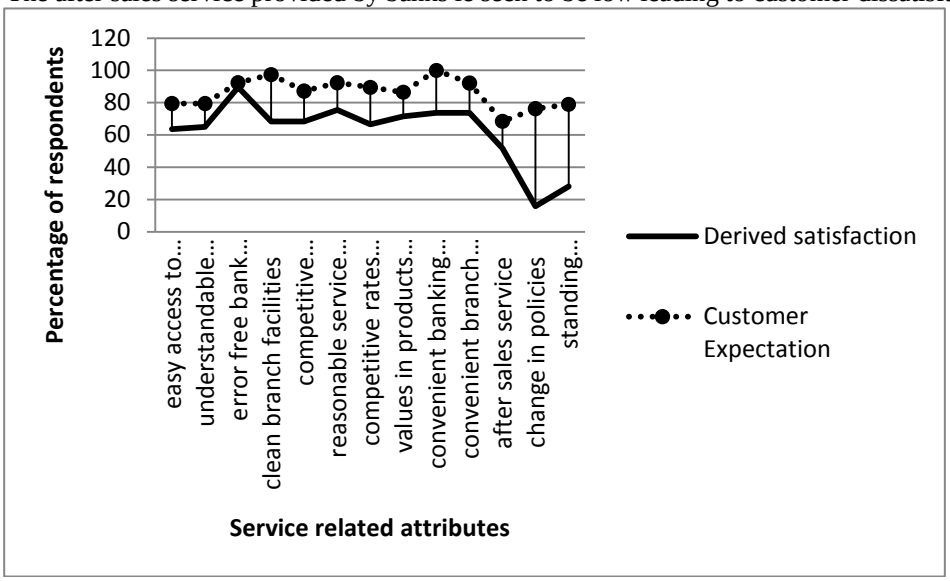


Fig. 4: The importance of relationship strategies as indicated by percentage of respondents for Individual account holders.

Fig. 4 shows that the needs of Individual customers are not looked after by banks adequately. The customer expectations are not met by the banks. Thus it is difficult to retain customers in this segment.

CONCLUSION

The sample size of the study was small due to time limitations and thus may not be too significant to derive the results to an appropriate level. More sample size in terms of both banks and customers belonging to different segments would have made the study more close to real world implications. There was lesser representation of bankers as well as customers from the private banks due to biases of people towards public sector banks. Thus leading to biased results towards public sector banks. Also the parameters used for evaluation by customers were not representative of all the services being offered by the banks. So

further research inclusive of the factors like ATM services, turnaround time for account opening etc. will make analysis more significant with respect to evaluation and gap analysis.

The primary objective of the banks should be to maximize customer satisfaction by catering to the rising expectation of customers. Along with this the most important thing is to identify the expectation of the different segments of customers and then cater to them accordingly rather than to provide all service to every segment equally. Thus it is very important to map the needs of customers with the service that the banks are providing. The management of the bank can use the results of this study to reduce the existing customer gaps related to the various service attributes. This will help banks in maintaining long term and prolific relationships with the customers. Especially the private Indian banks can tap the North Indian market and increase market penetration by working towards the reduction of the identified gaps between customer expectation and perceived levels of service with respect to the various service related attributes.

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STUDY OF ADVERTISING FOR ISLAMIC MARKET

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ABSTRACT

Islam is fastest growing religion in the world. Muslims represent a huge potential market in world that should not be ignored; there is evidence to suggest that religious beliefs can impact consumer behavior and response to advertising messages.

The aim of this article is to present a framework for managerial decision-making which relates Islamic values to the implications for advertising. This is an attempt to study ethical value system of Islam to provide some knowledge of Islamic philosophy in order to help managers do effective advertise for Muslim consumers.

Managerial implications and Recommendations are provided for international advertisers developing messages for Muslim consumer segments.

Keywords: *Islamic Market, Advertising*

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INTRODUCTION

Advertising is a very important tool for marketing of any product/service. Advertising is the most important component of fourth P of marketing mix i.e. promotion. Advertising is a communication process for a target audience and every communication process is complete only if interpretation of massage by target audience is correct.

Creating of effective communication required knowledge about audience, who consumer is, what is their culture? Culture is the means by which people "communicate, perpetuate, and develop their knowledge about attitudes towards life. Culture is the fabric of meaning in terms of which human beings interpret their experience and guide their action"(Geertz 1973). A high level of familiarity with the local culture permits a manager at HQ to understand better what should be done in the creative aspect of advertising standardization in order to avoid cultural blunders (Tse et al. 1988, Ricks 1993).according to (Usunier 1993) there are many sources of culture: language, nationality, education, ethnicity, religion, family, gender, social class and organization. This paper focuses mainly on religion. (Boddewyn 1982) have discussed role of religion in advertising regulation subsequently very less research are conducted in same field, the reason behind same could be sensitivity of topic of religion investigation.

Religion always provides guideline or direction to human being regarding what is good and what is bad, and that direction and guidelines make impact on customer's interpretation of any particular marketing massage. Some elements of an advertising message might be perceived by People as being against their religious belief, as being offensive or contentious (Gillian Rice and Mohammed Al-Mossawi, 2002). Advertisements perceived as contentious will not be effective in capturing the attention of people or changing their attitudes towards the advertised product (Michell and Al-Mossawi 1995). It is also possible that such advertisement can create a negative image for product.

Islam is the second largest and fastest growing religion in the world. As Muslim people are widely distributed all around the world and they are diverse in colours, ethnic groups, languages and cultures but united in faith. Muslim represents a huge potential market in world that should not be ignored and so it's very important to create right advertising for such a potential market. Islamic ethical behavior will have a major impact on the development and maintenance of the buyer-seller relationship (Abul Hassan, Abdelkader Chachi and Salma Abdul Latiff, 2008). Islamic customers have vast and growing purchasing

power in countries such as Egypt, Iran, India, Malaysia, Morocco, Turkey, Saudi Arabia and South Africa (Gillian Rice and Mohammed Al-Mossawi, 2002).According to US Department of Commerce for American export promotion efforts targeted ten big emerging market of world are consists of two Muslim nation (Turkey and Indonesia) and two nations having large Muslim population as minorities (India and South Africa). In the US, where Islam is the fastest growing religion, estimates of the Muslim population range from six to eight million (Abdul-Rahman and Tug 1998, Gillian Rice and Mohammed Al-Mossawi, 2002). So this paper provides a framework (Exhibit-1), which gives relationship between different advertising factors, Islamic value and their implication to advertising, the paper is organized in a manner as first there is an overview about Islamic view of Business, followed by description of framework in head of implication of Islamic value in advertising, than recommendation and suggestion for advertisers.

ISLAMIC VIEW OF BUSINESS

Teaching from Quran (which as per belief of Muslims, was revealed by God to Prophet Muhammad Muslims in seventh century Arabia) and Sunnah (the recorded sayings and behavior of Prophet Muhammad) leads life of Muslims. Muslims do not distinguish between the religious and the secular but consider Islam to be a complete way of life (Kavoossi 2000, Lawrence 1998). Islam is often misunderstood, and it is surprising to some that it contains an entire socioeconomic system with specific guidelines for managerial tasks such as advertising (Gillian Rice and Mohammed Al-Mossawi, 2002). The trend in many countries with predominantly Muslim populations is towards stronger religious conservatism and commitment (Amin 2000, Lawrence 1998).Quran is having large number usage of business terminologies. The Quran is not only replete with a variety of exhortations to the vocation of trade, but it encourages traders to undertake long trips and conduct business with the inhabitants of foreign lands. In fact, globalization of business and trade has already been envisaged over thousand years ago (Tanri Abeng, 1997).

IMPLICATIONS OF ISLAMIC VALUES FOR ADVERTISING

Islam don't restrict or prohibit Advertising and advertising is used to promote the Islamic faith (Al-Makaty et al. 1996) but some deeds are prohibited in Islam, and there ethical values have special implication in advertising, Exhibit 1 explains implication of different Islamic value for advertising. Frame work is organized on the basis of four advertising factors: Massage body, Role of Women, Theme for advertising and Way of Communication.

Exhibit 1 Framework for Islamic value and its implication to advertising

Advertising Factor	Islamic Value	Implication
Massage body	Honesty	Any lie should not there in advertising massage
		any exaggeration or over praising of product should not there in content of massage
	Modesty	Modest orientation should be used in massage body
	Justice & Fairness	Massage should be very clear and no hidden things should be there
		Comparison with competing brand should be avoided and only true positive features of own brand should be added.
	Diversity of human	Massage of advertisement can have diversity in ways of different religion group, ethnic groups and races.
		This massage should not show superiority of any religion, ethnicity or race.
		We can show traditional and western culture together in massage.

Role of woman	Equality	Islam believes in equality of gender and education of both male and female
		Advertisement should contain recognition for woman's contribution to society as well as corporate.
	Modesty	Women could be part of advertising but the part should be as modest as possible.
		There should not be use of sexual orientation kind of advertising attached to woman
	Not to show off	No show off of their adornment should be there.
Theme	sexual is prohibited	Sexual theme can't work at all for Islamic customers, if need of product is there than also some other alternative need to be find out
	Environment friendly	Everything in heaven and on the earth belongs to the God, and so to save environment is our duty
		Environment friendly advertisements will definitely work for Islamic market
		Cleanliness and concern for good health is acceptable
	No to alcohol and gambling	Advertisement should not contain theme of party with alcohol or some gambling games
	Education Based	education based advertising can help for Islamic market
		Scientific appeal in advertising is also acceptable
	Social Responsibility	Islam say one should use their substance for cause of God and should always do what is good, any advertisement based on social advertisement can be success full in Islamic market
Way of communication	Lower voice	Any massage should be conveyed in modest way with lower voice
		One can use Islamic phrases with taking extra care about its implication

DISCUSSION AND SUGGESTION

Values of customer are not easy to change so it's always better for advertiser to create advertise as per value system of target market. It is not always easy, however, to match advertising to the target consumer's values because of the challenge of identifying those values (Gillian Rice and Mohammed Al-Mossawi, 2002*)*

Islam motivate saving of environment as Quran suggests that everything around us belongs to God, so advertisers should use theme of environmental friendliness, cleanliness and health in the advertisement so that they can easily attract Islamic customers.

According to Quran woman should not show off their adornment except only that which is apparent, there can be different interpretation for same, but in general we can say that women should be veiled in advertisement and concern for modesty should be there.
Over praising and exaggeration of product can be considered as lying in Islamic value. So advertiser should try to ignore it. Islamic phraseology can be used by advertiser with extra care for example use of word

Bismillah, Allahuakbar etc can be used for attracting more Islamic consumers (Luqmani et al. 1989) provide an example of a manufacturer of water pumps that uses a verse from the Qur'an in advertising: "We made every living thing from water."

CONCLUSION

Religion is a very important part of culture and has a very prominent role in formation of values and attitude of a person. Islam is fastest growing religion of world and so has a big potential market. Creation of right advertising required right knowledge of target market. So before creating advertising for Islamic market advertiser should consider all Islamic values and its implication on advertising.

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OPPORTUNITIES AND CHALLENGES FOR INDIAN RETAILERS

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ABSTRACT

Retail is the largest industry in the world which is growing at leaps and bounds in India. According to Indian Retail Sector Analysis for 2008-09 its turnover will reach to 421 billion $ by 2010 from 201 billion $ in 1998. Modern retail has entered in India with growing shopping malls, Multi-storied shopping plaza and huge complexes. Retailing in India is gradually inching its way to become top industry. Modern retail formats such as hypermarkets, superstores, discount stores, convenience stores are widely present in major cities of India.

The challenges currently faced by the Indian organized retail sector are various and these are stopping the Indian retail industry from reaching its full potential. Retailers have got many opportunities to make most of the retailing business by adopting some strategies to eliminate problems as well as to suit the customers' requirements.

This paper focuses on tracing various challenges faced by retailers. The attempt has been made to point out opportunities as well as strategies to be adopted by retailers to overcome problems. The challenges facing the Indian organized retail sector are various and these are stopping the Indian retail industry from reaching its full potential. The biggest challenge facing the Indian organized retail sector is the lack of retail space. Trained manpower shortage is a challenge facing the organized retail sector in India. The Indian retailers have difficultly in finding trained person and have to pay more in order to retain them. These are the challenges faced by Indian Retailers.

INTRODUCTION

Retailing is the largest private industry in the world. Retailing in India is at Crossroads. It is one of the fundamental blocks of Indian Economy. Indian retail has emerged as one of the most dynamic and fast paced industries. It has undergone immense transformation in the post liberalization period. The future of Indian retail is promising as market is growing in leaps and bounds. Government is also setting favourable policies which is creating healthy environment for the growth of retail.

TABLE I -GROWTH OF RETAIL MARKET AND ORGANIZED RETAILING FROM THE YEAR 2004 TO 2010

Year	Retail Market	Organized Retail
2004	9300	280
2005	10300	375
2006	12000	550
2007	13300	783
2008	14800	1120
2009	16400	1600
2010	*18100	*2300

Values are in INR Billion * indicates projected figures
(Source: India Retail Report 2009)

Retailing in India is making revolutionary changes in shopping and consumer buying behaviour. Modern retail has entered in India with growing shopping malls, Multi-storied shopping plaza and huge complexes. These are offering shopping, entertainment and food under one roof. Retailing in India is gradually inching its way to become top industry.

There has been a drastic change in Indian consumers' consumption and buying behaviour pattern because of change in socio-cultural environmental conditions and lifestyle. Now the Indian consumer gets more hefty pay- package because of booming software, BPO a service industry. Majority of the Indian population is young and large numbers of women are working. Westernization of Indian culture has opened a lot of opportunities for modern retailers. Share of organized retail to total market is given in Table II.

TABLE – II: SHARE OF ORGANIZED RETAIL TO TOTAL MARKET

Retail Segment	2004	2005	2006	2007
Clothing, Textiles & Fashion Accessories	13.6%	15.8%	18.9%	22.7%
Jewellery	2.0%	2.3%	2.8%	3.3%
Watches	39.6%	43.5%	45.6%	48.9%
Footwear	25.0%	30.3%	37.8%	48.4%
Health & Beauty Care Services	6.0%	7.6%	10.6%	14.3%
Pharmaceuticals	1.8%	2.2%	2.6%	3.2%
Consumer Durables, Home Appliances	7.8%	8.8%	10.4%	12.3%
Mobile handsets. Accessories & Services	6.5%	7.0%	8.0%	9.9%
Furnishings - Home & Office	6.7%	7.6%	9.1%	11.0%
Food & Grocery	0.5%	0.6%	0.8%	1.1%
Out-of-Home Food (Catering) Services	5.7%	5.8%	6.9%	8.0%
Books, Music & Gifts	9.8%	11.7%	12.6%	13.4%
Entertainment	2.6%	3.3%	4.1%	5.3%

(Source: Images F & R Research)

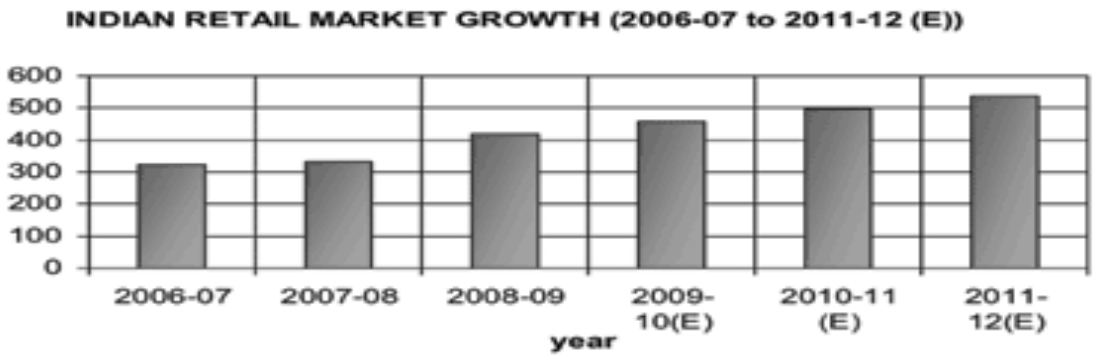
OBJECTIVES OF THE STUDY

1) To study the current scenario of Indian Retailing.
2) To study various challenges for Retail sector in India.
3) To study strategies to help retail industry to grow.
4) To identify problem areas while overcoming challenges.

CURRENT SCENE OF RETAIL INDUSTRY IN INDIA

The face of Indian retail had changed significantly in 20th century. Until the early 90's Indian retailing was dominated by the unorganized traditional retailers and now it is rapidly growing with the entry of corporate houses such as Tata, Birla, RPG, ITC etc. Besides Indian players there are many multinational retailers are present in India. It is estimated (ICRIER Retail Survey – 2008) that the total retail business in India will grow at 13% annually from US$ 322 billion in 2006-07 to US$ 590 billion in 2011-12. Unorganized retail sector will grow at 10% annually till 2011-12.Organized retail is expected to occupy 16% of the total retail by 2011- 12.

By 2012, the retail market is projected to grow to around $551.4 billion. In a country with over one billion inhabitants, consumer retail demand is growing rapidly as the region modernizes, paving the way for retail expansion. With swift industry development, the majority of retailers focus on improving loss prevention solutions that maximize growth and profitability.



(Sources: CSO, NSSO and Technopak Advisers Pvt. Ltd.)

In India maximum retailing business is unorganized. There are traditional retailers who are active in retailing from long time back. They are operating in very small area i.e. lesser than 500 sq. ft. There is no doubt that traditional retail has been performing a vital function in the economy and significant source of employment. However, it suffers from huge inefficiencies as a result of which, it is in trouble. Modern retailer provides wide choice of product, less price and shopping environment.

Organized retail or Modern retail is chain stores, all owned or franchised by central entity. The relative uniformity and standardization of retailing is the key attribute of modern retail. Major Industrial houses like Tata, Birla, Reliance, Bharati etc. have entered this area and have announced very ambitious future expansion plans. Multinational Retailers are also coming to India to set up retail chains in collaboration with big Indian companies. Modern retail formats such as hypermarkets, superstores, discount stores, convenience stores are widely present in major cities of India. The traditional retailing business in India is dominated by family – run neighbourhood shops. According to the Economic Census carried out by the CSO in 1998, the country had a total of 10.69 million enterprises engaged in retail trade.

The organized retailing in India has witnessed too many players, crowding several categories without looking at their core competencies or having well thought of branded strategy. The growth rate of super market is tremendous because of higher income group's preference for attractive shopping. Indian's have started spending more on health and beauty products. In recent years, few retailers who are specialized in special business have entered in market. Although these retail chains account for only a small share of total market, their business is expected to grow significantly in future due to quality consciousness. Traditional outlets stock a limited range of products whereas modern retailers provide opportunity of recreational shopping. There seems to be a large potential for the entry and expansion of specialized retail. The Indian durable goods sector has witnessed the maximum number of foreign retailers. Great variety of electronic and household appliances is available to Indian consumer. Increasing household incomes due to better economic opportunities have encouraged consumer expenditure on leisure and personal goods in the country.

The last few years witnessed immense growth by this sector, the key drivers being changing consumer profile and demographics, increase in the number of international brands available in the Indian market, economic implications of the government increasing urbanization, credit availability and improvement in the infrastructure, increasing investments in technology and real estate building a world class shopping environment for the consumers. In order to keep pace with the increasing demand, there has been a hectic activity in terms of entry of international labels, expansion plans, and focus on technology, operations and processes. This has lead to more complex relationships involving suppliers, third party distributors and retailers, which can be dealt with the help of an efficient supply chain.

Large Indian players like Reliance, Ambanis, K Rahejas, Bharti, ITC and many others are making significant investments in this sector leading to emergence of big retailers who can bargain with suppliers to reap economies of scale. Hence, discounting is becoming an accepted practice. Proper infrastructure is a pre-requisite in retailing, which would help to modernize India and facilitate rapid economic growth.

International retailers see India as the last retailing frontier left as the China's retail sector is becoming saturated. However, the Indian Government restrictions on the FDI are creating ripples among the international players like Walmart, Tesco and many other retail giants struggling to enter Indian markets. As of now the government has allowed only 51% FDI in the sector to `one-brand' shops like Nike, Reebok etc.

In the past few years the whole concept of shopping has been altered in terms of format and consumer buying behavior. With the increasing urbanization, the Indian consumer is emerging as more trend-conscious. There has also been a shift from price considerations to designs and quality as there is a greater focus on looking and feeling good. Indians have grown richer and thus spending more on vehicles, phones and eating out in restaurants. The spending is focused more outside the homes, unlike in other Asian countries where consumers have tended to spend more on personal items as they grow richer. Spending on luxury goods have increased twice as fast with 2/3 of India's population is under 35, consumer demand is clearly growing. The mall mania has bought in a whole new breed of modern retail formats across the country catering to every need of the value-seeking Indian consumer. An average Indian would see a mall as a perfect weekend getaway with family offering them entertainment, leisure, food, shopping all under one roof.

CHALLENGES FACED BY INDIAN RETAILERS

Providing great experience to customers so that they would like to enjoy it again and again is the responsibility of retailers. Following are the challenges for Indian Retailers.

1. **Retail Differentiation –** It is very difficult for customers to find uniqueness of retail store while differentiating one retailer from the other. Retailers are expected to have some uniqueness which can be remembered by customers.
2. **Merchandising mix –** It simply means getting right mix of product, sufficient assortment and fulfilling customer insight. Merchandising planning is one of the biggest challenge that retailer is facing.
3. **Supply chain management –** India lacks in strong supply chain management. There are too many intermediaries. No strong infrastructure for transportation and communication. Warehouse facilities and distribution are other areas of challenge.
4. **Competition between private label and Suppliers' brand –** Private leaders will continue to compete with brand leaders. Supplier's brands have already established brand image and private label are less accepted by customers in comparison with those.
5. **Shoplifting –** This is one of the major concerns of organized retailers. Shoplifters use various techniques to steal the products from malls, hypermarkets etc. Because of huge infrastructure retailers are sometimes unable to control all areas of mall. This results in Retail-Theft. Shoplifting in the Indian retail market accounted for over 50% of loss, which remains the number one source of inventory loss.
6. **Real Estate Crunch -** India is witnessing a robust growth in organized retail industry and this will continue in bursting demand for real estate space. ICICI Property Services and Technopak estimate that the total real estate required by the upcoming organized retail chains will be in the range of 500 million square feet, out of which 250 million sq.ft. should be contributed by the shopping malls. However, as per the current plans of real estate developers, only 143-mn sq ft of mall space is being planned by the year 2010 and this leaves the retail industry with a shortage of more than 40 per cent.

OPPORTUNITIES FOR RETAILERS BY ADOPTING INNOVATIVE STRATEGIES

Retailers have got many opportunities to make most of the retailing business by adopting some strategies to eliminate problems as well as to suit the customers' requirements.

1. **Right Positioning as a differentiation –** The effectiveness of the retailer's communication to the target customers determines how well retailer gets positioned. The message conveyed to the target customers must be effective enough to differentiate retailer from its competitor. The message should also clearly convey to the target audience that what exactly shopping and entertainment services being offered by retailer. The core purpose must be to inform target customers about offerings and to persuade them to visit and remind them about retailer. Various communication tools can be used including advertising, buzz marketing, viral marketing, celebrity endorsement etc. Personal touch can be added by retailer by carrying door to door campaign.
2. **Effective visual communication and merchandising –** Retailer has to emphasize more on visual display and merchandising, lighting, signage and specialized props. Visual communication strategy must also be brand positioned. The merchandise presentation ought to be very creative and displays should be non standard fixtures and forms to generate interest.
3. **Strong supply chain –** Strong supply chain would help to maintain service standards. Retailer has to develop innovative solutions for managing supply chain. Techniques like demand planning, inventory planning may help for this. Retailers should implement world class practices in supply chain management. A proper supply chain will help meet the competition head-on, manage stock availability; supplier relations, new value-added services, cost cutting and most importantly reduce the wastage levels in fresh produce.
4. **Changing the perception about Private Label –** Retailer must provide more assortments of private label brands to compete with supplier's brand. Retailers can benefit when consumers will perceive their store brands to have consistent and comparable quality and availability in relation with branded products. Product development and low pricing may help to compete with well established brands.
5. **Strategic Differentiator –** Retailer has to be best in of the retail offerings such as 'Cheapest', 'Biggest', and 'Quickest' etc. This may offer clear positioning for retailer.
6. **Multidimensional Approach –** Shoppers always want more than ever an retailer can satisfy them with these 4 E's attractions:
   Efficient – by saving time
   Economical – by saving money
   Enhancing ego, self esteem – by personal touch
   Experience – by special contacts
7. **Quick and Efficient Consumer response –** Retailers should practice responding customers more quickly and efficiently to solve their problems and satisfy them regarding service.

CONCLUSION

Much inefficiency is observed in Indian retailing and these may lead to lower profitability and lower service outputs for the buyers. There is great opportunity for Retailers in Indian market as a result of huge growth of retail industry. To fully utilize India's potential in retail sector; major obstacles have to be removed. Indian urban consumer is expanding purchasing capacity in branded apparels, cosmetics, shoes, watches, beverages, food and jewelry. Indian retailers need to advantage of this growth aiming to grow, diversify and introduce new formats have to pay more attention towards brand building. Intense competition is forcing retailers to find innovative ways to attract and maintain foot traffic. Specialized malls, designer brands and multi movie options are becoming a common feature for the shopper.

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MODELLING STAFF DENSITY AND INVENTORY SHRINK RELATIONSHIP – A CASE STUDY

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ABSTRACT

This paper is the outcome of a research project designed to study the annual shrink in inventory in relation to staff density in retail industry. The main objective this paper is to study the relationship between shop floor staff density and the annual shrink and then to model this relationship for its possible practical use in industry. Most of the studies reviewed related to this topic are based on the surveys of subjects at retail outlets and theses studies have provided a wide variety of useful information to researchers and practitioners. However, to achieve the objectives of this study in terms of cause, and effect relationship the real shop floor data documented in quantitative terms was required for the independent and dependent variables and to achieve this end this study is based on a case of a retail outlet. Thus case method for this study was chosen and the quantitative data collected from the case is used to study the relationship between staff density and the annual shrink.

The analysis of the data from the case indicated that given the design of the store, management, technological security equipment, nature of inventory items and their quality and quantity, demographics of store neighbourhood etc., the correlation between staff density represented in terms of labour hours per unit of sales area (LHPUSA) and shrink is negative and also very high (-0.9796). The in depth analysis of the shrink with respect to LHPUSA showed that the negative relationship is the semi-log linear type (LHPUSA vs. Log Y). The higher negative correlation (–0.99574) between these two variables indicated that semi-log linear type negative relationship is better fit that could be used by practitioners to assess benefits and losses based on the staff density of the store they are managing.

***Keywords**: Inventory, shrink, staff density, retail outlet*

INTRODUCTION

Masuda (1990) defined 'Shrink' as a loss of cash and merchandise due to external and internal theft in addition to internal system errors. The internal system errors could be administrative errors inside the store or errors on the part of vendors who supply the stock of inventory to retail outlets. Kornblum (1990) defined inventory shrink as the loss incurred as a result of theft by customers, and employees working inside the retail outlets.

Bamfield (2004) classified shrink on the basis of causes external and internal to the retail outlets. External causes include theft by customers, organized crime rings (OCR) who steal for profit from the sale of stolen items, vendors' dishonesty and/or administrative errors. Internal causes include theft by employees, administrative errors and/or system failure. May (2007), classified shrink in a broad sense, that is theft by employees, shoplifting by customers and or organized gangs, venders' fraud, and shrink due to internal administrative errors.

Howells and Proudlove (2007) studied shrink in relation to staff density, employee turnover, part time and full time employees, and found that increase in part time employees led to higher employee turnover and

higher level of shrink. However, the higher staff density on the shop floor led to reduction in shrink. In this paper, the aim is to verify the relationships observed by Howells and Proudlove (2007) and then to model the changes in shrink due to changes in staff density.

REVIEW OF LITERATURE

Shrink in retail sector can be classified in different ways; for example; criminal based shrink that involves unlawful acts to gain possession of merchandise, or non-criminal based shrink that occurs as a result of system failure, employee carelessness, and training issues. Another classification is based on the external and the internal causes of theft. The external causes could be customer theft, organized crime rings (OCR) stealing for profit, and vendor dishonesty. Internal causes may be an employee theft, administrative errors and /or system failure (Bamfield, 2004). Some researchers classified shrink into four categories such as Employee theft (Insiders), shoplifting (Outsiders), Administrative errors, and Vendors' dishonesty. Employee theft accounted for 48%, shoplifting by outsiders 32%, and administrative errors and vender fraud together accounted for about 20% of the total shrink (Forseter 2007; Donnelly 1994).

The study by Bamfield (2004) on 'Shrinkage, shoplifting and the cost of retail crime in Europe', mainly described retail crime losses in terms of external theft (by customers), internal theft (by staff). Hollinger and Davis (2003) reported staff theft about 45.9% of total shrink, and customer theft about 30.8% of the total shrink. Quinn (2004) observed that retail loss is mainly caused as a result of theft both external and internal, the latter responsible for higher percentage of loss than the former. Elshiekh and Deo (2009) concluded, on the basis of various figures reported in various studies that customer theft (External cause) and staff theft (Internal cause) combined together varies from 75 % to 80 % of the total shrink.

Mishra and Prasad (2006) reported in their study that internal theft could be reduced having an effective hiring procedure to exclude dishonest hires and empowering the honest employees and making them accountable and responsible for internal control systems. Rosenblum (2008) highlighted the significance of adding business intelligence wherever possible in daily store operations and to make every effort to support employee engagement, and making them stakeholders in business. Low employee morale and job insecurity are also observed to be associated with high shrink. Kornblum (1990) observed that the drive to reduce labour wage expense has encouraged many retailers to hire more part-time workers who usually impose greater shrink risks. Howells and Proudlove (2007) examined inventory shrink in relation to staffing, security, store design and the demographics of store neighbourhood and observed that the factors that reduce inventory shrink also found related to inventory turnover too. Higher the turnover of an item category, the lower the shrink in that particulate category and this phenomenon may be attributed to closer follow up and monitoring activities for that item category.

Howells and Proudlove (2007) also observed in their study that the use of latest technology alone is not helpful to reduce shrink. They observed that adequate shop floor staff on duty could also be a reason for lower shrink in retail outlets. The study reported that customers and staff crowding at various sales and checkout points may be helpful to reduce shrink due to theft. Therefore, the study suggests that staff and customers crowding has an effect on shrink.

NEED & OBJECTIVES OF THE STUDY

Some studies suggest that part-time employees, high turnover of employees, and shop floor staff presence have an effect on shrink (Howells and Proudlove 2007). Most of the other studies reported in literature are observed to be qualitative and exploratory in nature. The study by Howells and Proudlove (2007) showed some quantitative relationships between shrink and part time employees, full time employees, employee turnover, and staff presence on the shop floor.

In this paper, we intended to verify the relationships suggested by Howells and Proudlove (2007) and then to model the variations in shrink due to variations in the staff density using a case of a retail outlet. The precise objectives of the study are:

- To study the relationship between staff density and the annual shrink
- To model the relationship between staff density and the annual shrink

RESEARCH METHODOLOGY

Most of the shrink related studies are based on the surveys of subjects at retail outlets and theses studies provide a wide variety of useful information to researchers. However, to achieve the objectives of this study in terms of cause, and effect relationship the quantitative data was required for the independent and dependent variables and to achieve this end a retail outlet is selected to examine the relationship between these variables.

The selected case fairly represents the retail outlets in retail sector as it carries a large selection of national and in-house brands and can be comparable to three stores under one ceiling. The store belongs to one of the largest chain retailer in Canada, and inventory supplies to the outlet are almost entirely provided by the central distribution warehouses owned and operated by the corporation itself.

For this study, the data related to inventory and its categories, shrink, employees mix, employee turnover, sales staff, hours of store operation, store area, and other related information were made available to researchers for 5 years, starting with year 2004 to 2008 inclusive. Simple statistical tools and techniques are used to analyze and present the data in suitable formats.

To get data and information from a retail outlet is a challenge in itself. For example, it is difficult to find management willing to share all needed information and also if it is willing then it is difficult for them to find time to share information. In the end, there would be some information that management may not like to share with researchers.

ANALYSIS OF CASE STUDY DATA

Human capital is a corner stone in a successful retail operation. Smart retailers recognize the significance of recruiting and retaining good employees. The literature surveyed indicated that higher proportion of part time staff is also associated with higher shrink due to theft (Kornblum, 1990). In addition some studies also reported higher turnover of employees linked to higher level of shrink (May, 2007; McTaggart, 2005).

1. *Nature of Inventory & Inventory Shrink in the Case Study Store*

   Keeping in view the size of the store, and constraints related to the availability of store managements' time to provide data and information, three inventory categories (Out of nine); Cosmetics, Over the counter (OTC) medication, and Health and beauty aides (HBA), that make up 86 % of the total store inventory in terms of $ value, are selected for making quantitative analysis. The remaining six categories (Imaging; confectionary; paper; beverages; household; and miscellaneous items) that make up only about 14 % of the total inventory in $ terms but required much more time and effort to collect data and information were not included due to time and resource constraints on the part of management for providing data and information. However, the data and information related to 86 % of store inventory very well represents the functioning of the store operational dynamics.

2. *Inventory shrink over the five year period from 2004 to 2008*

For the sake of confidentiality the data provided in Table 1 is some multiple of the actual numbers received from the retail outlet and are not the actual $ figures obtained from the retail outlet. The reported figures indicate shrink for Health and Beauty Aides (HBA), Cosmetics, and 'Over the counter' (OTC) medication, for a period of five years, from May 2004 to May 2008.

During data collection, it is observed that management of the store was unable to differentiate theft in $ amount between 'customer theft' and 'employee theft'. The store manager mentioned, "There is no way of knowing" that how much shrink caused by customers, and how much is by employees. However, the combined shrink due to theft has been reported as 80 % of the total shrink (As per the management of the store almost 20 % of the shrink was caused due to administrative errors, system failures, and vender mistakes and this kind of shrink gets adjusted at the end of the year). The shrink related literature reviewed (Forseter 2007; Donnelly 1994; Elshiekh and Deo 2009) also indicated that almost 80 % of the total shrink is the outcome of theft (External and internal theft combined) in retail outlets. Therefore, in this paper the focus is only on theft portion of shrink (80% of total shrink) that actually impacts profitability of the store.

The theft related data is presented in Table # 1. The data generated (Using a factor of 80% in the last row of table 1) indicated that the inventory shrink in the retail outlet was estimated to be close to $ 32.292 K. for the year 2004, 37.138 K for the year 2005, 40.280 K for the year 2006, 18.197 K for the year 2007, and 104.844 K for the year 2008.

TABLE 1
Shrink due to theft in HBA, Cosmetics, and OTC Inventory Categories

Inventory Category	2004	2005	2006	2007	2008
Shrink in HBA	22697	26364	24638	15102	31394
Shrink in Cosmetics	5592	12189	16304	2377	63288
Shrink in OTC	12076	7870	9408	5268	36374
Total	40365	46423	50350	22747	131056
Theft 80% of shrink	***32292***	***37138***	***40280***	***18197***	***104844***

3. Staff density in the case study store

The availability of floor staff to greet, help, and offer customer service to shoppers greatly reduce opportunity of theft (Howell and Proudlove, 2007). Realizing that wage expense is the major variable cost component of pre-tax earnings, retailers tend to achieve efficiency in operations by leveraging on labour to maximize profitability.

In this case study, staff density is represented by two variables and these are;

- The number of scheduled labour hours per hour of operation (LHPH)
- The number of scheduled labour hours per unit of sales area (LHPUSA)

a. Labour hours per hour (LHPH) of operation and shrink due to theft

Wages, being the major controllable expense, has drawn special attention of managers in retail operations as it greatly impact store profitability. The case study store is not an exception, and it also pays special attention to labour hours.

The in-house data shows, in Table 2, a steady decline in total labour hours allotted for each hour of operation, year after year from 5.56 to 5.04 up to three years (From 2004 to 2006) and then increased to 6.8 in 2007 due to more staff hired for performing shop floor operations related to relocation of the store in that year. This relocation related work was no longer there for 2008 and LHPH of operation in the store reduced to 3.2. As a result of it shrink jumped to much higher level in 2008. It indicates that 3.2 labour hours per hour of operation were not sufficient to reasonably supervise the store area.

TABLE 2
Labour hours per hour (LHPH) of operation in relation to $ shrink over five years

Year	2004	2005	2006	2007	2008
LHPH of Operation	5.56	5.51	5.04	6.8	3.2
Shrink due to Theft (thousand)	32.3	37.1	40.3	18.2	104.8

The correlation coefficient (r) between LHPH of operations and shrink due to theft is found to be negative and high (-0.96063).

b. Labor hours per unit of sales area (LHPUSA)

The number of labor hours per square unit of sales area (LHPUSA) is shown in Table 3. The correlation coefficient (r) between LHPUSA and shrink is found to be -0.9796 showing higher negative co-relation between LHPUSA and shrink as compared to LHPH and shrink shown in section 5.3. 1. In an earlier study Howell and Proudlove (2007) had also reported similar results. It shows that the variable LHPUSA is a better represents the operational dynamics as compared to LHPH. Therefore, the LHPUSA and shrink relationship is evaluated in depth to observe the nature of relationship.

TABLE 3

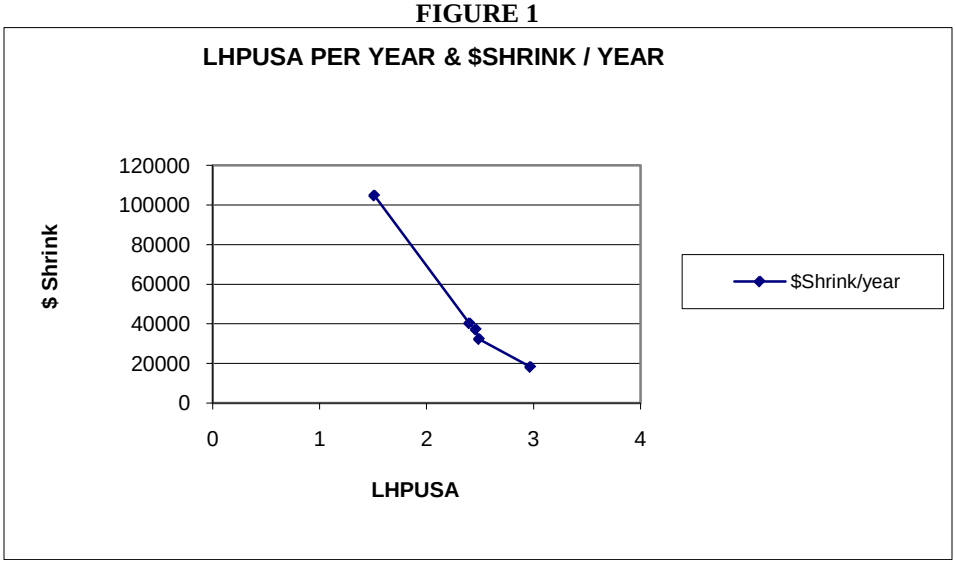
Labor hours per unit of selling area (LHPUSA) in relation to shrink over five years

Year	2004	2005	2006	2007	2008
LHPHSA (In units of sq. ft area)	2.49	2.46	2.40	2.97	1.51
Shrink due to theft	32,292	37,138	40,280	18,197	104,844

c. Nature of LHPUSA and Shrink relationship

The plot of the shrink and LHPUSA shown in Figure 1 show that the relationship looks negative and linear but not exactly linear.

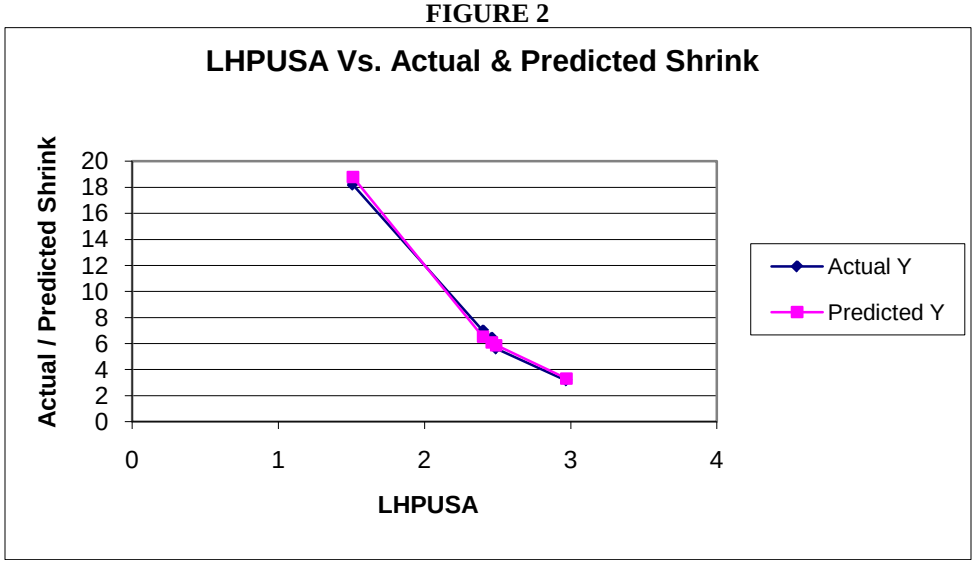
FIGURE 1



The figure 1 indicates that if all other conditions (Technological security equipment being used, store design, nature of inventory items and their quality and quantity, management style of management, demographics of store neighbourhood etc.) are kept constant and LHPUSA is reduced step by step so that it almost reaches zero (Or in other words there is no one to look after the store) then in that situation the shrink increases exponentially. On the other hand if the LHPUSA is increased to a very large extent (Or in other words if the store management employs so many sales persons in the store) then in that situation the shrink is not going be zero.

Further analysis of the data indicated that the figure 1 represents the semi-log linear relationship represented by the equation Y = AB^n instead of the linear relationship. The validity of this relationship is shown by the increase in the negative correlation between X (LHPUSA on X-axis) and Log Y (Shrink on Y-axis), to –0.99574 which is higher than -0.9796, reported in section 5.3.2. The figure 2 shows the predictive capability of the semi-log linear relationship in the form of plot visually.

FIGURE 2



CONCLUSIONS & FUTURE RESEARCH DIRECTIONS

The literature reviewed for this paper indicates that shrink in retail sector is a huge problem and it causes loss to industry in billions of dollars. Keeping in mind the quantum of loss to retailers it becomes necessary for researchers to find the causes of loss and its nature of relationships to staff density.

Findings based on the case study store:

- The 'Sales per labour hour (SPLH)' and labour hours per unit of sales area (LHPUSA) are used as measures of productivity in the store. Both SPLH and LHPUSA (Measures of staff density) indicate that decline in the staff density led to increase in the shrink.
- The negative correlation between LHPUSA vs. shrink (-0.9796) is found to be higher than the SPLH vs. shrink (-0.96063) indicating that LHPUSA is a better measure to predict shrink than the SPLH.
- The in-depth analysis of the shrink with respect to LHPUSA showed that the negative relationship is the semi-log linear type. The high negative correlation (–0.99574) between these two variables is observed to be higher indicating that semi-log linear type negative relationship is a better fit.

FUTURE RESEARCH DIRECTIONS

In an earlier study Howell and Proudlove (2007) observed the relationship between staff density and shrink as negative but in this study the relationship seemed more close to semi-log linear type. This finding of this study prompts researchers to conduct more similar studies to verify the relationship.

The very high negative correlation between staff density and shrink in the case study has opened the door to study the effect of variation in the shop floor staff cost due to additional employees on annual shrink. This kind of research work might be useful to explore issues such as 'cost benefit analysis of hiring additional employees. In addition, this study may also lead to another study related to the 'determination of an effective employee mix (part time to full time) for reducing shrink level' as far as possible.

LIMITATIONS OF THE STUDY

The case method had its limitations in the sense that every case is a unique entity and it is difficult to make comparison between two case studies due differences in product-mix (Inventory), location and layout, demography, and wages and salaries paid to employees etc.
In addition, annual shrink reports, obtained for this study are based on one time evaluation done per year. The annual report only reports the condition of a store at a certain point of time only. However, this limitation does not affect the outcome of this study.

The main disadvantage of annual evaluation of shrink is that it uncover shrink only after the fact and therefore, it does not allow for a timely action to reduce shrink in the same year or time period.

Moreover, information related to theft specifically to the internal causes is pretty sensitive and it is difficult to obtain accurate information other than what is available in the form of facts and figures from reports.

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ECONOMIC ORDER QUANTITY UNDER TRANSPORTATION, MATERIAL HANDLING AND CROSS DOCKING CONSIDERATIONS

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ABSTRACT

The objective of an effective inventory management system is to provide the required customer service level and reduce all the associated costs. Towards this end, economic quantity ordering plays an important role. This paper presents a variation of the economic order quantity model. In addition to the traditional relevant costs of ordering and holding the inventory, the paper takes into account cost categories such as material handling cost in a distribution centre, transportation costs from supplier to the distribution centre as well the resultant savings in inventory holding costs due to cross-docking concepts in a supply chain.

INTRODUCTION

Inventory is the stock of goods and supplies carried by a business either for immediate sale or to provide the inputs to other production and distribution processes throughout the supply chain. Often, they represent a substantial part (20-60%) of the total assets on a balance sheet. It is highly debatable whether the unsold stock should be represented as an asset or liability, but there is no denying the fact that the stock of goods carried at various stages of a supply chain plays an important role in determining the logistical behaviour of a distribution system. An effective inventory strategy helps to lower the logistical costs.

In broader terms, customer service level refers to the ability of a company to satisfy the needs of the customers. However, in inventory management context, the term service level is mainly interpreted as the availability of a company's products and services when needed. There is no doubt that adequate level of inventory ensures product availability and customer service levels, but the financial commitment required to maintain adequate inventory levels forces many companies to consider the cost implications of maintaining the customer service levels and carrying inventory. Therefore, cost minimization (besides customer service level) emerges as an important objective in most inventory management models. The basic inventory management premise seeks answers to some fundamental question such as how much and how often to order, how much stock to maintain, how much to ship and how often to ship etc. The answers to these questions leads one to explore several trade-offs inherent in inventory management models representing different costs structures. The prominent among these trade-offs is the inventory ordering cost and holding cost trade-off which has been the subject of a vast amount of literature on this topic. The traditional trade-offs models tend to ignore many relevant cost categories, making simplifying assumptions far away from reality in order to enhance mathematical tractability of the models and present a very narrow view of the trade-offs involved. These models although easier to use, do not provide a realistic view of the overall picture. Therefore, a broader perspective of cost trade-offs is required. In addition to the traditional ordering and inventory holding costs, we also consider cost categories such as the material handling costs incurred in a warehouse; the transportation costs of the haulage and the savings resulting from applying the cross-docking concepts in a distribution centre or warehouse. Considering these cost categories in the model, makes the model more realistic and is likely to enhance its utilization by the practitioners.

The remainder of the paper is organized as follows. We start with a literature review on the economic order quantity problem. Next, we present the notation, cost categories and the mathematical framework for our model. We propose a procedure to compute the shipments sizes, shipment frequency and the order quantity. Finally, we discuss further extensions of this work and provide the concluding remarks.

LITERATURE REVIEW

Since the inception of economic order quantity idea by Harris (1913) and its subsequent popularization by Wilson (1934), there has been no dearth of literature on the subject. The traditional model assumed a uniform and constant demand and a variation was provided by Wagner and Whitin (1958) to consider time varying demand patterns using dynamic programming. Silver and Meal (1969) provided a heuristic method for solving Wagner and Whitin (1958) model. Goyal (1976) proposed a joint inventory management strategy for supplier and customer. Banerjee (1986) proposed a similar strategy for both parties but under lot-for-lot assumption. Porteus (1986) explored the relationship between quality and EOQ model. Cheng (1991) and Tripathy et al. (2003) studied the relationship between imperfect process, process reliability and economic lot sizing. Goh (1994) discussed the EOQ model in a retail setting. Fazel (1997) offered some mathematical models to compare the cost difference between the EOQ and Just-in-time (JIT) strategies to help companies decide the EOQ-JIT transition. Minner (2003) provided a survey of inventory models for multiple supplier situations. Yang and Pan (2004) investigated the effects of lead time reduction and quality improvement in an inventory model. Kim and Ha (2003) considered a buyer–supplier coordination model to facilitate JIT deliveries. Jaber et al. (2004) applied the first and second law of thermodynamics to EOQ model. Min and Pheng (2005) argue that it may in fact, possible for EOQ to be more cost effective than JIT. Mula et al. (2006) surveys some the existing literature on inventory modeling under uncertainty and the survey covers the time period from 1983 to 2004. Lodree (2007) used elementary number theory to propose a heuristic to determine the optimal lot size policy under integer orders. Tsou (2007) considered cost of quality in the EOQ model to conclude that economic order quantity under quality cost is larger than that in a traditional EOQ model. Ertogral et al. (2007) considers shipment dependent transportation costs in a supply chain. Mendoza and Ventura (2008) extended the EOQ model for truck-load and less-than-truck-load quantities and incremental quantity discounts. Teunter et al. (2009) considered economic lot sizing under two production scenarios i.e. manufacturing of new products and remanufacturing of returned goods.

MATHEMATICAL MODEL

The mathematical model for the lot sizing problem considers the ordering process from the supplier location to the distributor centre under the deterministic demand assumption. The distributor in this case accepts multiple shipments under the same order size.

Notation

We use the following notation in our mathematical model for the order quantity
D = Annual demand placed on the distribution centre
d = Daily demand or the cross-docked amount from a shipment
S = Ordering cost per order
h = Storage cost including interest on capital per unit per year
q = Shipment size
n = Number of shipments used for each order (n>=1)
Q = Purchasing order quantity from the supplier
Q = q . n
t = Fixed transportation cost per delivery
m = The per unit material handling cost in the distribution centre

The cost model

Using the above notation, we compute the different types of costs associated with our model as follows.

Ordering costs. The ordering cost consists of expenditures related to placing a purchase order. Typical expenses in this cost category include paper work, communication costs, order processing, purchaser's wages etc. On an annual basis, this cost could be represented as follows.

$$Ordering\ costs = \frac{DS}{Q} = \frac{DS}{qn} \quad (1)$$

Transportation costs. This cost involves the transportation cost of sending vehicles from the supplier to the distribution centre. Typical costs in this category include the driver and vehicle rental costs, truck

loading and off-loading costs, fuel costs etc. To meet an annual demand of 'D' using 'D/q' shipments, the total annual transportation cost is given as:

$$Transportation\ Cost = \frac{t.D}{q} \quad (2)$$

Holding costs. This cost includes the housing costs in a warehouse or distribution centre including the capital (i.e. interest) cost of stock, insurance, pilferage and breakage costs in storage. If the shipment size is 'q' units with 'D/q' shipments arriving annually, q/2 would be the average amount of inventory held throughout the year. This is the average inventory level considered in traditional inventory models. However, it may be noted that for 'D/q' shipments arriving at the distribution centre in a year, the product demand on the date of arrival of an shipment, can be directly off-loaded to the outgoing vehicles waiting for that day's orders. This eliminates the storage needs for that day's orders. The concept is known as cross-docking. Therefore, under a cross-docking strategy, the amount placed in storage would be (q-d), with the average inventory level held throughout the year to be (q-d)/2.

Consequently, the annual holding costs under a cross-docking strategy can be written as:

$$Annual\ holding\ cost = h\frac{(q-d)}{2} \quad (3)$$

Material handling costs. The material handling component in our cost model takes into account the fact that in the absence of a cross-docking strategy, a large number of items are received, unpacked, stored, moved to the forward zone for ordering picking and finally shipped to the customers. This requires several material handling movements during the course of product's stay in a distribution centre. However, if a portion of the product is placed in the staging area for next out-bound customer delivery or directly off-loaded to the customer vehicles waiting for shipments, this would significantly reduce the material handling steps needed for this product. This results in a substantial savings in material handling costs. We have modelled this scenario in our costing model. For each of the 'D/q' shipments, the material handled in the warehouse (or warehousing activity) would actually be (q-d). On an annual basis, the total material handling in the warehouse is given by the following equation.

$$Annual\ amount\ of\ material\ handled = (q-d)\frac{D}{q}$$

$$Annual\ material\ handling\ cost = m(q-d)\frac{D}{q} \quad (4)$$

It may further be noted that $d \le q \le Q \le D$

Case 1. d = q

Under this scenario, a shipment equal to the daily demand arrives each day which can be directly cross-docked with no need for in-house material handling in the warehouse. For such a 100% cross-docking strategy, the material handling cost is zero or practically negligible as confirmed by equation (4).

Case 2. d = Q

Under this intermediate scenario, the shipment amount is equal to the order size. This scenario would provide D/Q opportunities in a year for cross docking and the annual material handling cost would be:

$$\textit{Annual material handling cost} = m\,(\mathrm{Q}-\mathrm{d})\frac{\mathrm{D}}{Q}$$

Case 3. d = D

Under this extreme scenario, the entire yearly demand is shipped under one shipment. This is a minimum cross-docking strategy which provides only one opportunity for cross-docking during a year. This scenario would give an annual material handling cost of 'm(D-d)'.

Total cost model. The total overall annual cost can be computed by the summation of equations 1-4 as given below.

$$TC = \frac{\mathrm{DS}}{\mathrm{n.q}} + \frac{\mathrm{t.D}}{\mathrm{q}} + \mathrm{h}\frac{(\mathrm{q}-\mathrm{d})}{2} + m\,(\mathrm{q}-\mathrm{d})\frac{\mathrm{D}}{q} \tag{5}$$

Each term of the above equation expresses a linear relationship w.r.t. 'q'. Therefore, the sum is a convex function w. r. t. 'q' and an opportunity exists to obtain global minima by setting the derivative equal to zero.

$$\frac{\partial(TC)}{\partial q} = -\frac{\mathrm{DS}}{\mathrm{n.q}^2} - \frac{\mathrm{t.D}}{\mathrm{q}^2} + \frac{\mathrm{h}}{2} + \frac{\mathrm{mdD}}{\mathrm{q}^2} = 0 \tag{6}$$

This leads to the following formula for the optimal shipment size, q.

$$q = \sqrt{\frac{2D\left(t + \frac{S}{n} - md\right)}{h}} \tag{7}$$

Further re-arranging equation (6) leads to the shipment frequency of the order as follows:

$$n = \sqrt{\frac{2DS}{\mathrm{h.q}^2 + 2mdD - 2tD}} \tag{8}$$

Equations (7) and (8) provide the values for the shipment amount and number of deliveries under each order. It may be noted that the formulas (7) and (8) as such, are not practically useful as each one requires the computation from the other. Therefore, an iterative procedure is needed to compute these formulae. Below, we provide such a procedure.

Computational procedure

The computational procedure involves the following steps.

Step 1. Set the acceptable convergence percentage '☐'.
Set n = an arbitrary value
Compute 'q' using equation (7).
From the current values of q and n, find the total cost, TC1, making use of equation (5).

Step 2. Using the current value of q, update the value of n from equation (8).
Using this current value of n, update the value of q from equation (7).
From these values of q and n, find the total cost, TC2, making use of equation (5).

Step 3. Find the percentage improvement in cost, $\Delta C = \frac{TC1 - TC2}{TC1} * 100$

Step 4. Set TC1 = TC2

Step 5. If $\Delta C \geq \alpha$, repeat steps 2-4; else stop as desired convergence has been reached.

The values of q and n obtained above can be used to compute the order size by multiplying the shipment size with the shipment frequency i.e. Q = q .n.

FURTHER WORK & EXTENSIONS

Some further work on the model would include testing its validity over diverse data sets and identify key cost components which have a major influence over the total costs. The model can also be tested for sensitivity analysis by varying its input parameters. Such an analysis would be beneficial to establish the robustness of the economic quantity model with respect to small perturbations in input parameters that happen in real life. The author also recognizes that several input parameters in economic order modelling are rather vague in nature and could not be specified in precise terms by a practitioner. Therefore, another extension of the model could be developing a version of this model under a fuzzy environment where the decision maker is allowed to specify the parameters in vague terms with varying degrees of beliefs.

CONCLUDING REMARKS

Inventory plays a crucial role to maintain satisfactory customer service levels and ensure product availability in a supply chain. However, the financial commitment needed to carry adequate inventory levels can not be ignored. Most inventory models are based on some kind of trade-offs among different cost categories. The trade-off between the ordering cost and holding is the most common one existing in inventory management literature. The present paper considers some additional trade-offs and cost categories which have not been considered in the traditional models. For example, the material handling cost in a warehouse and the cost savings by shipping in smaller quantities and taking advantage of the cross-docking opportunities in a warehouse, have not been explored in the past literature. Furthermore, the paper presents a heuristic procedure to compute shipment sizes, shipment frequencies and the order quantities. Therein, lies the contribution of the present work.

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OUTSOURCING: NEW PARADIGM IN INDIAN ECONOMY

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ABSTRACT

The process of globalization has been an integral part of the recent economic progress made by India. Off shoring is another aspect of globalization ;It is playing a major role in growth, leading to the enhancement of the job market in India. The last few years have seen an increase in the number of skilled professionals in India employed by both local and foreign companies to service customers in the US and Europe in particular. Taking advantage of India's lower cost but educated and English-speaking work force, and utilizing global communications technologies such as voice-over IP (VOIP), email and the internet, international enterprises have been able to lower their cost base by establishing outsourced knowledge-worker operations in India. Generally outsourcing can be defined as - An organization entering into a contract with another organization to operate and manage one or more of its business processes. This outsourcing can be achieved by BPO (Business Process Outsourcing), KPO (Knowledge Process Outsourcing) sectors; which are playing vital role in GDP/FDI (Gross Domestic Product/Foreign Direct Investment) of Indian economy.

Keywords*: Outsourcing, Business Process Outsourcing, Knowledge Process Outsourcing*

INTRODUCTION

India became familiar with " Business Process Outsourcing " in mid 1990's.Knowledge Process Outsourcing (KPO) is one step ahead of Business Process Outsourcing (BPO). It started emerging in India around the turn of the century, when the global industries realized that apart from software development and technical support, knowledge work could also be outsourced.

India has a large knowledge pool, which is filled to the brim with talented and experienced knowledge workers from various sectors like Medicine, Pharmacy, Biotechnology, Engineering, Law, Paralegal Content, Education & Training, Analytics, Research & Development, Design & Animation, and even Intelligence services.
This talent is now being tapped into by many of the leading International business firms from all over the world, through KPO services. Though both services (KPO and BPO) work on almost same technology but they are different in functionality.

This paper tries to find out the difference between the two regarding global market sizes, India's share in it, service provided, job prospects, opportunities and major challenges faced.

BACKGROUND

India's burgeoning population (contributes 17% of world population) has the potential to perform well in both sectors and can exploit its intellectual capital leading to countries growth .Knowledge Process Outsourcing, calls for the application of specialized domain pertinent knowledge of a high level. The KPO typically involves a component of Business Process Outsourcing (BPO), Research Process Outsourcing (RPO) and Analysis Process Outsourcing (APO). KPO business entities provide typical domain-based processes, advanced analytical skills and business expertise, rather than just process expertise. KPO Industry is handling more amount of high skilled work other than the BPO Industry. While KPO derives its

strength from the depth of knowledge, experience and judgment factor; BPO in contrast is more about size, volume and efficiency processes.

In fact, it is the evolution and maturity of the Indian BPO sector that has given rise to yet another wave in the global outsourcing scenario: KPO or Knowledge Process Outsourcing.
However the functions covered under BPO and KPO are moderately different. These functions are basically different in its natural form as the BPO covers non core functions and KPO covers core functions.

Feature	BPO	KPO
Functions	Non core and routine	Core
Nature of Employment	For fresh Graduates with good communication skills	For professionals like CA, MBA, Engineers, PhDs etc.
Professional Approach	Work on process expertise	Works on domain expertise
Nature	Pre-defined processes	Requires understanding, analysis of business
Career Difference	Considered by people as job not as a career	Considered by professionals as career
Working hours	Type of working 24x7x365	Normal 8 hours working
Employees Turnover rate	Very high (almost 40%)	Comparatively very less
Growth rate	Expected to be 26%	Expected to be 46%

(Source: www.bpoindia.org)

With this different view of functionality India can capture its share in Global market, which has quite promising future prospects.

GLOBAL MARKET SIZE OF BPO

According to Gartner, a market research firm, the size of the global BPO market after 2007 would be $173bn, of which $24.23bn would be outsourced to offshore contractors. Of this, India has the potential to generate $13.8bn in revenue. "The projection includes revenues of pure play Indian BPO service providers, captives operations of MNCs operating in India, third party service providers and BPO subsidiaries of IT Services firms.
The trends in growth of the BPO sector in India are as follows:

Year	Growth	Jobs	USD
2003	54%	74,400	2.8 billion
2004	50%	1.1 million	3.9 billion
2005	52%	1.7 million	5.7 billion

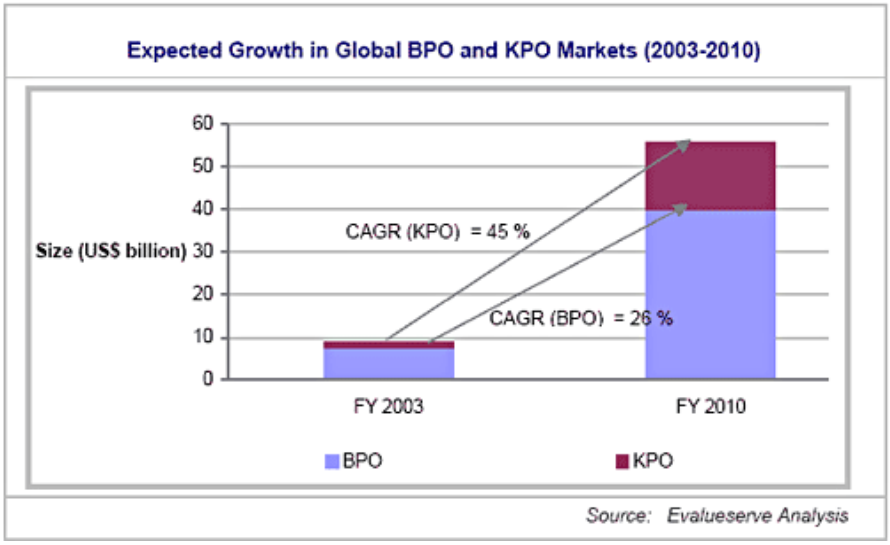
(Source: http://business.mapsofindia.com)

GLOBAL MARKET SIZE OF KPO

According to Kiran Karnik, president, National Association of Software and Services Companies (NASSCOM). The global KPO industry is likely to become worth $17 billion by 2010, with the Indian industry capturing between $12-$14 billion of it.

The global KPO industry stands at US$ 1.2 billion today. According to the Global Sourcing New report, this is expected to grow at a CAGR of around 45% and will touch the US$17 billion mark by 2010. India is well positioned to capture 70% of this market, translating to a market size of U$12 billion. The NASSCOM estimates the KPO market to grow by gargantuan proportions to US$ 15.5 billion by 2010. The number of Indian KPO professionals is set to leap from 25,000 to 250,000 employees by 2010.

Low-end outsourcing services have an expected Cumulative Annual Growth Rate (CAGR) of 26% by 2010. In contrast, the global market is poised for an expected CAGR of 46% by 2010. The following figure demonstrates the expected growth in the BPO and KPO markets by 2010.
(Source:http://www.kpoexperts.com)



(Source:http://www.outsource2india.com/)

CURRENT STATUS OF NATURE OF JOB OFFERINGS

Different Types of Services Being Offered By BPOs

1. **Customer Support Services**
   Customer concerns and queries through multiple channels including voice, e-mail and chat on a 24/7 and 365 days basis.
   Service Example: Customers calling to check on their order status, customers calling to check for information on products and services, customers calling to verify their account status, customers calling to check their reservation status etc.
2. **Technical Support Services**
   Offerings include round-the-clock technical support and problem resolution for customers and computer hardware, software, peripherals and Internet infrastructure manufacturing companies. These include installation and product support, up & running support, troubleshooting and Usage support.
   Service Example: Customers calling to resolve a problem with their home PC, customers calling to understand how to dial up to their ISP, customers calling with a problem with their software or hardware.
3. **Telemarketing Services**
   Target interaction with potential customers for 'prospecting' like either for generating interest in products and services, or to up-sell / promote and cross sell to an existing customer base or to complete the sales process online.
   Service Example: Outbound calling to sell wireless services for a telecom provider, outbound calling to retail households to sell leisure holidays, outbound calling to existing customers to sell a new rate card for a mobile service provider or outbound calling to sell credit or debit cards etc.

4. **Employee IT Help-desk Services**
   employee IT help-desk services provide technical problem resolution and support for corporate employees.
   Service Example: of this service include level 1 and 2 multi-channel support across a wide range of shrink wrapped and LOB applications, system problem resolutions related to desktop, notebooks, OS, connectivity etc., office productivity tools support including browsers and mail, new service requests, IT operational issues, product usage queries, routing specific requests to designated contacts and remote diagnostics etc.
5. **Insurance Processing**
   Provides specialized solutions to the insurance sector and support critical business processes applicable to the industry right from new business acquisition to policy maintenance to claims processing.
   Service Example:
   New Business / Promotion:
   Inbound/outbound sales, Initial Setup, Case Management, Underwriting, Risk assessment, Policy issuance etc.
   Policy Maintenance / Management:
   Record Changes like Name, Beneficiary, Nominee, Address; Collateral verification, Surrender Audits Accounts Receivable, Accounting, Claim Overpayment, and Customer care service via voice/email etc.
6. **Data Entry Services / Data Processing Services**
   Service Example:
   - Data entry from Paper/Books with highest accuracy and fast turn around time (TAT)
   - Data entry from Image file in any format
   - Business Transaction Data entry like sales / purchase / payroll.
   - Data entry of E-Books / Electronic Books
   - Data Entry : Yellow Pages / White Pages Keying
   - Data Entry and compilation from Web site
   - Data Capture / Collection
   - Business Card Data Entry into any Format
   - Data Entry from hardcopy/Printed Material into text or required format
   - Data Entry into Software Program and application
   - Receipt and Bill Data Entry
   - Catalog Data Entry.
   - Data Entry for Mailing List/Mailing Label.
   - Manuscripting typing in to word
   - Taped Transcription in to word.
   - Copy, Paste, Editing, Sorting, Indexing Data into required format etc.
7. **Data Conversion Services**
   Service Example:
   - Conversion of data across various databases on different platforms
   - Data Conversion via Input / Output for various media.
   - Data Conversion for databases, word processors, spreadsheets, and many other standard and custom-made software packages as per requirement.
   - Conversion from Page maker to PDF format.
   - Conversion from Ms-Word to HTML format
   - Conversion from Text to Word Perfect.
   - Conversion from Text to Word to HTML and Acrobat
   - Convert Raw Data into required MS Office formats.
   - Text to PDF and PDF to Word / Text / Doc
   - Data Compilation in PDF from Several Sources.
   - E-Book Conversion etc.
8. **Scanning, OCR with Editing & Indexing Services**
   Service Example:
   - High speed Image-Scanning and Data capture services
   - High speed large volume scanning
   - OCR Data From Scanned page / image

- Scan & OCR paper Book in to CD.
- ADOBE PDF Conversion Services.
- Conversion from paper or e-file to various formats

9. Book Keeping and Accounting Services

Service Example:

- General Ledger
- Accounts Receivables and Accounts Payable
- Financial Statements
- Bank Reconciliation
- Assets / Equipment Ledgers etc.

10. Form Processing Services:

Service Example:

- Insurance claim form
- Medical Form / Medical billing
- Online Form Processing
- Payrol Processing etc.

11. Internet / Online / Web Research

Service Example:

- Internet Search, Product Research, Market Research, Survey, Analysis.
- Web and Mailing list research etc.

Different Types of Services Being Offered By KPO's

- Animation & Design
- Advanced Web Applications
- Business and Technical Analysis
- Business & Market Research
- Data Analytics
- Financial Consultancy and Services
- Intellectual Property (IP) Research
- Learning Solutions
- Legal Services
- Medical Services
- Network Management
- Pharmaceuticals and Biotechnology
- Research & Development
- Training & Consultancy
- Writing & Content Development
- Many companies have started outsourcing their high-end processes like Market Research (MR), Equity Research, Engineering Design, Intellectual Property Rights (IPR), Legal Services, Remote Education and Publishing Operations to India after the success of BPOs. These companies outsource their processes to India for:
- Cost savings
- Operational efficiencies
- Access to highly skilled workforce
- Improved quality

A KPO can provide quality work and on- time delivery with uninterrupted services. Initially,KPOs focused on data collection, updating financial models, patent searches and basic data mining. But now KPOs have also started focusing on sector insights, equity research, patent analytics, high end data mining, analysis and recommendation. Some of the hot destinations for KPOs other than India are Russia, China,Ireland and Israel, Czech Republic.

THE TOP RANKERS

Business Process Outsourcing

Here is the list of top fifteen BPO companies in India based on survey conducted by NASSCOM. The basis of ranking is the revenues generated by the BPO companies in 2003-04, as per US GAAP. The parameters for the survey was: Employee Size (Operation level executives), Percentage of last salary hike, Cost to company, Overall Satisfaction Score, Composite Satisfaction, Company Culture, Job Content / Growth, Training, Salary and Compensation, Appraisal System, People, Preferred Company: (Percentage of respondents of a company who named their own company as the preferred one), Dream Company: (Percentage of respondents in the total sample who preferred a particular company).
(Source:http://www.outsource2india.com)

1. WNS Group
2. Wipro Spectramind
3. Daksh e-Services
4. Convergys
5. HCL Technologies
6. Zenta
7. ICICI Onesource
8. MphasiS
9. EXL
10. Tracmail
11. GTL Ltd.
12. vCustomer
13. HTMT
14. 24/7 Customer
15. Sutherland Technologies

KNOWLEDGE PROCESS OUTSOURCING

Unlike the benchmarked NASSCOM ranking of Top BPOs, there is no listing of the KPO companies. Another impediment is the fact that a number of KPO companies in India shy away from disclosing their revenues. What we have instead is a mixed bag of parameters like revenues, number of employees and market leadership in certain sectors. We have not included big firms like Wipro, Infosys or HCL which have large BPO outfits but whose KPO efforts have been relatively minimal.

1. Genpact: Formerly GECIS, Genpact had revenues of US$ 493 million in 2005. The relatively small KPO unit is a complementary arm to its main BPO business. Genpact's KPO specializes in competitive intelligence, campaign management, program tracking, customer relationship management, customer value mapping, research, database generation, and others. The KPO has staff strength of 1200 people, of which more than 90% has advanced degrees.

2. Evalueserve: Based in Gurgaon, it has 650 people engaged in market research and business intelligence. Nearly 45% of the company's revenues come from math related projects. Evalueserve has a research firm called Global Sourcing Now, which specialises in high-quality research reports.

3. Ugam Solutions: Ugam Solutions entered the area of market research analytics in 2001, much before the term KPO was coined. Their business involves the study of consumer minds, their behaviour and habits, for evolving a basis for business development initiatives of global companies. It has now grown to a 400-member organization.

4. WNS: A Mumbai-based BPO, WNS has just started its KPO division for market research with 300 people. It operates in the knowledge services business segment and offers high-end services such as market, investment and business research.

5. 24/7 Customer: This BPO was listed in the Leaders category of IAOP's (International Association of Outsourcing Professionals) Global 100 list. Its KPO focuses on customer analytics, where it studies consumer behaviour and analyses data pertaining to related activities such as campaigns and marketing activities.

6. ICICI OneSource: Acquiring a US-based research firm, Pipal in 2004, ICICI OneSource offers high-end customised business research and collections, analytics and information services. It had revenues of US$ 42 million in 2003-04.

7. EXL Service: This BPO acquired Inductis, a leading strategy and analytics company serving the financial services and insurance industries, in June 2006 to form an independent subsidiary. Inductis had revenues of US$ 20 million in 2005. The new entity will focus on consulting, research and analytics.

8. Copal Partners: Founded in 2001, Copal Partners provides company and sector research to its clients, which include Wall Street investment banks, hedge funds, private equity firms and private and public corporations. It was formed by professionals from McKinsey & Co., Citigroup, and GE Capital. In 2005, it entered into an agreement with Reuters to provide financial institutions with customized company research and sector analysis. With revenues of US$ 6 million, it plans to expand to 400 employees by the end of 2006.

9. Pangea3: Based in Mumbai, Pangea3 provides services areas such as patent research, analysis and prosecution support; document review, litigation and due diligence; contract drafting management and administration; legal research and business information research. With an employee strength of 100, its revenues are expected to be US$ 2.5 million this year.

10. TechBooks: This is a leading KPO in publishing and services publishing houses such as Cambridge University Press, Blackwell, Hall, Pearson and Tata Mc-Graw Hill in providing electronic content services and solutions. It plans to get into e-learning services with broad application in the corporate, government and education markets.
(Source:http://www.chillibreeze.com)

MAJOR CHALLENGES

Despite all these growth and promising future for KPO,BPO sectors ;this industry faces major challenges in recruiting and retaining its employees .Here are some questions waiting for answers!

Why people prefer to join BPO's?

In general a person with any graduation can join any of the BPO. Some BPO's like to take people with MBA but then again the specialization are of an individual hardly makes any difference. Again, this is the industry, where there is no reference checks and very often people don't even specify there exact age. Here are some points why people prefer to join a BPO:

1. Did not get a better job.
2. Find nothing better to do.
3. Education level doesn't matter
4. Good work environment
5. Good Benefits
6. Flexibility of time
7. Attractive life style
8. Transport facility

Why people leave the BPO's?

When there are so many benefits associated with BPO industry ,when there are so many privileges for the BPO employees than what makes them to change the company/industry? Is it only MONEY that matters or anything else as well ! Here are some of the reasons for a BPO professional to change his/her job.

1. No growth opportunity/lack of promotion
2. For higher Salary
3. For Higher education
4. Misguidance by the company
5. Policies and procedures are not conducive
6. No personal life
7. Physical strains
8. Uneasy relationship with peers or managers

Challenges faced by HR Department:

1. Brand Equity: People still consider BPO to be "low brow", thus making it difficult to attract the best talent.
2. Standard pre-job training: Again, due to the wide variety of the jobs, lack of general clarity on skill sets, etc, there is no standard curriculum, which could be designed and followed.
3. Benchmarks: There are hardly any benchmarks for compensation and benefits, performance or HR policies. Everyone is charting their own course.
4. Customer-Companies tend: to demand better results from outsourcing partners than what they could actually expect from their own departments. "When the job is being done 10,000 miles away, demands on parameters such as quality, turn around timeliness, information security, business continuity and disaster recovery, etc, are far higher than at home.
5. Lack of focused training and certifications

Given this background, the recruiting and compensation challenges of HR departments are only understandable.

OPPORTUNITIES

The key to success in ramping up talent in a outsourcing environment is a rapid training module. The training component has to be seen as an important sub-process, requiring constant re-engineering.

Employee Benefits Provided By Majoriy of the BPO Companies

- Provident Fund: As per the statutory guidelines, the employee is required to contribute a percentage of his basic salary and DA to a common fund. The employer for this fund contributes as well. The employee can use the amount deposited in this fund for various personal purposes such as purchase of a new house, marriage etc.
- Gratuity: Gratuity is one of the retrial benefits given to the employee in which the employer every year contributes a particular amount. The fund created can be used by the employee for the purpose of long-term investment in various things such as a house etc.
- Group Med-claim Insurance Scheme: This insurance scheme is to provide adequate insurance coverage of employees for expenses related to hospitalization due to illness, disease or injury or pregnancy in case of female employees or spouse of male employees. All employees and their dependent family members are eligible. Dependent family members include spouse, non-earning parents and children above three months
- Personal Accident Insurance Scheme: This scheme is to provide adequate insurance coverage for Hospitalization expenses arising out of injuries sustained in an accident. It is applicable to all the employees of JFWTC and covers total / partial disablement / death due to accident and due to accidents.
- Subsidized Food and Transportation: The organization provides transportation facility to all the employees from home till office at subsidized rates. The lunch provided is also subsidized.

- Company Leased Accommodation: Some of the companies provide shared accommodation for all the out station employees, in fact some of the BPO companies also undertakes to pay electricity/water bills as well as the Society charges for the shared accommodation. The purpose is to provide to the employees to lead a more comfortable work life balance.
- Recreation, Cafeteria, ATM and Concierge facilities: The recreation facilities include pool tables, chess tables and coffee bars. Companies also have well equipped gyms, personal trainers and showers at facilities.
- Corporate Credit Card: The main purpose of the corporate credit card is enable the timely and efficient payment of official expenses which the employees undertake for purposes such as travel related expenses like Hotel bills, Air tickets etc
- Cellular Phone / Laptop: Cellular phone and / or Laptop is provided to the employees on the basis of business need. The employee is responsible for the maintenance and safeguarding of the asset.
- Personal Health Care (Regular medical check-ups): Some of the BPO'S provides the facility for extensive health check-up. For employees with above 40 years of age, the medical check-up can be done once a year.
- Loans: Many BPO companies provide loan facility on three different occasions: Employees are provided with financial assistance in case of a medical emergency. Employees are also provided with financial assistance at the time of their wedding. And, The new recruits are provided with interest free loans to assist them in their initial settlement at the work location.
- Educational Benefits: Many BPO companies have this policy to develop the personality and knowledge level of their employees and hence reimburse the expenses incurred towards tuition fees, examination fees, and purchase of books subject, for pursuing MBA, and/or other management qualification at India's top most Business Schools.
- Performance Based Incentives: In many BPO companies they have plans for , performance based incentive scheme. The parameters for calculation are process performance i.e. speed, accuracy and productivity of each process. The Pay for Performance can be as much as 22% of the salary.
- Flexi-Time: The main objective of the flextime policy is to provide opportunity to employees to work with flexible work schedules and set out conditions for availing this provision. Flexible work schedules are initiated by employees and approved by management to meet business commitments while supporting employee personal life needs .The factors on which Flexi time is allowed to an employee include: Child or Parent care, Health situation, Maternity, Formal education program
- Flexible Salary Benefits: Its main objective is to provide flexibility to the employees to plan a tax-effective compensation structure by balancing the monthly net income, yearly benefits and income tax payable. It is applicable of all the employees of the organization. The Salary consists of Basic, DA and Conveyance Allowance. The Flexible Benefit Plan consists of: House Rent Allowance, Leave Travel Assistance, Medical Reimbursement, Special Allowance
- Regular Get Together and Other Cultural Programs: The companies organizes cultural program as and when possible but most of the times, once in a quarter, in which all the employees are given an opportunity to display their talents in dramatics, singing, acting, dancing etc. Apart from that the organizations also conduct various sports programs such as Cricket, football, etc and regularly play matches with the teams of other organizations and colleges.
- Wedding Day Gift: Employee is given a gift voucher of Rs. 2000/- to Rs. 7000/- based on their level in the organization.
- Employee Referral Scheme: In several companies employee referral scheme is implemented to encourage employees to refer friends and relatives for employment in the organization.
- Paid Days Off
- Maternity Leave
- Employee Stock Option Plan

Despite of all these benefits, the attrition rate in BPO industry is very high, why? What is the reason for an employee to leave? These and many more are the questions that need immediate attention.

CONCLUSION

India can conquer offshoring sector as availability of suitable human resources is one of those factors which have made India one of the hotspots of offshoring/IT industry. India is home to a vast pool of human resources consisting of educated, English speaking, tech-savvy personnel. It is also worth mentioning here that India is the only a country which has largest chunk of young population in the world as 50% of India's population is below the age of 25 (NASSCOM profile 2006) while US ,Europe ,Japan and China have more aged population ;It is obvious that dependency level of these countries will increase in future in all aspects .Every year, approximately 19 million students are enrolled in high schools and 10 million students in pre-graduate degree courses across India. Moreover, 2.1 million graduates and 0.3 million post-graduates pass out of India's non-engineering colleges. These figures very well give the idea of human resources availability in India.

This great pool of human resources holds the key to IT/offshoring destination i.e. India. But it needs to pay attention on its educational quality as India has 92% dropout rate from class 1st to class 12th , If the flow from high schools to graduate courses increases even marginally there will be a massive increase in the number of skilled workers available to this industry also attempts to be made to attract creamy workforce as those who joins these sectors take it as a job not as career and are generally considered as second grade workforce . If we calculate the availability of human resources at current rates, there will approximately be 20million people available to the IT industry after the year 2010. In addition to this the Indian education system also places strong emphasis on mathematics and science. This has resulted into a large number of science and engineering graduates. Besides this India produces the largest number of graduates every year . with mastery over quantitative concepts and English proficiency. It has enabled the India to take advantage of the current international demand for IT/offshoring.

Though there are competitors like China which also have a large pool of skilled workers but they don't have enough graduates who have command over english language. These factors are coupled with the success achieved by many overseas companies in outsourcing business process operations to India which has encouraged many of the International companies to start outsourcing their high-end knowledge work as well. "Cost savings, operational efficiencies, availability of and access to a highly skilled and talented workforce and improved quality are all underlying expectations in outsourcing high-end processes to India" Hoping for the best we can wish…… Offshoring-***Triggering the Next Bull Ride in the Indian Economy!***

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APPLICATION OF ZERO-ONE GOAL PROGRAMMING FOR THE TIME-TABLE PLANNING

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ABSTRACT

A Zero-One Goal Programming (ZGP) model for solving the inter-departmental Time-Table planning decision (TPD) problems is developed in the present study. The proposed model attempts to meet the various goals like First and Last lecture unassigned to the Head of the department, Maximum number of lectures per day, Maximum number of lectures per week, To meet the total lectures for the respective department and Priorities sequentially raised by the different faculty members as per their personal enhancement in academic for fulfilling the requirements of higher degree and research activities. Mathematics department of ABC Engineering College has been used as a case study demonstrating the practicality of the proposed model.

Keywords*: Time Table Planning, Zero-One Goal Programming*

INTRODUCTION

As a result of multiple objective functions, the conventional linear programming (LP) model becomes less adequate to handle time table problems because it was developed to handle a single objective function. Thus, complexity of the problems resulting from multiple roles of time table can better be explained through a multi-objective decision model like linear goal programming (LGP). The GP technique was developed to handle multi-criteria situations within the general framework of LP. The essence of this technique is to achieve the "best possible" solution, which comes closest to meet the stated goals given the constraints of the problem (Romero 1991).

This paper describes how the Zero-One Goal Programming (ZGP) can be used in solving the departmental Time-Table planning decision (TPD) problems. The proposed model attempts to meet the various goals like First and Last lecture unassigned for the Head of the department, Maximum number of lectures per day, Maximum number of lectures per week, To meet the total lectures for the respective department and Priorities sequentially raised by the different faculty members as per their personal enhancement in academic for fulfilling the requirements of higher degree and research activities. The paper is organized in six sections. The second section gives the brief review of related GP research in the area of man power planning. The third section discusses the model development for the Time Table problem. The fourth section demonstrates a case example. The fifth section presents the results and discussion. Finally, the sixth section gives the concluding remarks and scope of further extension.

GOAL PROGRAMMING MODEL FORMULATION

GP is a technique for solving problems with multiple, incommensurable and conflicting objectives. Users are generally provided a target or aspiration level of achievement to each objective. Unwanted deviations of all objectives are then weighted according to their importance in the decision-making environment. Finally, it finds a best possible solution that satisfies as many of the goals in the decision-making context. The WGP model has been described in detail by Lee 1972, Ignizio 1976, and others (Tamiz et al. 1996, Romero 1986). The linear GP model can be represented as:

The general priority based GP model as defined by Ignizio (1976) can be expressed as follows:

Find $\bar{x}(x_1, x_2, x_3, ..., x_n)$ so as to

Minimize: $\sum_{k=1}^{K} p_k (w_{ik}^- n_{ik} + w_{ik}^+ n_{ik})$

Subject to,

$$f_i(\bar{x}) + n_i - p_i = b_i$$

where $i = 1,2,3,\ldots,m$ *and* $x_j, n_i, p_i \geq 0 \quad \forall i, j$

where m represents number of goal constraints, b_i represents the target level of the *i*-th goal, $\bar{x}$ represents the vector of n-decision variables, w_i^+ and w_i^- (≥ 0) represents the numerically weights associated with the under and over-deviational variables n_i and p_i (≥ 0) respectively.

MATHEMATICAL MODEL

Variables and Constants

The decision variables, deviational variables, and constants for model formulation are defined as below:

Decision variable $x_{f,d,l}$ represents the faculty *f* , day *d* and lecture number *l.*

$$x_{f,d,l} = \begin{cases} 1 & if \quad assigned \\ 0 & if \quad not \quad assigned \end{cases}$$

F : Total No. of teaching staff/faculty in the department

d : Represents days

f: represents faculty number

F: represents total number of faculties in the concerned department

d: represents working day number

D: represents total number of working days

l: represents lecture number

$(\max\_l\_d)_f$: represents maximum load (number of lectures) each day for the faculty *f*

$(\max\_l\_w)_f$: represents maximum load (number of lectures) every week for the faculty *f*

T_L_W : represents total load (number of lectures) every week of the concerned department

fp: represents particular faculty/faculties want to avail some priorities in the time table

n_i = underachievement of goals or constraints in the i^{th} constraint,

p_i = overachievement of goals or constraints in the i^{th} constraint.

Indices:

f = 1 to F, *d* =1 to *D*, *i* =1 to I

d=1: for Monday d=2: for Tuesday d=3: for Wednesday

d=4: for Thursday d=5: for Friday d=6: for Saturday

DESCRIPTION OF GOAL CONSTRAINTS

The following goal constraints appear in formulating the general model of the time table planning problem within the department.

CONSTRAINTS:

1. **FIRST LECTURE UNASSIGNED FOR HEAD OF THE DEPARTMENT (Professor):**
Head of the Department also engaged in other departmental activities like he/she must be ensured that all the faculty members are taking their lectures, if there any faculty member is on leave then he/she is responsible to assign any other faculty member for that classes/lectures. So while planning for the time table it should be kept in mind that first lecture each day should be unassigned lecture for the head of the department or professor every day. So mathematically this can be expressed as follows:

$x_{1,d,1} = 0$.

The goal constraint can be written as follows:

$$x_{1,d,1} + n_d - p_d = 0 \qquad \forall d = 1 \text{ to D}$$

2. **LAST LECTURE UNASSIGNED FOR HEAD OF THE DEPARTMENT (Professor):**
Mostly the meetings of the Head of the Departments held in the last lecture time. So while planning for the time table it should be kept in mind that last lecture each day should be unassigned. So mathematically this can be expressed as follows:

$x_{1,d,7} = 0$, $\forall d$ = 1 to D

The goal constraint can be written as follows:

$$x_{1,d,7} + n_{D+d} - p_{D+d} = 0 \qquad \forall d = 1 \text{ to D}$$

3. **LOAD PER DAY:**
There must be some unassigned lectures every day so that the faculty members could attend the students and could check assignments of students. So there must be limit of maximum number of lectures for every faculty members according to their liability and responsibilities. So mathematically this can be expressed as follows:

$$\sum_{l=1}^{L} x_{f,d,l} \le (\max\_l\_d)_f$$

The goal constraints can be written as follows:

$$\sum_{l=1}^{L} x_{f,d,l} + n_{2D+f} - p_{2D+f} = (\max\_l\_d)_f$$

$\forall d$ =1 to D, $\forall f$ =1 to F

4. **LOAD PER WEEK:**
Similarly to the maximum daily lecture load, there must be the limits of maximum number of lectures per week as per norms of Council of Education (like AICTE). So mathematically this can be expressed as follows:

$$\sum_{d=1}^{D} \sum_{l=1}^{L} x_{f,d,l} \le (\max\_l\_w)_f \qquad \forall f = 1 \text{ to F},$$

The goal constraint can be written as following:

$$\sum_{d=1}^{D} \sum_{l=1}^{L} x_{f,d,l} + n_{2D+f+F} - p_{2D+f+F} = (\max\_l\_w)_f \qquad \forall f = 1 \text{ to F},$$

5. **TOTAL LOAD PER WEEK:**
Considering all the above constraints criteria, sum of lectures of all the faculty members must meet the over all total load of the department per week. So mathematically this can be expressed as follows:

$$\sum_{f=1}^{F}\sum_{d=1}^{D}\sum_{l=1}^{L} x_{f,d,l} = T\_L\_W$$

The goal constraint can be written as follows:

$$\sum_{f=1}^{F}\sum_{d=1}^{D}\sum_{l=1}^{L} x_{f,d,l} + n_{2D+2F+1} - p_{2D+2F+1} = T\_L\_W$$

6. PRIORITY OF FACULTIES:

Some of the faculty members are busy in their research activities or in Ph.D, so they want to avail Saturday load free. So mathematically this can be expressed as follows:

$$\sum_{l=1}^{L} x_{f_p,6,l} = 0$$

The goal constraint can be written as follows:

Suppose $f = f_p$ want to be load free on Saturday

$$\sum_{l=1}^{L} x_{f_p,6,l} + n_{2D+2F+2} - p_{2D+2F+2} = 0$$

7. AVOID TWO CONSECUTIVE LECTURES:

Two consecutive lectures should be avoided for better delivering of the lectures. So mathematically this can be expressed as follows:

$x_{f,d,i} + x_{f,d,i+1} = 1$ i=1,2,3,5 and 6

The goal constraint can be written as follows:

$x_{f,d,i} + x_{f,d,i+1} + n_{2D+2F+j} - p_{2D+2F+j} = 1$ i=1,2,3,5 and 6

j = 1 to D(L-1)F

NUMERICAL EXAMPLE

Mathematics department of ABC Engineering College was used as a case study demonstrating the practicality of the proposed model, formulated in the previous paragraph. In the concerned department of the college, there are the faculty members with different designation. There is one professor and head, Two faculty members are having designation of Assistant Professor, One faculty is having designation of Senior Lectrurer (Lecturer in Senior Scale) and Five faculty members are having dsignation of Lecturer in the Mathematics Department of ABC Engineering College. Notation and Maximum Teaching Load per day, Maximum load per week and also any priority of the faculty members for the enhancement in their research activity is given in the following table:

TABLE 1: INPUT DATA

Sr. No.	Faculty/staff	Max. Load Per Day	Max. Load Per Week	Priority of unassigned Lectures
1.	f=1: Professor	2	6	l=1, 7 each day
2.	f=2: Assistant Prof.	2	12	-
3.	f=3: Assistant Prof.	2	12	$\forall l$ *for d=6*
4.	f=4: Lecturer (Sr. Scale)	3	15	-
5.	f=5: Lecturer	3	15	-
6.	f=6: Lecturer	3	15	
7.	f=7: Lecturer	3	15	-
8.	f=8: Lecturer	3	15	-
9.	f=9: Lecturer	3	15	-

It is assumed that the department is providing their services to more than one semester classes and lunch time is not fixed at same time, generally it may be in fourth lecture time or in fifth lecture time.

The Goals:

The following goals are set in order of their importance.
P_1: To achieve the objective of maximum lectures per day
P_2: To achieve the objective of maximum lectures per week
P_3: To achieve the objective of consecutive lectures unassigned, First and Last lectures of Head (Professor) unassigned, Total lecture load per week.

Objective Function:

The priority structure of the problem is as following-

$$\text{Minimize } P_1\left[\sum_{f=1}^{F} n_{2D+f}\right]$$

$$\text{Minimize } P_2\left[\sum_{f=1}^{F} n_{2D+F+f}\right]$$

$$\text{Minimize } P_3\left[\sum_{j=1}^{D(L-1)F} n_{2D+2F+j} + \sum_{d=1}^{D} n_d + \sum_{d=1}^{D} n_{D+d}\right]$$

Here in the present case D=6, F=9 and L=8.

RESULT

Numerical example of goal programming for the time-table planning problem has 432 decision variables, 347 Constraints and 3 priorities. For getting solution of the numerical example, discussed above with the described input Goal Programming Mathematical formulation is run on the Pentium IV computer and LINGO software is used to solve numerical example and the following results are obtained

TABLE 2: DECISION VARIABLE ANALYSIS

$x_{1,1,4}=1$	$x_{1,2,4}=1$	$x_{1,3,4}=1$	$x_{1,4,4}=1$	$x_{1,5,4}=1$	$x_{2,1,3}=1$	$x_{2,1,7}=1$	$x_{2,2,5}=1$	$x_{2,2,6}=1$	$x_{2,3,3}=1$
$x_{2,3,7}=1$	$x_{2,4,5}=1$	$x_{2,4,1}=1$	$x_{2,5,5}=1$	$x_{2,5,1}=1$	$x_{2,6,1}=1$	$x_{2,6,5}=1$	$x_{3,1,2}=1$	$x_{3,1,7}=1$	$x_{3,2,1}=1$
$x_{3,3,1}=1$	$x_{3,3,7}=1$	$x_{3,4,3}=1$	$x_{3,6,1}=1$	$x_{3,6,2}=1$	$x_{3,5,7}=1$	$x_{4,1,2}=1$	$x_{4,1,6}=1$	$x_{4,2,1}=1$	$x_{4,2,3}=1$
$x_{4,2,7}=1$	$x_{4,3,1}=1$	$x_{4,3,4}=1$	$x_{4,3,6}=1$	$x_{4,4,8}=1$	$x_{4,4,3}=1$	$x_{4,4,6}=1$	$x_{4,5,1}=1$	$x_{4,5,3}=1$	$x_{4,5,6}=1$
$x_{5,1,3}=1$	$x_{5,1,1}=1$	$x_{5,2,2}=1$	$x_{5,3,1}=1$	$x_{5,3,3}=1$	$x_{5,4,3}=1$	$x_{5,4,5}=1$	$x_{5,5,3}=1$	$x_{5,5,5}=1$	$x_{5,5,7}=1$
$x_{5,6,7}=1$	$x_{6,1,3}=1$	$x_{6,1,4}=1$	$x_{6,1,6}=1$	$x_{6,2,1}=1$	$x_{6,2,3}=1$	$x_{6,3,3}=1$	$x_{6,3,8}=1$	$x_{6,4,4}=1$	$x_{6,4,6}=1$
$x_{6,4,8}=1$	$x_{6,5,1}=1$	$x_{6,5,6}=1$	$x_{6,6,6}=1$	$x_{7,1,3}=1$	$x_{7,1,5}=1$	$x_{7,2,1}=1$	$x_{7,2,6}=1$	$x_{7,3,2}=1$	$x_{7,3,4}=1$
$x_{7,4,1}=1$	$x_{7,4,4}=1$	$x_{7,4,7}=1$	$x_{7,5,1}=1$	$x_{7,5,3}=1$	$x_{7,5,7}=1$	$x_{7,6,3}=1$	$x_{7,6,1}=1$	$x_{7,6,6}=1$	$x_{8,1,1}=1$
$x_{8,1,3}=1$	$x_{8,1,7}=1$	$x_{8,2,3}=1$	$x_{8,2,5}=1$	$x_{8,2,8}=1$	$x_{8,3,1}=1$	$x_{8,3,3}=1$	$x_{8,4,6}=1$	$x_{8,4,8}=1$	$x_{8,5,1}=1$
$x_{8,5,3}=1$	$x_{8,5,6}=1$	$x_{8,6,6}=1$	$x_{9,1,2}=1$	$x_{9,1,3}=1$	$x_{9,1,8}=1$	$x_{9,2,2}=1$	$x_{9,2,4}=1$	$x_{9,3,1}=1$	$x_{9,3,3}=1$
$x_{9,3,7}=1$	$x_{9,4,2}=1$	$x_{9,5,5}=1$	$x_{9,5,7}=1$	$x_{9,5,3}=1$	$x_{9,6,1}=1$	$x_{9,6,2}=1$	$x_{9,6,6}=1$		

And all other $x_{f,d,l} = 0$.

TABLE 3 : OBJECTIVE FUNCTION ANALYSIS:

Priorities	Achievement
P_1 (Maximum Lecture per day)	Achieved
P_2 (Maximum Lecture per week)	Achieved
P_3 (Cosecutive Lectures Unassigned, First Lecture for f=1, unsigned, Last Lecture for f=1, unsigned)	Achieved

CONCLUSION

Present Zero-One linear goal programming modal is successfully demonstrated. This paper is also having scope of extension in the preparation of time-table planning for an academic institution. The modal may be helpful after suitable modification in objective functions and constraints, for the preparation of Time Table of the department of an academic institution.

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PRIMAL-DUAL ALGORITHM FOR PIECEWISE LINEAR PROGRAMMING PROBLEMS

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ABSTRACT

This paper presents a primal-dual algorithm for piece-wise linear simplex algorithm for minimizing convex separable piece-wise linear functions subject to linear constraints. This algorithm has advantages over indirect methods which solve equivalent linear programs augmented by additional variables and/or constraints. The algorithm is illustrated by a numerical problem.

Keywords: *Linear Programming, Piecewise-linear Programming, Primal-Dual Algorithm.*

INTRODUCTION

The primal dual algorithm is valuable because it is easy to customize for a particular problem. Variants are frequently used in approximation algorithms for NP hard problems that can be formulated as integer programs. Various applications can be formulated as piecewise linear program. One well known application is in separable convex non linear programming with linear constraints, where the non linear objective function terms are approximated by piecewise linear functions. Piecewise linear programs have traditionally been converted to equivalent linear programming problems and solved by a standard simplex algorithm. The difficulty with this approach is that it greatly increases the number of variables and constraints. Although the bounded variable simplex algorithm can be used to eliminate this difficulty for certain LP formulations, a large number of variables must still be considered. As a result, various solution approaches have been suggested to solve a P-LP efficiently.

Recently, a piecewise linear (P-L) algorithm which operates directly on an untransformed P-LP, by modifying the standard LP simplex operations. No additional variables or constraints are needed. (Fourer, 1985,1992).A primal-dual interior-point algorithm for solving optimization problems with nonlinear inequality constraints has been presented which have some theoretical properties of trust region methods but works entirely by line search. (Liu and Sun, 2004). A primal-dual simplex algorithm for multicriteria linear programming has been developed which is based is based on the scalarization theorem of Pareto optimal solutions of multicriteria linear programs and the single objective primal-dual simplex algorithm. (Ehrgott, Puerto & Rodriguez-Chia., 2007).A Primal dual method generating two paths is also being presented in order to converge to the optimal solution.(Samaras, Sifelaras, Triantafyllidis, 2009). A new primal-dual algorithm for solving linear programming problems with fuzzy variables by using duality results, has been proposed which is useful in sensitivity analysis when the activity vectors change for basic columns. (Ebrahimnejad, Nasseri, Lotfi, Soltanifar, 2010).

This paper presents the primal dual algorithm for piecewise linear simplex algorithm. In first section, piecewise –linear programming defined. In second section we convert them into linear programming. In third section, we solve these problems by primal –dual algorithm. Finally we show the result by numerical problem.

PIECEWISE-LINEAR PROGRAMMING PROBLEM

Consider the following primal problem P and its dual D for piecewise-linear programs:
(P-LP) Min $(c|\gamma)x - (\lambda|b)y$
Subject to $-Ax + y = 0$
Where A is an mxn matrix with the elements $[a_1, a_2, \ldots\ldots, a_n]$, $[c/\gamma]_k x_k$ is a closed proper convex piecewise linear function defined by an increasing sequence of breakpoints $Y_k^{(h)}$ and an increasing sequence of slopes $c_k^{(h)}$. For a finite $c_k^{(h)}$,$(c|\gamma)_k x_k = c_k^{(h)} x_k$, $if\ Y_k^{(h)} \leq x_k \leq Y_k^{(h+1)}$. An infinite slope c_k is used for any interval which is outside the allowed bound for x_k. (Fourer, R, 1985). For e.g. If the variables x_k has a lower bound $\gamma_k^{(s+1)}$and an upper bound $Y_k^{(t)}$, then the infinite slopes are interpreted as follows:

$$c_k^{(s)} = -\infty \Longrightarrow (c|\gamma)_k x_k = -\infty\ if\ x_k < Y_k^{(s+1)}$$
$$c_k^{(t)} = \infty \Longrightarrow (c|\gamma)_k x_k = \infty\ if\ x_k < Y_k^{(t)}$$

Note that if$Y_k^{(t+1)} = \infty\ and\ c_k^{(t)}$ *i*s finite, then x_k has no lower bound.

The relationship between the breakpoints and the slopes can be represented as follows:

$$(c|\gamma)_k = \begin{bmatrix} \ldots. & c_k^{(s)} c_k^{(s)} c_k^{(s)} c_k^{(s)} \ldots \\ \ldots. & \gamma_k^{(s)} \gamma_k^{(s)} \gamma_k^{(s)} \gamma_k^{(s)} \ldots \end{bmatrix}$$

And $(\lambda|b)_i = \begin{pmatrix} -\infty & 0 \\ b_i & \infty \end{pmatrix}$

$$(\lambda|b)_i x_i = \begin{cases} -\infty & if \quad y_i < b_i \\ 0 & if \quad y_i \geq b_i \end{cases}$$

The dual problem for P-LP can be stated as follows:
(DP-LP) $\text{Max}(b|\lambda)\pi - (\gamma|c)\xi$
Subject to $-\pi A + \xi = 0$
Where $(b|\lambda)\pi\ and\ (\gamma|c)\xi$ are picewise-linear functions which are defined as follows: $(\gamma|c)k =$

$$\left(\begin{bmatrix} \ldots. & Y_k^{(-2)} Y_k^{(-1)} Y_k^{(0)} Y_k^{(1)} \ldots \\ & \ldots. c_k^{-2} c_k^{(-1)} c_k^{(0)} c_k^{(1)} \ldots \end{bmatrix}\right)$$

$$(b|\lambda)_i = \begin{pmatrix} b_i & \infty \\ -\infty & 0 \end{pmatrix}$$

$$(b|\lambda)_i x_i = \begin{cases} -\infty & if \quad \pi_i < 0 \\ b_i \pi_i & if \quad \pi_i \geq 0 \end{cases}$$

Note that $(\gamma|c)\xi$ is a piecewise-linear with slope $Y_k^{(h)}$ on the interval $c_k^{(h)}$ and $c_k^{(h+1))}$ and $(b|\lambda)_i \pi_i$ is a piecewise-linear representation of a standard LP variable π_i which is restricted to be non-negative with the slope b_i. (Dantzig G.B., 1956).

PRIMAL-DUAL ALGORITHM FOR PIECEWISE-LINEAR PROGRAMMING

The primal-dual algorithm is initialized with a dual feasible solution $\pi$and ξ. Define the index set J of admissible columns to be $J = \{j: -\pi A_j + \xi = 0\}$ where A_j denotes the j^{th} column of A . The set J is the set of dual constraints which are tight at $\pi\ and\ \xi$.Suppose that x and y are the primal feasible solutions. Then complementary slackness states that x and y and $\pi\ and\ \xi$ are optimal for their respective problems if and only if

$$-\pi_i(a_i x) + \xi_i(y) = 0 \qquad for\ i = 1,2, \ldots m \quad \text{and}$$
$$x_j(-\pi A_j) + y_j(\xi) = 0 \qquad for\ j = 1,2, \ldots n.$$

(Here a_i denotes the i^{th} row of A). The first set of equations is always satisfied since x and y are feasible and hence $-Ax + y = 0$. The second set of equations is equivalent to $xj = 0$ *a*nd $yj = 0$ for $j/\epsilon J$. Thus we seek a primal feasible x and y where $x_j = 0$ and $y_j = 0$ for j/ ϵJ. if such an x and y exists, then complementary slackness, x and y and π and $\xi$are optimal for their respective problems (Papadimitriod and Steiglitz ,1982). We determine if such an x and y exists by testing whether the linear program constraints.

FP: Min $(c|\gamma)x - (\lambda|b)y$

subject to $$-Ax + y = 0$$
$$x_j = 0 \; and \; y_j = 0 \; if \; j/\epsilon J$$

are feasible using Phase I of the two phase simplex algorithm. In Phase I, we solve an auxiliary linear program formed by adding m artificial variables S_i and changing the objective function.

We call the auxiliary linear program the restricted primal RP.

RP: min s

Subject to $$-Ax + y + s = 0$$
$$x_j = 0 \; and \; y_j = 0 \; if \; j/\epsilon J$$

The auxiliary linear program of Phase I always has a finite optimum. Let S be the optimal cost of RP. If s = 0, then there exist a feasible solution x and y to the primal P such that x and y and π and ξ satisfy the complementary slackness conditions. Here x and y and π and ξ are optimal. Note that x and y is obtained by solving RP (and driving artificial variables out of the basis if necessary). If s > 0, then we use a solution to the dual of the restricted primal to improve our solution π and ξ to the dual (Guder. and Nourie, 1996).

The dual of the restricted primal is

DRP: $\text{Max}(b|\lambda)\pi - (\gamma|c)\xi$

Subject to $$-\pi A + \xi \leq 0 \quad for \; j \epsilon J$$
$$\pi \leq 1 \; and \quad \xi \leq 1$$

$\pi \; and \; \xi$ are free variables.

Let π^- and ξ^- be an optimal solution to DRP with cost S. We update our dual feasible vector by setting $\hat{\pi}$ as

$$\hat{\pi}(b|\lambda)) - \hat{\xi}(\gamma|c) = \pi(b|\lambda) - \xi(\gamma|c) + \hat{} \pi^-(b|\lambda) - \hat{}\xi^-(\gamma|c) > \pi(b|\lambda) - \xi(\gamma|c)$$

Since $\pi^-(b/\lambda) - \xi^-(\gamma/c) = s > 0$, and hence we have improved the cost of our dual feasible solution. We wish to improve the cost of our dual feasible solution. We wish to make $\hat{}$ as large as possible to increase the cost of $\hat{\pi}$ and $\hat{\xi}$ while still maintaining dual feasibility.

$$If \; j \epsilon J, or \; j \epsilon /J \; but \; -\pi^- A_j + \xi \leq 0, then$$
$$\hat{\pi} A_j + \xi = -\pi A_j + \xi - \hat{} \pi^- A_j + \hat{} \xi^- \leq 0.$$

$If \; j\epsilon /J \; and \; -^-\pi A_j + ^-\xi > 0$, then we require that

$$-\hat{\pi} A_j + \hat{\xi} = -\pi A_j + \xi - \hat{} \pi^- A_j + \hat{} \xi^- \leq 0.$$

Since these are the only restrictions on$\hat{}$, we choose the most restrictive bound, setting

$$\hat{} * = \min_{j\epsilon /J} \left\{ -\pi^- Aj + \xi^- > 0 \right\}$$
$$And \; \hat{\pi} = \pi + \hat{} * \pi^-$$
$$And \; \hat{\xi} = \xi + \hat{} * \xi^-$$

Note that to $-\pi A_j + \xi > 0 \; for \; j \epsilon /J$, so the value of $\hat{}$* is strictly positive. If $-\pi^- A_j + \xi \leq 0 \; for \; all \; j \epsilon /J, then \; \hat{}$ can be chosen arbitrary large. Hence, the dual has optimal cost +1 and the primal is infeasible. We repeat this process until obtaining an optimal primal solution x and y or proving that the primal is infeasible. At last when all the piecewise-linear problems are solved i.e. when we get the solution of all the linear problems which occurs from the piecewise-linear programming problem, then the basic feasible solution in them is the required solution of piecewise-linear programming problem.

SPECIAL CASE

After finding solution, if it is not in integer form then apply Gomory's cut method. So at the time of solution if results are in non-integer form then apply Gomory's cut method and get the solution in integer form.

THE ALGORITHM

We summarize the piecewise-linear programming by primal-dual algorithm in the following steps:

Step1. Change the piecewise-linear problem into different linear problems.

Step2. Solve these problems one by one by primal dual algorithm given by the following steps.

Step3. Given a dual feasible solution $\pi \; and \; \xi$, find the set $J = \{j : -\pi A_j + \xi = 0\}$ of admissible columns. J is found by considering while dual constraints are tight at $\pi \; and \; \xi$.

Step4. Solve the restricted primal problem RP using the simplex method. If the optimal cost S of RP is 0, the optimal solution x and y to RP is also an optimal solution to the primal problem, and the algorithm terminates.

Step5. If the optimal cost S of RP is positive, find an optimal solution $\bar{\pi} and \; \bar{\xi}$ to the dual of the restricted problem DRP, if $-\bar{\pi} Aj + \bar{\xi} \leq 0$ for all j ϵ/J, then the dual has optimal cost +1, the primal is infeasible, and the algorithm terminates. Otherwise, set

$$\hat{\pi} = \pi + \hat{} * \bar{\pi} and \; \hat{\xi} = \xi + \hat{} * \bar{\xi}, where$$
$$\hat{} * = \min_{j \epsilon / J} \; -\bar{\pi} A_j + \bar{\xi} > 0$$

Repeat step 3 with the new dual feasible solution $\hat{\pi} and \; \hat{\xi}$.

Step6. If the solutions are not in integer form then again solve them by the Gomory's cut method.

Step7. Check in all the solutions, which solution is the basic feasible solution.

Step8. Give that BFS as the solution of piecewise-linear problem by primal-dual algorithm.

Step9. If there are more than 1 BFS then give that solution as the final one which has max/min value of the Z.

NUMERICAL PROBLEM

We now illustrate the primal-dual algorithm for piecewise linear programming problem for the following example.

$$Max \; Z = 8x_1 + 10x_2 + \sum_{j=1}^{2} f_j(x_j)$$

s.t
$$3x_1 + 2x_2 \geq 8$$
$$x_1 + 2x_2 \leq 6$$
$$0 \leq x_1 \leq 2 \; ; \; 0 \leq x_2 \leq 4$$

$$Where \quad f_1(x_1) = \begin{cases} 3x_1 & 0 \leq x_1 \leq 1 \\ 6x_1 & 1 \leq x_1 \leq 3 \end{cases}$$

$$f_2(x_2) = \begin{cases} 2x_2 & 0 \leq x_2 \leq 2 \\ 3x_2 & 2 \leq x_2 \leq 4 \end{cases}$$

From this PQLP we get four LP's as follows:

(i) $Max \; Z = 11x_1 + 12x_2$
$s.t. \quad 3x_1 + 2x_2 \geq 8$
$x_1 + 2x_2 \leq 6$
$0 \leq x_1 \leq 1 \; ; \; 0 \leq x_2 \leq 2$

(ii) $Max \; Z = 11x_1 + 13x_2$
s.t. $3x_1 + 2x_2 \geq 8$
$x_1 + 2x_2 \leq 6$
$0 \leq x_2 \leq 1 \; ; 2 \leq x_2 \leq 4$

(iii) $Max \; Z = 14x_1 + 12x_2$
$s.t. \quad 3x_1 + 2x_2 \geq 8$
$1x_1 + 2x_2 \leq 6$
$1 \leq x_1 \leq 3; \; 0 \leq x_2 \leq 2$

(iv) $Max \; Z = 14x_1 + 13x_2$
$s.t. \quad 3x_1 + 2x_2 \geq 8$
$x_1 + 2x_2 \leq 6$
$1 \leq x_1 \leq 3 \; ; \; 2 \leq x_2 \leq 4$

From (i) LP we get

$$3x_1 + 2x_2 - x_3 = 8$$
$$x_1 + 2x_2 + x_4 = 6$$
$$x_1 + x_5 = 1, x_2 + x_6 = 2$$
$$x_0 + x_1 + x_2 + x_3 + x_4 + x_5 + x_6 = b_0$$
$$max \; Z = 11x_1 + 12x_2$$

FINAL ITERATION:

		c_j	0	11	13	0	0	0	0
C_{b1}	X_B	$b^{(1)}$	$a_0^{(1)}$	$a_1^{(1)}$	$a_2^{(1)}$	$a_3^{(1)}$	$a_4^{(1)}$	$a_5^{(1)}$	$a_6^{(1)}$
0	$a_o^{(1)}$	b_o-4	1	0	0	1	0	1	2
-1	$q_1^{(1)}$	1	0	0	0	-1	0	-3	-2
0	$a_4^{(1)}$	1	0	0	0	0	1	-1	-2
0	$a_1^{(1)}$	1	0	1	0	0	0	1	0
0	$a_2^{(1)}$	2	0	0	1	0	0	0	1
	$Z_j^* - c_j^*$	-1	-0	0	0	1	0	3	2
	W_{sj}	18	0	0	0	12	-1/3	247 /6	121 /6

As $z < 0$ *and* $z_j - c_j \geq 0$ then primal has no feasible solution.
From (ii) LP we get

$$Max\ Z^* = 11v_1 + 13v_2$$
$$3v_1 + 2v_2 - v_3 = 4$$
$$v_1 + 2v_2 + v_4 = 2$$
$$v_1 + v_5 = 1, v_2 + v_6 = 2$$
$$v_0 + v_1 + v_2 + v_3 + v_4 + v_5 + v_6 = b_0$$

FINAL ITERATION

		c_j	0	11	13	0	0	0	0	0
C_{b1}	X_B	$b^{(1)}$	$a_0^{(1)}$	$a_1^{(1)}$	$a_2^{(1)}$	$a_3^{(1)}$	$a_4^{(1)}$	$a_5^{(1)}$	$a_6^{(1)}$	G_1
0	$a_o^{(1)}$	b_o-2	1	1	1	1	1	1	1	2
-1	$q_1^{(1)}$	4	0	3	2	-1	0	0	0	-2
0	$a_2^{(1)}$	2	0	1	2	0	1	0	0	1
0	$a_6^{(1)}$	1	0	1	0	0	0	1	0	0
0	$a_4^{(1)}$	2	0	0	1	0	0	0	1	-1
	$Z_j^* - c_j^*$	0	0	0	0	0	0	0	0	0
	W_{sj}	13	0	4	0	13	195 /6	105 /6	0	

Required solution is: $x_1 = 1$, $x_2 = 0$, $Z = 39$
From (iii) LP we get

$$Max\ Z^* = 12u_1 + 12u_2$$
$$3u_1 + 2u_2 - 1u_3 = 5$$
$$u_1 + 2u_2 + u_4 = 5$$
$$u_1 + u_5 = 2, u_2 + u_6 = 2$$
$$u_0 + u_1 + u_2 + u_3 + u_4 + u_5 + u_6 = b_0$$

FINAL ITERATION

		c_j	0	11	13	0	0	0	0	0
C_{b1}	X_B	$b^{(1)}$	$a_0^{(1)}$	$a_1^{(1)}$	$a_2^{(1)}$	$a_3^{(1)}$	$a_4^{(1)}$	$a_5^{(1)}$	$a_6^{(1)}$	G_1
0	$a_{ao}^{(1)}$	b_o-6	1	1	1	1	1	1	1	0
0	$a_2^{(1)}$	1	0	3	2	-1	0	0	0	0
0	$a_4^{(1)}$	1	0	1	2	0	1	0	0	0
0	G_1	2	0	1	0	0	0	1	0	1
0	$a_6^{(1)}$	1	0	-1/2	0	0	0	1/2	1	0
0	$a_3^{(1)}$	2	0	0	1	0	0	0	1	0
	$z_j^* - c_j^*$	0	0	0	0	0	0	0	0	0
	W_{sj}	35	0	7	0	12	0	21	0	

Required solution is: $x_1 = 1$, $x_2 = 1$, $Z = 47$
From (iv) LP we get

$$Max\ Z^* = 14t_1 + 13t_2$$
$$3t_1 + 2t_2 - t_3 = 1$$

$$t_1 + 2t_2 + t_4 = 1$$
$$t_1 + t_5 = 2, t_2 + t_6 = 2$$
$$t_0 + t_1 + t_2 + t_3 + t_4 + t_5 + t_6 = b_0$$

FINAL ITERATION:

		c_j	0	11	13	0	0	0	0	0
C_{b1}	X_B	$b^{(1)}$	$a_0^{(1)}$	$a_1^{(1)}$	$a_2^{(1)}$	$a_3^{(1)}$	$a_4^{(1)}$	$a_5^{(1)}$	$a_6^{(1)}$	G_1
0	$a_{ao}^{(1)}$	b_o-7	1	0	-6	0	-3	-7	0	0
0	$a_1^{(1)}$	1	0	1	2	0	1	0	0	0
0	G_1	0	0	0	1	0	1	-1	0	1
-1	$q_3^{(1)}$	1	0	0	-2	0	-1	1	0	0
0	$a_6^{(1)}$	2	0	0	1	0	0	0	1	0
0	$a_3^{(1)}$	5	0	0	1-2	1	0	3	0	0
	$z_j^* - c_j^*$	--1	0	0	8	0	4	6	0	0
	W_{sj}	42	0	0	0	25/2	0	159/2	0	

Required solution is: $x_1 = 2$, $x_2 = 2$, $Z = 29$

RESULT

From the above solutions the required solution of piecewise-linear programming is

$x_1 = 1$, $x_2 = 1$, $Z = 47$.

CONCLUSION

This paper presents a primal dual algorithm for piecewise linear programming problems based on the simplex approach. This algorithm has advantages over indirect methods which solve equivalent linear programs augmented by additional variables and/or constraints.

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DECISION MAKING – FRAMEWORK

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"Decision-making can be regarded as an outcome of mental processes leading to the selection of a course of action among several alternatives"

Wikipedia

In general, the process of making a decision is either a cognitive or a normative process. A cognitive perspective refers to an individual's ability to engender decisions based on his or her own previous experiences, while from a normative perspective it could be argued that it represents the analysis of individual's decisions while concerned with the logic of decision-making and rationality of the invariant choice it leads to.

The main framework within which the decision-making process occurs can be summarized by:

1. – Facts – Empirical data or observable phenomenon supported by evidence
2. – Beliefs – Combination of facts and interpretations of people and activities
3. – Feelings – Emotions that intensify or diminish facts or beliefs
4. – Opinions – Judgments masked as facts, beliefs and feelings
5. – Assumptions – Beliefs without reflections

We need to make a distinction here between the two types of factors included in the matrix. There is only one *objective* factor versus four *subjective* factors. The only *objective* factor is the "facts", while "beliefs", feelings", "opinions", and "assumptions" are actually *subjective* factors. This distinction is critical to the understanding of the decision-making process, as it demonstrates that the vast majority of the factors involved in such a process are dependent on our own previous experiences (subjective). Therefore, within the context of analyzing a particular situation, in order to reach a conclusion, human beings are heavily influenced by the subjectivity of their own past, rather than by the objectivity of universally agreed upon body of knowledge (objective).

Within this matrix, the most dominant factor seems to be represented by *beliefs*, since it could lead to a severely distorted decision-making process, in cases where such beliefs actually trump the logical thinking. One of the critical points of here is the debate on whether *beliefs* actually represent *truths*, or how *belief*, in fact, influences the *truth*.

According to Aristotle, *"To say of something which is that it is not, or to say of something which is not that it is, is false. However, to say of something which is that it is, or of something which is not that it is not, is true."*

Therefore, making a statement, which may be based on some type of belief, could turn out to be erroneous, therefore not true. However, it has been demonstrated repeatedly, that the decision-making process tends to have its foundation in an individual's previous experiences, and, as such, it may overlook the objectivity associated with a body of independent knowledge. This demonstrates that individuals are willing to, sometimes; forgo logic (or logical arguments) in the process of taking and implementing a decision, due to their formerly accumulated perceptions. Such perceptions may have been developed in a particular set of circumstances and, whether the accumulated knowledge about that fact is correct or not, individuals are still compelled to formulate decisions based on those perceptions. In fact, while in actuality logical arguments should trump personal beliefs when it comes to a decision making process, it is quite often that we discard or ignore the logical arguments, given our need to be comfortable with our decision.

As mentioned above, the only factor in the matrix that is actually *objective* is Facts. As such, facts should represent the fundamental building block in any decision-making process, while personal beliefs, feelings, opinions and assumptions should play but a mere secondary role.

MANAGEMENT DECISION MAKING – THEORIES

Over time, three significant Management Decision-Making theories have emerged.

1. Technical – (rational)
2. Cognitive – (knowledge)
3. Behavioral – (basic human action)

1. Technical – Rational *Planning, Organizing, Coordinating, Deciding and Controlling*
   - Emphasizes precision of task
   - Organizes tasks into jobs
   - Organizes jobs into production systems

2. Cognitive – Knowledge *Information-Processing, Problem-Solving, Decision-Making*
   - Emphasizes learning and applying know-how
   - Underscores how meaning is imparted to new situations
   - Emphasizes knowledge basis of organizations

3. Behavioral – Actions or Reactions *Evaluation and Assessment of Corollary Factors*
   - Emphasizes endogenous and exogenous factors (internal and external)
   - Emphasizes and organization's adaptability to endogenous and exogenous factors
   - Reaction based on internal and/or external factors

According to Mintzberg, Decision-Making could be either at individual level, or at organizational level.

Individual Models of Decision-Making

1. Rational — Comprehensive rationality, evaluate all alternatives
2. Satisficing — Bounded rationality; choosing the first good alternative
3. Muddling — Successive comparison; marginal changes
4. Psychological — Cognitive types; managers differ in their approaches

Organizational Models of Decision-Making

1. Strategic — Long term objectives, resources and policies
2. Management control — Monitor the use of resources and performance
3. Knowledge based — Evaluating potential innovation and knowledge
4. Operational — Ways to carry out specific day to day tasks

CAUSAL TEXTURE OF ORGANIZATIONAL ENVIRONMENTS

Going beyond the theoretical stratification and deterministic method of decision- making models identification and categorization, this paper is also interested in identifying the connection between the decision-making process and the organizational environments, on one side, and the decision-making process and the relative position of authority within the organizational structure. In this sense, it is essential to identify the possible types of organizational environments, and whether they are conducive to proper decision making (informed and/or unbiased), as well as the relative level of authority (power) within the hierarchical structure that the decision-maker has within the organization.

We shall commence by introducing here the notion of "Causal Texture", which refers to the environmental context in which organizations exists, and how these environments, and their change over time, can affect and

impact the decision making process. In order for us to have an advancement of understanding of the behavioral processes occurring during a decision making procedure, we definitely need to understand the limitations imposed by the organizational environments at specific points in time. For that, we will refer to behavioral sciences, where the first step in building a system-theory relates to the connection between the internal processes in organisms or organizations (as a whole) and the processes within the components parts of the organism or the organization. According to Emery and Trist (2008) "The process through which organizations acquire additional energy, which may be critical in its pursuit of stability (particularly in a time-independent state) is a necessary condition of adaptability to environmental variance".
In other words, without proper knowledge, information, and resources, an organization may not be able to attain its long-term equilibrium state, where the organizational goals and objectives are pursued in a timely and effective fashion. Without such an equilibrium being reached, the organizational environments could put continuous pressure on the decision makers in terms of the thoroughness of the decision. Under pressure, organizations, just as individuals, tend to implement decisions mostly based on the *subjective* factors mentioned in the first part of this paper, which, in turn, will disregard or overlook the *objective* factors. Many corollaries follow as regards to the properties of open or closed systems, such as equifinality, growth through internal elaboration, self-regulation, constancy of direction with change of position, and so on. However, the exchange processes between an organization and its environments have to be thoroughly understood if we are to clearly determine the conditions of exchanges. Therefore, we introduce the concept of "the causal texture of the environment", which was suggested by Tolman and Brunswik (1935) as a preexisting condition for the comprehension of organizational behavior.

In considering environmental interdependencies, one of the key points is that the laws connecting parts of the environment to each other are often incommensurate with those connecting parts of the organization to each other, or even those governing the exchanges. Reducing the organization-environment relations to the form of "being included in", is impossible, as natural boundaries are often also 'break' points. Often, environments can have a self-deterministic evolution, which will render our effort to determine the best course of action (making a decision), futile or ineffective.

The development of a greater degree of system-connectedness is of crucial relevance for any organization, as it facilitates the flow of information and improves the relations between different organizational components.

Scutzenberger (1954) and Ashby (1957) are proposing four distinct types of potential environments:

1. First type is a "*placid, randomized environment*"

In this environment the best tactic can be learnt only by trial and error, and only for a particular class of local environmental variance. According to Ashby (1960), organizations under these conditions can exist adaptively as single or small units, however this type of existence becomes progressively more difficult under the following types. In this environment, the decision-making process occurs in relatively calm situation; therefore, the objectivity of the decision can always be counted on.

2. Second type of environment is a "*clustered environment*"

Here, the goals and noxiants (disturbances), although randomly distributed, do have a certain degree of interconnection, thus forming a cluster-type environment. Survival in such environment starts becoming precarious due to the amplified environmental variance and the decision-making process starts shifting towards more subjective factors, when compared with the previous scenario. Organizations under these conditions tend to grow in size and to become hierarchical, with a specific proclivity towards centralized control and coordination. While subordination remains the main structure, a distinctive competence tends to be developed throughout the organization, leading to better preparedness in reaching the organization's strategic objectives. By employing both objective and subjective factors in the decision-making process, the outcome is usually most optimal in this type of environment.

3. Third type of environment in terms of causal texturing is the "*disturbed-reactive environment*"

In this type of environment, the number of similar organizations becomes the predominant characteristic of the environmental field. Here competition becomes acerbic as each organization does not possess substantial information regarding the knowledge other organizations are holding and employing in their activities. In this scenario, the part of the environment toward which an organization gravitates, tends to be similar or sometimes identical with the part where others seek to move too. Therefore, the space becomes crowded and the decision-making process *time* shrinks, which in turn triggers the need for a more reaction-based response as a consequence (a further shift towards subjectivity), rather then an action-based response (implying an objective approach).

If strategy is a matter of selecting the 'strategic objective' – where one wishes to position himself or his organization at a future time – and tactics are a matter of selecting an immediate action from one's available repertoire, then there appears in type 3 environments to be an intermediate level of organizational response, which is *operation.* Here, we need to differentiate between tactics, operations and strategy. In this context, an operation consists of a campaign involving a planned series of tactical initiatives (calculated reactions against others) and counter-actions. The required flexibility encourages certain decentralization and also puts a premium on quality and speed of decision at various peripheral points (Heyworth, 1955).

4. The ultimate type environments, which are definitely the most complex, are defined as "*turbulent fields"* or "*the vortical environments*"

In these environments, dynamic processes are creating significant variances for the organization itself, as well as for the organizational components. Like the type 3, the type 4 environments are dynamic, which is in stark contrast with those in type 1 and 2.

The main differentiating factor between the type 3 and the type 4 environments is that in the case of the later, the dynamic properties do not arise just from the interaction of the component organizations, but from the field itself. In this environment the "playing field" itself is in motion. This type of environments has deep, transformational, impacts on organizations, and reflects the creation of highly unstable and uncertain internal and external conditions.

Three trends have been identified as the main contributors to the emergence of the dynamic field forces found in type 4 environments:

(i) The growth required to meet type 3 conditions of organizations turns out to be so significant that organizational actions become robust enough to induce autochthonous processed in the environment. This is similar with the impact a group of soldiers would have when crossing a bridge in marching step. While the action itself may seem insignificant, the impact on the adjacent environment could have a catastrophic outcome.

(ii) The deepening interdependence between the economic and all other facets of the society. This means that the economic organizations are increasingly entangled in legislation and public regulation. The current situation in the financial markets may prove to be one of the best analogies here. While the vortex formed by the downward spiraling of the capital markets is creating substantial negative environments on the overall economy, is also engendering significant disturbance in the consumer's life, through the potential offshoots of the political process. In other words, while the tax payers themselves had no input in the creation of the turbulent financial environments, brought over by significant lack of oversight and by the laissez faire attitude Wall Street adopted in its cavalier approach to the capital markets, in the end it is the innocent tax payer who may end up suffering the nefarious consequences of such abuses.

(iii) The increasing reliance on research and development to achieve the capacity to meet a specific competitive challenge. This usually leads to a situation where a change gradient in continuously present in the environmental field.

For organizations, these trends mean a flagrant increase in their area of relevant uncertainty. The consequences flowing from their actions may lead off in ways that become increasingly unpredictable and may be amplified beyond any expectations due to the extreme shift of the decision making process towards a fully subjective one, thus towards an almost irrational process. In such environments, the logic disappears and rational thinking becomes a long-forgotten notion.

Relating again to the current state of affairs in the US capital markets, it is fascinating to notice how "players" are reacting (mostly because of gut feelings, but sometimes because of the herd mentality) to market variations and fluctuations. The 'exit' doors are not large enough to contain the masses of obtuse individuals running for an exodus. When times and environments were stable, everyone was calm and composed; however, as soon as radical changes occurred in the environments, all the rational (objective) decision-making processes are being thrown out in the garbage bin. This is more than apparent not just in individuals but also in organizations.

In fact, when we talk about "organizational decision making" we need to underscore the fact that, ultimately, decisions are made by individuals! This occurs regardless of whether some sort of a consultative process was involved or not. Some of the greatest organizations, political regimes or even countries and empires, have been brought to their demise by the decisions made by individuals. This leads us to the next part of this paper, which will deal with the concept of *authority* in the decision-making process.

LEADERSHIP – THE ROLE OF THE LEADER IN THE DECISION-MAKING PROCESS

"*The distinctions among followers are every bit as consequential as those among leaders – and have critical implications on how managers should manage*"

Barbara Kellermam

When it come to decision-making, every individual on the face of the planet is constantly faced with choices and options on which he or she will need to take some type of action. What is even more interesting is the fact that each and every decision, individuals are making in their lives, leads, in fact, to the present moment. The critical question here is how our decision(s) will actually *impact* not just our own lives, but others around us. IMPACT, is an incredibly interesting factor here, as it provides a sense of scope on how significant the influence of one's decision over others could be (or become).

Since the dawn of humanity it was postulated that *leaders* matter a great deal, while *followers* hardly at all. The concept of *good leadership* has been analyzed, dissected, interpreted, and written about, in an endless manner. Everyone wants to understand what makes a leader *good*. Is it their charisma? Is it their knowledge? Is it their gravitas? Or, maybe it is simply their capacity to make decisions, which have a significant impact on other people's lives?
What does a *significant* impact mean? Well, there are two, actually three dimensions, through which we would likely characterize the significance of a decision.

1. *How many* individuals are actually being affected by the decision
2. *How meaningful* the change brought by the decision is
3. *How long* would such change last

We could argue that routinely-made decisions, implemented by individuals, have a limited influence on other participants.
If one day someone decides to drink a cup of coffee, and no further issues occur because of that, it may be postulated that there was no impact generated by that action. (although it could always be argued that the TIME spent to drink that cup of coffee may, in fact, *significantly* change that person's life later on!) In our class discussion we have noticed that the positive or negative outcomes from a particular decision, are totally related to the TIME factor! If someone wins the lottery today but get's murdered two weeks later because a robber heard of this person having a lot of money, then was that a positive outcome or a negative one?
In addition, if someone decides for example to open a door, that decision in itself may turn out to be most inconsequential event in his or her life. However, if for example the person is on the 27th floor of a building and that door happen to lead to some sort of a balcony, which has no immediate protection, such situation could potentially lead to the demise of the individual. At this point it can still be argued that, even if that individual succumbs following the fall from such heights, the impact on others is yet insignificant. Nevertheless, what if the falling person ends up on top of passerby and kills him/her? How inconsequential would that opening of that particular door be?

What if a person makes the most trivial decision of his life to actually embark on a buss ride from point A to point B and ends up being decapitated during the bus ride? (remember?) ☺

And what if a person decides to burn out an entire city, and what if the city was called Rome and the perpetrator was called Nero?!

Well, we could argue here that some individuals – and I would like to call them *leaders* for the purpose of this paper – make decisions with outcomes that are much further reaching than the decisions made by others. Similarly, organizations encounter situations where the top-level managers could come up with decisions that may *impact* a substantial number of employees. In fact, we can also argue that the more individuals are potentially *affected* by someone's decision, the more *essential* that leader's position is.

These particular distinctions have critical implications in how leaders should lead and how managers should manage, since the need to understand the *extent* of the impact on the followers, becomes absolutely vital in the decision making process. The fundamental concept that individuals have to acknowledge whenever they

are faced with any type of challenge, problem, dilemma, or conundrum, is how large (in terms of scope and scale) will the impact of their decision be. How will the outcome influence other people's lives, how many other people will be influenced and how deep those influences will be.

For a football coach to send 15 athletes on the field, may be a rather monotonous occurrence; however, for an army Sergeant to send 15 of his troops on a mission where the statistical survival rate is 50%, that may turn out to be a very different type of decision-making process.
Therefore, it seems rather fair to state that leaders do play a key role in their follower's lives, and how significant that role is may turn out to be more of a rhetorical type question.
It may also be argued that sometimes followers are the ones that bestow decision-making powers onto the leader. And, if the followers are imprudent enough to entrust the leaders with too much power, then such power will most certainly turn back against the followers.

"*Power corrupts and absolute power corrupts absolutely*"

Lord Acton

But Lord Acton also coined the notion that "*Great Men are almost always Bad Men*", which again stands to demonstrate the fact that once a person has climbed onto a proverbial *pedestal*, that person's view of the world and the environments around him/her could dramatically change.
Why are people fascinated by power when it has been proven time and time again that power leads to severely distressed outcomes? It is because of the DECISION-MAKING PROCESS!
That simply means that human beings are actually driven by the desire to make decisions, which will, in effect, impact other people's lives. In a word, our aspiration to dominate and to potentially subjugate others plays the most substantial role in the ways we behave, interact with others, and make decisions.

The inherent competitiveness in every person is the critical factor that leads us as individuals to one type of decision versus another, which in turn will create distinct outcomes. Competitiveness is an innate trait, and, while some could argue that it can be acquired through knowledge and education, I think it really is passed on genetically through generations. Of course, in some cases the environments or specific circumstances could play a far-reaching role in an individual's success or failure; however, without the gift of an innate competitiveness no one can successfully sustain a leadership position over time.

In the end, only history will properly judge a person's decisions, and implicitly the outcomes stemming from such decisions, because the impact or the implications of such decisions can only be correctly evaluated with the benefit of hindsight.
Even then, the outcomes need to be evaluated at different stages through time, as the relationship between *time*, *space* and *effect* can vary wildly on the time-continuum axis.

A distinct case that comes to mind at this juncture is the two-decades old collapse of the communist system in eastern Europe. At the time, social and political upheavals led to the eventual demise of the system. Many people contributed then (some more considerably then others) to the downfall of the system, particularly because of their then-belief that a better system could be found on the other side of the "fence". However, decades later, when a full blown financial crisis looms around the corner, and when the real possibility of a systemic collapse in the capitalist system could materialize at any given moment, the decision to tear down the communist system seems (at least in retrospect) at the minimum, hasty, if not down right impractical. Perspectives change over time, and the human mind perceives events in very different lights at discrete times. Time, environments, knowledge, education, cultural differences, beliefs, feelings, facts (or at least what an individual perceives as facts), and assumptions are all transforming and modifying our perceptions of the environments and of the reality.
What is reality in fact? Is it what we see, is it what we feel, is it what we think, is it what we smell, is it what we taste? Who are we and why are we here? Are we even real? Do *we* form reality or does reality form *us*? Considering the fact that we, in general, call *reality* what we can see, then what type of reality do we have if we turn off the light in a dark room?! How about blind people? Do they have a different reality than the rest of us? What about people who are color blind or who can see colors only in juxtaposed positions; such as seeing the leafs in a tree as being red and a fire as being green? Humanity tends to take as normative the perceptions of the many, over the perceptions of the few. But is that the correct way to interpret reality?

Let's think about people such as Giordano Bruno, Galileo Galilei (with his famous "E pur si mouve"), Nicholas Copernicus, whom advanced theories so revolutionary at the time that some of them had to pay even with their lives for their-then-perceived heresies. Were these individuals wrong just because the vast majority thought that the Sun moves around the Earth?

Giordano Bruno, who had been imprisoned because of his "wicked words" and later burned at the stake in the Campo de' Fiori, a central Roman market square, on February 17, 1600, has paid the ultimate price for his belief that all planets are in motion. But, were those beliefs or facts? Well what are facts?

According to Encarta; "Facts" are:

1. Something known to be true: something that can be shown to be true, to exist, or to have happened

2. Truth or reality of something: the truth or actual existence of something as opposed to the supposition of something or a belief about something

In that case, who was right and who was wrong at the time of Bruno's demise? Think about it! FACT = something that can be shown to be true, to exist or to have happened! Could planet movement have been proven at that time? Could it be shown to be true? Could it be shown to exist? The answer at the time for all these questions was more than likely an emphatic NO!

Therefore, can those who condemned Bruno be judged? Well, with the benefit of hindsight (which is always 20/20, thus perfect) maybe we can do so. However, it took four hundred years after his execution, for an official expression of "profound sorrow" and acknowledgement of error regarding Bruno's condemnation to death, to be made by the Catholic Church.

Think about this; it took **400** (four hundred) years to acknowledge what today seems more than obvious to every living soul on the face of the planet! What if the world would never have had a Magellan? What if Magellan never had fulfilled his *decision* to go around the world? Would the world still be flat today?

These are all rhetorical questions now; however, they have actually shifted towards rhetorical questions over time simply because someone *made a decision* to actually sail around the world, or to do something considered lunatic at the time.

The primordial question we need to ask ourselves in any decision-making situation is how will our decision IMPACT *ourselves* and how will it IMPACT *others*? Is the outcome of that decision going to stand the test of time? Are future generations going to be affected by such decisions? Ultimately, the mere fact that we have been born on this planet is evidence enough that we have already made a significant impact on the evolution of this world. We procreate and our offsprings may, at one point in the future, revolutionize or transform the world. Who is to say that one of Hitler's ancestors would have been aware of the tremendous impact his existence will eventually have on the history of humanity. What can we know today about how one day, one of our descendants may *impact* the world? Maybe it will be a positive impact, or maybe it will be a negative impact, maybe there will be NO impact. Can we preclude such things from happening?

Well, life is ultimately a mere succession of minute time points, which are being inexorably stacked one on top of the other, as every single one of these moments, and implicitly every single decision we make in life, lead to the present, and inevitably to the future. Can we know the future? Consider point "A" as the point of birth, and point "B" as the point of death, then, we can certainly draw a straight line in between the two points, which will definitely represent our lives. By taking a point "X" on this axis we can determine where we are today. To the left of that point everything is known (history) but to the right of that point everything seems to be unknown. However, just as point "X" was determined by the summation of all previous points and by all the decisions we have made in our lives up to this very moment, so can the future be predicted by employing the present. Time flows into only one direction, it is irreversible and it connects the past, the present and the future. We are currently riding on a one-way three-dimensional highway towards the inevitable demise. This path is called DESTINY and it is entirely independent of our influence!

We may *pretend* that we are making decisions, but in actuality, all decisions *have already been made* for us. We are but mere puppets in the grand scheme of the time-continuum mystery, and regardless of our actions or reactions we can only fulfill a predetermined path that was "written" for us since the beginning of time.

In conclusion, we need to always remember that the "Only *constant* in life is *change*"! What will probably continue to change is the actual *rate* at which change itself will occur. The *rate of chance* will continually increase, and adaptation to new environments is going to be paramount for any individual, corporation, organization, nation, and ultimately for the world itself.

In order to more efficiently cope with this change, everyone will have to understand that the time allocated to the decision-making process will forever shrink, thus environments will tend to shift from *placid* towards *turbulent*. The volatility will continue to go up over time and we will need to adjust our responses accordingly. Given this reality of shrinking times allocated for decisions, and if we intend to continue to remain competitive, we will need to plan ahead for most type of possible and probable scenarios.

Planning will become central to effective management, and, only through the development of operational scenario-planning, will we be able to reach our long-term goals and objectives. *Scenario planning* entails a detailed analysis of current conditions, as well as a thorough understanding of forecasts of the future. Through a comprehensive organizational analysis we will be able to obtain critical information regarding the strengths, weaknesses, and competencies that an organization possesses. Then, we can develop contingency scenario planning for most types of potential outcomes, taking into consideration all the objective factors available for analysis. By taking the time to plan, when time-constraints are *not* a critical factor, we may be able to become far more effectual when an actual challenge will, in fact, materialize.

Planning is but an effort to anticipate future challenges so that we are better prepared to deal with such challenges in an efficient manner. This will relieve the pressure of making decisions under time constraints, which leads almost inevitably to a *subjective*, rather than an *objective*, process.

"Failing to plan = planning to fail"

However, in the end, it will be our ability to make sound (informed) judgments in any type of situation, our capacity to adapt to the constant change in order to be more responsive, and our aptitude to act in a more nimble fashion than competitors that will position us at the top of the hierarchical pyramid.

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HUMAN BEHAVIOUR – AN IMPORTANT FACTOR OF PRODUCTION AND OPERATION MANAGEMENT

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ABSTRACT

Work force is an integral part of any system of operations. The system efficiency depends on efficiency, capabilities, performance, attitude, aptitude, behavior and psychology of an operator. In operation management these factors are not incorporated and it is assumed that the above factors remains constant i.e. irrespective of environment, state of mind, personal thinking and approaches etc. It is also assumed that if similar kind of job is given to many operators, at different time, location, weather conditions etc, will perform work with same efficiency. The personnel who are working in a system of operations (production or services) are assumed like a machine tool i.e. once they have been trained to perform a job will do the same according to training, having no personnel approaches, behavior and psychology. The decision making of an individual will remain the same in any circumstances. People in the system are supposed to be rational, for simplification of models and theories of production and operation management. The important human behavioral and psychological factors may have been overlooked. The paper examines influence of behavior of individuals over the production or service operations performed by them. In this paper some experiments have been performed, highlighted some real life industrial experiences, some observations from the field of service operations, production and also from daily life operations. The main objective of the research is to find out the role of human behavior in production and operations, as once features of human behavior have been recognized; incorporating it into the analysis can lead to better OM models.

INTRODUCTION

In the analytical models of operation management the people participate as problem solver, implementer, worker or customer and they are suppose to be having inflexibility in their performance because of their behaviour. At the time operation management was come into existence, its models are derived with the help of many research studies. After that many things are changed like technology, information and communication system, change in capacity planning due to automation, forecasting methods due to availability of rich data bank and quick information about any kind of change in environment, methods of project management due to JIT concept, and so on. Only one thing has not changed that in any system of operations, human being are integrated part.

Once the Policies, procedures, mechanisms, and systems are adopted by top management of any system of operations (organization) from theories of management and by their own experiences, fabricates a operation system, but the efficiency of system come from its operators, depending on their knowledge, skill, initiative ness, problem solving, learning aptitude, motivation etc. Applying operation management models to any practical part of the operating system (organization), it is assumed that workforce participating in the system in any role – like decision makers, implementers, workers or customers having identical behaviour or they can be mould to behave same in heterogeneous conditions by induction process or training. The decision making of an individual will remain the unchanged in any circumstances. (People in the system are suppose to be rational)

Operation management is a multi disciplinary branch of management, which deals with product design, process design, production, and distribution of products and services. The operation management also focuses on layout planning, location decisions, quality, productivity, inventory control, product development project management, etc. Previously The OM was identified in manufacturing environment and known as Production Management. Presently OM includes Supply Chain Management (logistics and distribution system), Research and Development in the field of Production and Services both. The OM now includes many strategic decisions like product and process design, layout and location decisions, plant size decisions, capacity planning for goods and services production, etc. In addition OM deals with wage policy decisions, inventory policies, coordination between various departments like Material, Purchase, Human resources, etc. As we have practically observed application of behavioral theories and its importance in many discipline, but application of behavioural theories are rare in OM. As a fact without human being it is not possible to produce any goods or services. The involvement of human resources may vary, depending upon the automation and technology used for it. The human behaviour is key factor of OM also.

LITERATURE REVIEW

1) On the Interface Between Operations and Human Resources Management September 22, 2002 (John Boudreau , Wallace Hopp, John O. McClain, L. Joseph Thomas)

It is reviewed that "The fields of Operations management (OM) and human resources management (HRM) have a long history of separateness. In industry, it has been rare for an operations manager to become a human resources manager or vice versa. In academia, the two subjects have been studied by essentially separate communities of scholars who publish in nearly disjoint sets of journals. Despite this, operations and human resources are intimately tied to one another in virtually all business environments."

The Impact of Human Resources on Operations Management, it is reviewed that "Simplification is an essential part of all modeling, OM researchers and managers are aware that their models involve simplified representations of human behavior. But they may not always be aware of the consequences these simplifications can have on decision making. *The following assumptions are commonly used to simplify human behavior in OM models*- People are not a major factor, People are deterministic, predictable or even identical. People have perfect availability , Workers are independent (not affected by each other, physically or psychologically), Workers are "stationary." No learning, tiredness, or other patterns exist. Problem solving is not considered, Workers are not part of the product or service, Workers are emotionless and unaffected by factors such as pride, loyalty, and embarrassment, Work is perfectly observable. Measurement error is ignored. No

This would be a clue that important human factors may have been overlooked. Once a feature of human behavior has been recognized, incorporating it into the analysis can lead to better OM models. For example, many classical operations models assume that people are like machines, effectively identical to one another and exhibiting only random performance variation. Yet, individuals differ in skills, speed and many other characteristics; this is the most basic of HRM and industrial psychology insights. So, it is not surprising that some of these classical models do not match reality very well. Numbers of views are presented in this paper like OM and HRM are intimately dependent on one another as management functions in practice; traditional OM research has omitted and/or simplified human behavior, to achieve an integrated OM/HRM framework, with which to evaluate policies in both fields.

2) *Behavior in Operations Management: Assessing Recent Findings and Revisiting Old Assumptions (2006) Elliot Bendoly, Karen Donohue, Kenneth L. Schultz*- This paper provides a perspective on why behavioral research is critical to the operations management (OM) field, what prior research exists, and what opportunities lay ahead. The use of human experiments in operations management is still fairly novel despite a small stream of publications going back more than twenty years. The author has given the

following assumptions in OM – Most of the researchers in OM field do not consider behaviour of human being involved in the system. Generally, following assumptions are made – People are not a major factor in the phenomena under study, People are deterministic in their action, People are predictable in their action , People are independent of others, People are not part of the product, People are emotionless and People are observable.

3) *Toward a Theory of Behavioral Operations (April 30, 2007) Francesca Gino, Gary Pisano,*- In this paper the author stated, "Human beings are critical to the functioning of the vast majority of operating systems, influencing both the way these systems work and how they perform. Yet most formal analytical models of operations assume that the *people who participate in operating systems are fully rational or at least can be induced to behave rationally*. Many other disciplines, including economics, finance, and marketing, have successfully incorporated departures from this rationality assumption into their models and theories." In this paper, the author address three questions: 1) what is a behavioral perspective on operations? 2) What might be the intellectual added value of such a perspective? 3) What are the basic elements of behavioral operations research?" Behavioral operations and traditional operations management share the same intellectual goal (the design, management, and improvement of operating systems and processes), but their focus is different. *In the operations management literature, human behavior traditionally has been either ignored or, at best, treated as a second-order effect.Performance of operating systems—that is, as a first-order effect*. Specifically, behavioral Operations focuses on how cognitive and behavioral factors shape the way operating Systems and processes work and perform.

The author identified *two main areas for intellectual value added by behavioral operations. First, a behavioral approach to OM can lead to a better understanding of underlying drivers of operating system performance and also to a better understanding of puzzling "pathologies". Second, a behavioral perspective can lead to a better identification of appropriate management interventions*.

4) *Behavioral Operations Management (oct. 2007), Christoph H. Loch, Yaozhong Wu* - The author stated that to first find appropriate application areas for behavioral studies in OM, and then acknowledge that the vision of *"bringing people issues into OM"* requires including not only human psychology, but also human culture. *Human behavior can be classified into three different categories: 1) Individual decision biases due to cognitive limitations 2) Individual other-regarding behaviors in the context of social interactions driven by social goals. 3) Collective behaviors in a population as an outcome of culture transmission and evolution*

Behavioral Operations Management is a multi-disciplinary branch of OM that explicitly considers the effects of human behavior in process performance, influenced by cognitive biases, social preferences, and cultural norms Behavioral OM is precisely about identifying additional factors (besides optimization and incentives) that influence behavior, such as decision biases, emotions, and culture, which constitute the main focus.

RATIONALE

During the period of Managing Industry the researcher observed influence of behaviour over production management, providing services, managing material and inventory, wage policies, assignment of jobs, managing projects etc. The researcher observed that if OM theories are to be applied at any point of time, the behavioural aspects were ignored. If behavioural aspects are considered, the theory of OM can't be implemented correctly. In this paper, we provide a perspective on why behavioral research is critical to the operations management (OM) field, indicating the opportunities of research in this area , because to study relation between a system of operations and people involved in it is justifiable.

HYPOTHESIS

Human behaviour (behaviour of personnel who are participating in any role in a system of production / operations) is significantly important while applying theories and models of OM to any system of operations.

METHODOLOGY

(1) Industrial experiments - where real workers are observed performing authentic tasks
(2) Laboratory experiments - where subjects take part in a controlled, and often stylized, version of an authentic task.
(3) Situational analysis - where subjects are given a description of a situation and asked to answer questions about how they would feel or act in such a situation.
(4) Real life experience – the researcher have experience of Industrial management, taken real life experiences and observations.

BENEFITS OF BEHAVIORAL EXPERIMENTS

(*Behavior in Operations Management: Assessing Recent Findings and Revisiting Old Assumptions* -Elliot Bendoly, Karen Donohue, Kenneth L. Schultz) - Behavioral experiments are a well-established research methodology for studying human factor issues in many disciplines including economics, psychology, sociology, and medical research. They are also commonly used in many business disciplines such as marketing, accounting, and human resources. Their purpose, according to Wacker (1998), is "to investigate relationships by manipulating controlled treatments to determine the exact effect on specific dependent variables." Experiments are normally run in carefully controlled settings where specific situational conditions are manipulated by the researcher. The ability to control and modify situational factors allows one to focus attention on the behavioral issue of interest, free of exogenous influences. If carried out effectively, behavioral experimentation provides a way to create conditions where natural behavior can be observed without a loss of generalization.

RESEARCH EXPERIMENTS AND OBSERVATIONS

- ***Location selection by entrepreneurs*** – Entrepreneurs of medium small-scale industry were interviewed to know about their site selection – 90% of them have established their industry at the place where they are residing because they are very much attached to the place, they don't want to disturb their family, they feel comfortable at that place, they have many personal contacts at that place, their forefathers are residing at that place since more than 60- 75 years and therefore they call it as its my town. They have ignored the factors, which considered selecting the site for industrial establishment like cost of land, available of raw material, proximity of market, tax benefits etc.Only 10% of them have considered all or some of the factors given in theories of site selection and applied model to select the site.

- ***Product development*** – In an industrial experiment same product was given to two teams separately for develpement. The time of development was found to be different, after developing the product the team leaders with their team were interviewed to find out their basic considerations for product development. Team 1 had taken more time than team 2, emphasized over the quality and performance of product (as instructed by team leader to the team). The team leader was more quality conscious and wanted to establish product as quality product. While the team 2 had taken lesser time , they wanted to launch the product as early as possible to gain maximum marker share.

- ***Welding Shop Experiment –*** The research has spent a long tenure (around 11 years) to manage heavy engineering workshop. In the workshop the welders are instructed to weld the job according to ASME standards, but sometimes welders try to avoid operational instructions and try to weld the job as per *convenience*, like if they are instructed first to clean the surface than weld – most of the welders try to do it simultaneously. Also, if they are instructed to seam the joint bottom to top, they mat weld it from top to bottom in vertical jobs (*Convenience*).

- ***Inventory Management -*** In inventory management, a common objective is to minimize the sum of expected ordering, holding and stock-out costs. This objective is an assumption about the decision maker's intentions. In reality, the decision maker may not correctly evaluate the cost of holding inventory with the cost of stock-outs. For example, he may evaluate stock-out costs less since these are more difficult to track, or he may evaluate holding cost less since it is less visible.

Also, the assumption of risk neutrality (implied by the expected value objective) may deviate from reality. Depending on the environment, the decision maker could easily be *either risk seeking or risk averse*. (Minimize inventory holding – maximum risk of stock out and minimize risk of stock out – maximum inventory holding) Additionally, he may have certain goals that are not monetary in nature. His decision rules may reflect *trust, justice or prior relationships with vendors.*

- ***Observations in Queue*** - It was observed that in queue system at doctor's clinic FCFS system is generally adopted, but serious patient arriving in the queue are treated first (ignoring the FCFS system).
  At barber's shop the FCFS queuing system is adopted, but in an observation, a lady arrives at the shop with her child, she wanted to take service as teaming hair of the child. The child can't stay alone at the shop alone and mother had to stay with him. In the situation the barber provided services first to the lady (braking the queue system). Also the other customers had no objection.

  At railway reservation office we have a system of FCFS in queue (irrespective of distance for which tickets to be taken), but the railway provided separate window for senior citizens, handicapped, journalists and alone ladies.

  In addition, we may observe the services are provided on priority to some influential person, ladies, children, dignitaries, valuable customers (depending on their frequency of arrival and monetary value of services to be availed) etc.

- ***Static characterstic of customer-*** In OM theories it is assumed that all the customers have static characteristic, but the characteristic of customer is dynamic in nature depending upon the need of commodity or services.

- ***Quality Management*** – In most of the manufacturing industries random sampling system as adopted to cheek the quality of a lot. Random sampling means the quality inspector has to select sample from the lot randomly. The researcher has experienced during his industrial carrier that inspectors are not random in nature (as people are not random) and many times they are biased in taking samples from the lot. (they may have intention to accept or reject the lot).

  Even in real life situation (in domestic cases) we are also not random in most of the cases like buying vegetables, buying tickets for traveling or watching cinema etc.

- ***Supply Chain Management*** - In supply chain management if we increase number of stages cause increase in efficiency but reduces gain at each stage causes dissatisfaction.
  In the supply chain contracting literature, one commonly assumes that supply chain partners will engage in a new contract structure as long as everyone gains. Such a contract is known as being Pareto improving. As the stages increases, efficiency increases but reduces the gain. Also the logic is that few having greatest importance and the many having little importance (Pareto principle). Times the manufacturers think those retailers and other traders gaining more, while they are doing more.

- ***Production and workflow in different working environment***– Experiments were performed in Heavy Engineering Workshop, following are the observations –Efficiency remains 65 –70% while working on oily floor in comparison to clean floor, increases by 20-25% in good weather conditions, increases 7-10% if using pedestal fans in summer on work place, increases if behaviour of supervisors and managers are good.

- ***Procurement of material*** –Some quantitative vendor evaluation methods like weighted point plan etc are there for good vendor selection, but informal interview with some material managers indicates that in most of the cases Manager and his/ her collogues apply their own choices for selection, in many cases they select friends and family members as vendors and suppliers, even top managers (M.D. /C.E.O. etc.) recommend their relatives and friends to select as vendors and suppliers avoiding any kind of evaluation scheme.

- ***Layout planning -*** Laying out of shop floor, office and storage area reduces the handling of material and reduces the movement of work force. In some cases the researcher observed, while talking with his industrialist friends and visiting their plants, they do not use the theory of laying out the work place, even they install some special purpose machines and cabin of some key position holders at some odd position (According to vastushastra) which increases lot of material handling and manpower movement.

- ***Sequencing -*** In many situations the operator change the sequence of operations in production and service, depending upon the nature, aptitude, state of mind, personal preferences, priorities decisions by him/herself etc.

  In an experiment of Book binding workshop, where the sequence of operations are – pileup the pages, cut them, staple them, put the gum at one edge, paste the cover, and finish the job. The set of ten numbers of jobs are given separately to ten different operators who are almost having same skill. It is fond that their sequencin for operations changes. Six of them have piled all ten copies and cut them simultaneously, four operators cut the copies one by one. Seven of them have applied gum one the edges first on all the copies than pasted the cover pages, three operators applied gum on one copy and than pasted cover on it.

- ***Time factor and performance in services -*** Some faculties of UG and PG courses who are teaching analytical and theory subjects both were informally interviewed regarding the time preferences and allocation of subjects, most of them prefer analytical subjects in morning session and other subjects in noon session, reason is, they need steady and fresh state of mind while analyzing any subject matter.

SUGGESTIONS

The 'Human Behaviour' must be considered while taking decisions related to OM/ POM and applying theories and models in practices as -

- Decision of location is a strategic decision, once implemented cannot be changed or very difficult and expensive to change, we have seen the influence of behaviour of entrepreneurs in deciding the factor.
- If we consider the development of any product – and only two variables are taken in consideration – time of completion of job and quality of work done, both are reciprocal of each other. The choice depends on the behaviour of performer.
- In the welding shop experiment, even the workshop was approved by authorities and highly skilled welders were working, sometime they ignore the standard procedure and perform the job according to own preferences, choices, convenience etc without destroying the job.
- Inventory management includes computation of Holding cost (cost of carrying material), Ordering cost (replenishment cost), shortage cost (stock out cost), Economic order quantity (Batch size / lot size), Total annual relevant cost etc..While computing the parameters demand may be deterministic or probabilistic. The lot size may vary according to the nature of decision authority – may be risk seeking or risk averse.
- In Quality management, in most of the cases random sampling method is preferred to determine the quality of a lot. But we have seen men are not random while selecting any object.
- In queuing system, the procedure adopted is changed in many cases and priorities of service provision are decided instantaneously according to situation. It depends on the nature of server, customer or seriousness of the services required to the customer. Here customers and service providers both are not static in nature.
- In supply chain management if we increase the stage of chain, gain and hence the level of satisfaction at each stage decreases. Also the contribution of manufacturer, C&F agents, dealers, distributors, wholesalers and retailers is different which is difficult to determine exactly, according to which the returns are to be decided.
- If we talk about Suppliers and Vendors evaluation and rating, some qualitative and quantitative methods are there. But in most of the cases the procurement authority believe in selecting suppliers and vendors from the group of relatives, friends etc..Also in most of the cases even in

large-scale business houses, the material procurement authorities are from family members, friends and relatives.

- It was found that work efficiency increases in comfortable environment. Cleanliness, good ventilations, providing air conditioners, etc are the examples.
- Sequence of operations may be changed according to nature, preferences and priorities of the operators.
- Layout planning, which is a strategic decision for any establishment, depends on the nature, preferences, and priorities of top management.
- Time factor may be a constraint for an operator to provide services.

CONCLUSION

In this paper we have studied and observed the participation of human behaviour working in an operating system. Almost all-major area of OM (selection of Location, layout planning, product development, sequencing, supply chain management, quality management, inventory management, management of material, time factor and productivity) is covered. In all the areas of OM mentioned, the author has performed one of the method (Experiment, observation, formal/ informal interviews, own industrial experience) to determine the interference of human behaviour in OM / POM theories and models while applying in real situations. In real sense human behavioral factors are ignored, but they greatly influence the OM / POM theory and models while applying to the practical situations. Bringing human factor and behavioural issues in OM / POM practices is important, as People are major factor in the phenomena under study, People are not deterministic in their action, People are unpredictable in their action , People depends on others, People are part of the product, People have emotions and People are not exactly observable.

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COMPETITIVE PRIORITIES OF MANUFACTURING INDUSTRIES IN UNION TERRITORY OF PUDUCHERRY - AN EMPIRICAL STUDY

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ABSTRACT

This study investigates the competitive priorities of manufacturing industries in Union Territory of Puducherry. The dataset was randomly drawn from a sample of 52 top executives of manufacturing industries in Union Territory of Puducherry. For the purpose of analysis, we considered eight competitive domains consisting of 43 factors. To measure the competitive priorities of manufacturing industries, we selected following domains such as Quality, Cost, Delivery, Flexibility, Customer focus, Know- how, Innovation and Image. For the purpose of analysis, we employed Cronbach's Alpha test to assess the internal consistent reliability of several items. Furthermore, we constructed the model by using One Way-ANOVA, T test and Correlation to draw valid conclusion. Our findings suggest that, the quality, delivery, cost and customer focus are the important competitive priorities among the manufacturing industries. Moreover, our result found that there is an insignificant relationship exist between employee size and business experience in the competitive priorities of manufacturing companies. Finally, the results of correlation analysis were observed with a positive sign among the various domains of the competitive priorities of manufacturing industries.

Keywords: *Manufacturing Industries, Competitiveness, Domains, Factors, Cronbach's Alpha*

JEL Classification: *C42, C44, M11, O21*

INTRODUCTION

Puducherry economy has created a vast number of opportunities for the manufacturing industries sector. The global competition has put tremendous amount of pressure on manufacturing companies to achieve higher customer satisfaction, improve business effectiveness and stay competitive in the global market. In the current global market scenario, customers continually demand higher quality, shorter lead times, customization of products, etc. at a competitive price. The increasing competitiveness of the manufacturing industries resulting from globalization and changing customer's needs has motivated manufacturing companies to estimate and implement new management tools and philosophies in order to be competitive. Manufacturing capacities are a mixture of a set of multiple function tasks to sustain business strategies (Fine and Hax, 1985). Efficient manufacturing methods are the primary concern for a manufacturing industry, but there are number of factors that could influences the competitiveness of manufacturing processes, such as quality, cost, delivery, flexibility, customer focus, know how, design and image. Although quality is an important competitive priority among the manufacturing industries all over the world.

REVIEW OF LITERATURE

Competitiveness is a multi-dimensional concept. This is evidenced, from the analysis of its nature, types and levels in manufacturing industries and trade (Kathuria 1995, Narayana 1993, National Productivity Council 1999, Siggel 2001, Government of India 2002, Banwet et al., 2002 and Gowswami et al., 2002). Competitiveness is influenced by factors such as price, quality, productivity, efficiency and macro-

economic environment (NMCC 2006). According to Michael E. Porter (1990), the only meaningful concept of competitiveness at the national level is Productivity: Productivity is the value of output produced by a unit of labor or capital. Productivity in turn depends on both the quality and features of products, which determine the efficiency can be produced. Productivity is the prime determinant of a nation's long-run standard of living; it is the root cause of national per capita income.

Shee H. K (2002) defines competitiveness at three levels: (1) Country competitiveness is the extent to which a national environment is conducive or detrimental to business, (2) Industry/sector competitiveness is the extent to which an industry or business sector offers potential for growth and defined as the collective ability to compete globally and (3) Firms/company competitiveness is the ability to design, produce and market products or services superior to those offered by competitors, considering the price and non-price factors. Feurer et al (1994) claim that competitiveness is relative and not absolute, it depends on shareholder and customer values, financial strength which determines the ability to act and react within the competitive environment and the potential for implementing technology towards strategic changes. Dangayach and Deshmukh (2005) have observed that SMEs give highest priority to quality and the slightest priority to flexibility.

According to Kim and Arnold (1996) Competitive priorities signify a holistic set of tasks, which should be performed by the manufacturing function in order to support the business strategy. Competitive priorities typically consist of cost, quality, dependability, and flexibility (Hayes and Wheelwright, 1984; Ferdows and De Meyer, 1990; Vickey et al., 1993; Li, 2000; Kathuria, 2000; Ward and Duray, 2000; Boyer and Lewis, 2002; Kazan et al., 2006). Some other authors also have stated that a customer-service aspect also represents an important priority (Miller and Roth, 1994; Frohlich and Dixon, 2001; Lee, 2002). According to Leong et al., and Chen, (1990, 1999) responsiveness and time to market for a new product development should be regarded as important competitive priorities since the life cycle of a typical product has become increasingly shorter. Lagace and Bourgault (2003) have observed that manufacturing improvement programs and practices with the competitive priorities of SMEs. Therefore, competitive priorities will have to be decided very carefully because it will set the direction for implementation of different processes or management practices by the organization.

Rise in global competition has compelled the firms to increase performance standards in many dimensions such as quality, cost, productivity, product introduction time and smooth flowing operations. Different pressures on SMEs are conformance to quality, i.e. low-defect rates, product features or attributes, competitive price and performance (Corbett and Campbell-Hunt, 2002). According to Scott (1989) defines competitiveness as the ability to increase incomes as rapidly as competitors and to make the investments necessary to continue within the future. The competitive priorities in general, are considered to be the dimensionality or content of manufacturing strategy (Swamidass and Newell, 1987).

OBJECTIVES

- The primary objective of this study is to identify competitive priorities among manufacturing industries located in Union Territory of Puducherry.
- To test the difference in competitive priorities of manufacturing industries based on employees size and business experience.
- To examine the difference in competitive priorities between manufacturing companies with law market proportion and high market proportion.
- To explore the relationship between the competitive priorities domain of manufacturing industries in Union Territory of Puducherry.

DATA & METHODOLOGY

In order to examine the competitive priorities among manufacturing industries located in Union Territory of Puducherry, we collected the data based on questionnaire. The questionnaire was well structured and developed with eight competitive domains with 43 major key factors. The questionnaire collected through

the survey was based upon two disciplines; like Industry profile and Competitive priorities such as quality, cost, delivery, flexibility, customer-focus, know-how, innovation and image. Five point Likert scale (1-Very low priority, 2-Low priority, 3-Average priority, 4-Highe priority and 5- Very high priority). The dataset were retrieved from participating firms by conducting face-to-face interviews with Chief Executives, Managing Directors, General Managers and Senior Level Managers dealing with the functional area of the organization such as Marketing, Operations, Finance and Human Resources. Sample data were randomly collected from 52 manufacturing companies located in Union Territory of Puducherry.

For the purpose of analysis, we have considered Cronbach alpha was applied to find the internal consistency reliability of several items in the data. Cronbach coefficient alpha is commonly used to measure the reliability for a set of two or more construct indicators Cronbach (1951). All of cronbach alpha values met the minimum criteria alpha value of 0.06, as suggested by Nunnally (1978). The average score for each scale was used in the analysis to measure the competitive priorities among the manufacturing industries. Other than Cronbach alpha, we also employed other statistic tool such like One Way-ANOVA, T test and Correlation analysis to draw valid conclusion. The SPPS Software (Statistical Package Program for Social Sciences for windows version 17.0) was used to support the progress and finalize the data analysis.

KEY FACTORS DETERMINING COMPETITIVE VARIABLES

To find out competitive priorities factors of manufacturing industries in Union Territory of Puducherry, we have selected following domains such as quality, cost, delivery, flexibility, customer focus, know-how, innovation and image. The domains are further broken into different factors and are discussed below:

Quality: Factors considered under the domain quality are given below: (1) low-defect rate, (2) performance quality, (3) product durability, (4) environmental aspect, (5) certification and (6) product reliability.
Cost: Factors considered under the domain cost are given below: (1) low costs, (2) value added costs, (3) continuous improvement, (4) activity based measurement and (5) quality costs.
Delivery: Factors considered under the domain delivery are given below: (1) fast delivery, (2) on time delivery, (3) right quality, (4) dependable promises and (5) right amount.
Flexibility: Factors considered under the domain flexibility are given below: (1) design adjustments, (2) broad product line, (3) Ability to rapidly change product mix and (4) Ability to rapidly change production volumes.
Customer-focus: Factors considered under the domain customer-focus are given below: (1) after sales service, (2) product support, (3) dependable promises, (4) measurement of satisfaction, (5) product customization and (6) customer information.
Know-how: Factors considered under the domain know-how are given below: (1) creativity, (2) knowledge management, (3) continues learning, (4) problem solving skills, (5) training/education and (6) research and development.
Innovation: Factors considered under the domain innovation are given below: (1) developing/refining existing processes, (2) beating the competition to market with new products or services, (3) new product development, (4) innovation in products or services and (5) innovation in manufacturing processes.
Image: Factors considered under the domain image are given below: (1) ability to forecasting market growth, (2) brand identification, (3) innovation in marketing techniques and methods, (4) control of distribution channels, (5) extensive use of advertising and (6) brand range of products.

RESULTS

CEOs, Managing Directors, General Managers and Directors completed 54 per cent of the usable questionnaires; and the remaining questionnaires were completed by senior level managers dealing with a functional area of the organization such as Marketing, Operations, Finance, and Human Resources.

The respondents was stimulated to indicate, whether the use of different competitive priority in their organization in recent years with a scale of 1 to 5. Where, 1-Very low priority, 2-Low priority, 3-Average priority, 4-Highe priority and 5- Very high priority. Those scores were used to calculate the mean scores of the competitive priority. The averages of those scores are summarized below the figures within the

parentheses indicate the ranking of means. Table 1 shows the results for Cronbachs α value of manufacturing industries located in Union Territory of Puducherry.

Table: 1 Cronbachs α value of Manufacturing Industries

Domains	Cronbachs α Values
Quality	0.786
Cost	0.722
Delivery	0.844
Flexibility	0.651
Customer-focus	0.835
Know-how	0.793
Innovation	0.826
Image	0.853

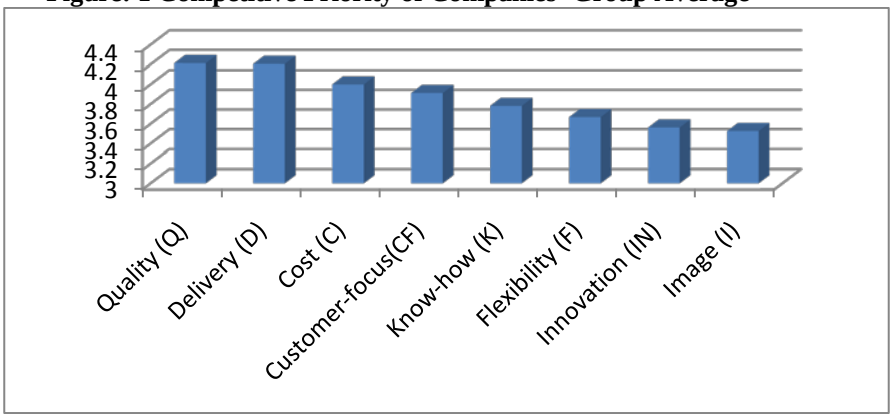
To ensure the reliability of the questionnaires, this study uses Cronbach's α coefficient to test reliability (α > 0. 5) of the questionnaires. The Statistics results show that the Cronbach's α coefficient of the competitive priorities variables: quality, cost, delivery, flexibility, customer focus, know-how, design and image are range from 0.651 to 0.853. This indicates that the variables of various domains have good internal consistency. Table 2 shows the relative importance given to eight domains in manufacturing industries located in Union Territory of Puducherry.

Table: 2 Relative importance given to Puducherry (N=52)

Domains	Mean	Rank
Quality (Q)	4.212	1
Delivery (D)	4.204	2
Cost (C)	4.000	3
Customer-focus(CF)	3.913	4
Know-how (K)	3.782	5
Flexibility (F)	3.668	6
Innovation (IN)	3.562	7
Image (I)	3.526	8

Quality remains as the number one competitive priority of manufacturing industries in Puducherry. Second competitive priority is delivery and the third one is cost. Among eight domains, innovation and image gets least priority.

Figure: 1 Competitive Priority of Companies' Group Average



From the above said variables, the competitive priorities almost all the literature suggested the quality as the first element. Many matured authors also tried to increase sum variables to competitive priorities (innovation and reliability) based on the above four traditional competitive priorities (quality, cost, delivery, flexibility) from the amendment perspective. This view takes quality as the lead, followed by cost, delivery (speed and reliability), flexibility, Customer focus, know how, design and the last is image. The

Table 3 is divided into two divisions; they are Panel A and Panel B, In Panel A: envisaged the difference in competitive priorities in manufacturing companied by employee size.

Table: 3 One Way ANOVA

Panel A: Competitive Priorities in Manufacturing Companies by Employee Size

Competitive Priority Factors	Employee Size	Means	Standard Deviation	F Value	P - Value
Quality	Up to 50	4.27	0.42	0.25	0.86
	51 - 100	4.11	0.70		
	101 - 300	4.32	0.83		
	Above 300	4.19	0.45		
Cost	Up to 50	3.90	0.42	0.17	0.91
	51 - 100	4.08	0.70		
	101 - 300	4.00	0.75		
	Above 300	4.00	0.51		
Delivery	Up to 50	4.10	0.49	0.16	0.92
	51 - 100	4.25	0.48		
	101 - 300	4.16	0.94		
	Above 300	4.25	0.58		
Flexibility	Up to 50	3.48	0.69	1.01	0.39
	51 - 100	3.96	0.75		
	101 - 300	3.65	0.57		
	Above 300	3.60	0.72		
Customer-focus	Up to 50	3.65	1.02	0.75	0.53
	51 - 100	3.99	0.57		
	101 - 300	4.05	0.50		
	Above 300	3.93	0.52		
Know-how	Up to 50	3.47	0.48	1.60	0.20
	51 - 100	3.99	0.61		
	101 - 300	3.92	0.56		
	Above 300	3.75	0.65		
Innovation	Up to 50	3.44	0.62	0.34	0.80
	51 - 100	3.72	0.65		
	101 - 300	3.58	0.64		
	Above 300	3.52	0.74		
Image	Up to 50	3.48	0.64	0.41	0.75
	51 - 100	3.53	0.74		
	101 - 300	3.32	0.78		
	Above 300	3.65	0.88		

Source: Primary Data

The table result reveals there is insignificant difference competitive priorities of manufacturing companies and employee size of manufacturing companies. The P-value of the eight domains is larger than 0.05 it shows no significant difference competitive among the competitive priorities in manufacturing companies by employee size. Panel B: shows the difference in competitive priorities in manufacturing companies by business experience.

Panel B: Competitive Priorities in Manufacturing Companies by Business Experience

Competitive Priority Factors	Business Experience (in Years)	Means	Standard Deviation	F Value	p Value
Quality	Up to 10	4.45	0.46	1.69	0.20
	11 – 20	4.11	0.69		
	Above 20	4.13	0.54		
Cost	Up to 10	4.21	0.52	1.33	0.27
	11 – 20	3.93	0.64		

	Above 20	3.92	0.56		
Delivery	Up to 10	4.30	0.40	0.75	0.48
	11 – 20	4.29	0.50		
	Above 20	4.08	0.78		
Flexibility	Up to 10	3.96	0.54	3.18**	0.05
	11 – 20	3.77	0.56		
	Above 20	3.41	0.80		
Customer-focus	Up to 10	4.12	0.54	2.33	0.11
	11 – 20	4.03	0.52		
	Above 20	3.70	0.75		
Know-how	Up to 10	4.06	0.67	2.64*	0.08
	11 – 20	3.79	0.54		
	Above 20	3.60	0.56		
Innovation	Up to 10	3.66	0.82	0.42	0.66
	11 – 20	3.61	0.50		
	Above 20	3.46	0.69		
Image	Up to 10	3.63	0.72	0.67	0.51
	11 – 20	3.64	0.85		
	Above 20	3.38	0.77		

Source: Primary Data, *Significant at 10 per cent level; **Significant at 5 per cent level.

The result reveals that there is no significant difference between competitive priorities in manufacturing companies by business experience. The quality cost delivery customer focus innovation and image P-value is greater than 0.05 and observed with insignificant level between competitive priorities in manufacturing company by business experience. Except flexibility and know how it is shows that 5 per cent and 10 per cent significant difference in competitive priority of manufacturing industries by business experience. Table 4 shows the difference in competitive priorities between manufacturing companies with low international market proportion and high international market proportion.

Table 4 t-test (Competitive Priorities between Manufacturing Companies with Low & High Market Proportion)

Competitive Priority Factors	International Market Proportion	Means	Standard Deviation	T Value	p Value
Quality	Low	4.21	0.52	1.10	0.28
	High	4.00	0.70		
Cost	Low	3.99	0.57	0.45	0.65
	High	3.91	0.60		
Delivery	Low	4.18	0.69	-0.02	0.99
	High	4.18	0.49		
Flexibility	Low	3.66	0.72	0.10	0.92
	High	3.63	0.47		
Customer-focus	Low	3.92	0.62	-0.56	0.58
	High	4.03	0.51		
Know-how	Low	3.66	0.56	-1.80*	0.08
	High	3.99	0.56		
Innovation	Low	3.58	0.65	-0.34	0.74
	High	3.65	0.61		
Image	Low	3.47	0.80	-1.13	0.26
	High	3.76	0.69		

Source: Primary Data. Low – Up to 40 per cent and High – Above 40 per cent, *Significant at 10 per cent level

The objective was tested by using the independent sample t-test. It tries to distinguish how a group of respondent companies differs significantly from another group. To carry out the t-test, 52 respondent firms were categorized into two group; Low international market proportion and High international market proportion. These companies are selected based on percentage of market proportion. Up to 40 per cent of

international market proportions are taken as low international market proportion and above 40 per cent high international market proportion. From the result of t- test the different in mean between manufacturing companies with low and high international market proportion in competitive priorities and it's understand that the level of priorities over quality, cost, delivery, flexibility, customer focus, know- how, innovation and image is similar for both group of manufacturing companies and the t-values is insignificant for know how with 10 per cent level of significant.

CORRELATION ANALYSIS

Having got the elements of competitive priorities, we can decide whether the relationship among the competitive priorities is cumulative and the relationships between elements of the competitive priority. This would be basically judged by positive and negative correlation. In this study, the correlation analysis results are shown in Table 5. The correlation analysis results are shows that there is a positive correlation among most of the competitive priorities domains, except quality and innovation, delivery and innovation.

Table 5 Correlations among Factors of Competitiveness (N = 52)

Competitive Priority Factors	Quality	Cost	Delivery	Flexibility	Customer-focus	Know-how	Innovation	Image
Quality	1.000	0.778*	0.599*	0.489*	0.346*	0.494*	0.166	0.341*
Cost		1.000	0.614*	0.564*	0.477*	0.560*	0.289**	0.420*
Delivery			1.000	0.435*	0.430*	0.540*	0.092	0.413*
Flexibility				1.000	0.429*	0.602*	0.479*	0.483*
Customer-focus					1.000	0.588*	0.389*	0.475*
Know-how						1.000	0.526*	0.517*
Innovation							1.000	0.530*
Image								1.000

Source: Primary Data, **Significant at 5 per cent level; *Significant at 1 per cent level.

INTERPRETATION

Companies located in Union Territory of Puducherry give more priority to quality. Quality is the first competitive priority among the manufacturing industries. Second priority given to delivery and cost is third competitive priorities among the manufacturing companies located in Union Territory of Puducherry. Innovation and image get least priority among the manufacturing companies. Competitive priorities of manufacturing industries are tested by based on employee size whether the priority is changing. The result revels that there is no significant difference in competitive priorities of manufacturing companies and employ's size.

Based on the business experience wither the competitive priorities changing. The result reversals that there is insignificant difference in competitive priorities by business experience. Flexibility P-value is 0.05 and F value was 3.18 it shows 5 per cent significant difference between competitive priorities in manufacturing companies by business experience. Know how P-value was envisaged with 0.08 and F-value 2.64 indicates that there is 10 per cent significant difference in competitive priorities in manufacturing companies by business experiences.

Competitive priorities based on the higher and lower market proportion shows the T-value is insignificant except know how it shows 10 per cent significant level. Most of the competitive priorities domains are positive correlation with each other. From the domain of competitive priorities, we can verdict whether the relationship among the competitive priorities of the cumulative and the relationship between the domain of competitive priority. This would be basically determined by the positive and negative correlation. In this study the correlation coefficient analysis observed in Table 5 shows that there is a positive correlation among the competitive priority domain. There is no significant relationship between quality and innovation and also delivery and innovation.

CONCLUSIONS

This study has empirically tested the competitive priorities of manufacturing industries in Union Territory of Puducherry. For the purpose of analysis, we considered eight competitive domains consisting of 43 factors. To measure the competitive priorities of manufacturing industries in Union Territory of Puducherry, we have selected the following domains such as Quality, Cost, Delivery, Flexibility, Customer-focus, Know-how, Innovation and Image. The statistics techniques such as Cronbach's Alpha was applied to assess the internal consistency and reliability of several items and other statistic tool like One Way-ANOVA, T test and Correlation were applied to analysis the data. Our result reveals that the quality, delivery, cost and customer focus are the important competitive priorities among the manufacturing industries. The result reveals that there is an insignificant difference in competitive priorities among manufacturing companies by employee size and business experience. Based on the business experience, except flexibility and know how are observed with 5 per cent and 10 per cent significant level. Finally, the result of correlation analysis was found to be positive among most of the competitive priorities domains.

The above findings have important policy implications. Understanding the direction and competitive priorities of manufacturing industries in Union Territory of Puducherry to managers has to creeps several decisions of their own they are; First of all, this study has made a considerable difference to the existing body of knowledge in manufacturing practices and exhibits the status of competitive priorities of manufacturing companies in Union Territory of Puducherry. This helps manager understand the significant of competitiveness in a changing business environment and provide a methodology for pin pointing improvement priorities. It directly benefits manufacturing companies in to forma strategy for their future growth. It also helps to understand their usefulness in determining competitiveness of manufacturing companies.

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INFORMATION SYSTEMS, THE RECIPROCALS OF SUCCESS (A CHANGED SCIENARIO OF EFFICIENTLY MANAGEMENT OF ORGANIZATIONS TO TRIUMPH)

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ABSTRACT

Despite the type of business, the degree of technological advances in all spears most organizations drag along tailorism logic with their working pattern to keep pace with the changing world of tough competition. Organization tend to split the processes into tasks, putting specialized people in different tasks and making a hierarchic ranking based on their specialization level. The bigger the firm, the more specialized the work and the more steps for the work to be split. Because of this, tasks are being divided more and more. This tendency has greatly complicated the total process of producing and delivering a product or service, has increased staff at the medium level of the organization, and has distanced top management from users even more.

Information Systems (IS) is in support of all the activities of business of any type. IT innovations allow companies to gain important advantages such as: (1) Cost savings and improving the accuracy of exchanging information among inter, intra and extra organization; (2) Avoiding human mistakes inherent when complex and repetitive tasks are used in turn saving money and the time it takes to accomplish tasks; (3) Integrating and coordinating several functions of several departments at once resulting in Improving the organizational efficiency and effectiveness by eliminating delay, administrative intermediaries, and redundant processing steps and by providing better access to information.

As firms increase their operations in the international arena, there is a growing need for managers to understand cross-cultural issues in adopting information systems (IS) Information systems are an important component of many businesses today. A major systems failure could be serious consequences for business, ranging from loss of revenue up to and including threatening the viability of the business and even, in the case of more catastrophic failures. This paper tries to highlight the interdependency of an organizational success with information systems and the people who play important roles in the organization.

Keywords: *Tailorism logic; hierarchic ranking; IS , inter, intra, extra networks; organizational efficiency; administrative intermediaries ; international arena; cross-cultural issue; interdependency. Absorptive capacity, Enterprise resource planning*

INTRODUCTION

Conventional management information systems tend to focus on numbers and on transactions. However, the birth of the Internet, the advent of knowledge management systems, and the growth of digital libraries make available vast quantities of unstructured text-based information. So the unconventional information should turn into an organization's intellectual capital. Organizations have become increasingly global (Edberg, Grupe & Kuechler, 2001). IT managers have realized that their strategies have to support a global rather than a local market. In many organizations, the development plans and activities in IT systems development is the responsibility of the business units. If the IT sector of an organization is too technical in nature for most of the business units the IT units of organizations may lay down the development schedules

and plans (Gordon & Gordon, 2000). However, many organizations see the need of joint IT unit and business unit responsibility for IT development. The basis of an information system is the sharing and processing of information and ideas. i.e. Any written, electronic, or graphical method of communicating information. Computers and telecommunication technologies have become essential information system components.

Information System (IS) can be intensely complex combinations of people, hardware, software, data, and procedures. The surety of success of a development project for such a system depends on an organization's ability to tackle this complexity. Conventional management information systems tend to focus on numbers and on transactions. However, the birth of the Internet, the advent of knowledge management systems, and the growth of digital libraries make available vast quantities of unstructured text-based information. It is necessary to explore ways to incorporate this unconventional information into an organization's intellectual capital.

The Internet could be an example perhaps for a most successful IS since the advent of the written word. As management information systems (MIS) leads in flatter organizational structures, so the Internet leads in globally distributed organizations and online commerce (Electronic commerce). It looks at the role of temporal coordination among people spread across multiple time zones who used asynchronous communication channels.

The occurrence of new challenges by the emergence of work teams whose members report to different organizations, at different geographic sites, in different time zones, with different venture in the outcome. The issues that rise when teams span boundaries, how the ways boundaries can be measured and the impact of boundary-spanning on team outcomes are to be considered. In order to succeed, managers need information so they can decide. They must be able to decide so that they can control efficiently and the organization can survive. Therefore a successful IS is one that, must deliver timely, accurate, and complete information to decision-makers with a minimum of mental and economic cost.

In many companies, the information technology (IT) department is a separate entity while in others; each business unit incorporates their own information technology department. The former represents a centralized approach while the latter represents a decentralized approach. The centralized IT department may suit some organizations better than others. However, it is becoming increasingly obvious that organizations may often comprise of departments that prefer centralization as well as ones that prefer a more decentralized approach. Innovation and efficiency are the desired goals of the IT system in many organizations .So from a business point of view, information systems can be defined as an information technology orientated solution to organizational and management challenges. The interaction between the organization's IT unit and other units is a key determinant of organizational success (Gordon & Gordon, 2000).and The degree to which organizational strain are resolved in both centralized and decentralized IT environments depends on the organization strategy..

ASSIMILATION OF IS IN ORGANIZATION CULTURE

An IS can have many stake holders, each one will have a different definition of system success. A successful IS may be one that is completed on time and under budget, with a complete set of features that are consistent with specifications and that function correctly. Also it should attract a large, loyal, and growing community of users and it should reduce uncertainty of outcomes and thus lowers risks, and leverages scarce resources. It should also improve the user's job performance without causing undue frustration. The success of an IS is by no means assured. Success has many dimensions, unique contribution to the understanding of one or more dimensions of IS success has to be done by all the stakeholders of an organization. In order to succeed, managers need information so they can decide. They must decide so they can control. They must control so the organization can survive. A successful IS, therefore, must deliver timely, accurate, and complete information to decision-makers with a minimum of mental and economic cost. Business strategies are usually defined first and then IT and other technologies are then aligned to them (Feurer, Chaharbaghi, Weber & Wargin, 2000). This sequential approach defines strategies, processes and actions related to the technologies available. However, the technologies that drive the critical success factors of an organization are not identified in such approaches. A much better approach therefore is one in which strategies; processes, technologies and actions are defined and aligned

concurrently. The aim of such an approach is to present a business alignment approach that enables the integration of new business processes with new generations of information systems.

OBJECTIVES OF ORGANIZATION TRANSFORMATION

The term information system refers to information technology that is used by people to accomplish a specified organizational or individual objective. The technology may be used in the gathering, processing, storing, and/or dissemination of information, and the users are trained in the use of that technology, as well as in the procedures to be followed in doing so. Managers should understand organizational culture in terms of warmth and harmony so they can effectively deal with impending problems in the new technology assimilation. Information is more significant in organizations as change and uncertainty increase. IS is an important enabler and integrator of various different business units within an organization. However, that information is not being exploited to its full potential. Therefore, information must be managed strategically. The current global business environment is characterized by customer-driven markets, shorter product life cycles and narrow niches. This makes the need for the functional units of an organization to coordinate and collaborate crucially. IS has been a major bridge between the many distinct departments that exist in organizations. However, without integration, a corporation may have many different departments as "automated islands", all of which have their own autonomous information systems. Therefore, as information systems software differs from section to section, integration and coordination is lacking. This prevents firms from utilizing the full potential of the benefits that information systems have to offer.

THE CHARACTERISTICS OF A TRANSFORMED ORGANIZATION ARE

1. *An **exceptional vision*** that is common throughout the business so that everyone in the organization must have the same views of how things in the organization could be. Thus, great emphasis is placed on accurate and detailed communication to develop this perspective.
2. ***Setting the priority*** of satisfying customers' needs must be done. Considering the customers what they want when they want it is *the* major priority in any newly transformed organization.
3. ***Satisfying staff*** is a very important aspirant point in a transformed organization is providing employees with benefits they see as positive that contribute to the aims and objectives of the organization.
4. ***The effective management*** in any changing organization, emphasis must be placed on the management of change skills and responsibilities. Resistance to change must be incorporated and time must be allowed for people to adapt to the changes made. All stake holders should familiarize and be able to recognize 'factors' that lead companies to be highly successful. Then be able to apply the key Success Factors to the company.

In many organizations, the potential benefits of the contribution of IS in organizations having been greatly less appreciated. IS can enable information sharing, support business processes and transactions and link customer information. Thus, the organization will have closer links with suppliers, customers and other business partners. IS can have a strong influence on the bargaining relationships between buyers and sellers. Internal information sharing in organizations, for example between departments, is also enhanced by IS. Information can be stored and retrieved far easier than in non-IS enabled organizations while management can communicate with employees or each other more easily. As well as this, teamwork and group collaboration is also made easier. More indirectly, IS provides the employees of an organization with new skills, helps with the design plans of an organization and provides tools that enhance education among employees.

THE ROLE OF INFORMATION SYSTEM IN THE ORGANIZATION

The availability and use of information systems and technologies has grown tremendously .The terms 'information systems' and 'information technology' have become so linked to each other that they are often used interchangeably to mean the same thing. The relationship between information technology and organizational structure is becoming more and more complicated because of the rapidly changing IT environment as well as the environmental turbulence that many organizations face.

IS is a variable that can enhance the timeliness and quality of organizational intelligence and decision-making promoting organizational performance. It is interesting to note that several organizational

characteristics as dependant variables with IS positioned as an independent variable. A Brain or the Memory is subject to erosion and error. However, IS has greatly facilitated organizational memory. Organizational information is easier to store, retrieve, communicate, codify and assimilate with IS. Expert systems are a good example of IS systems that memorize facts. Also, the amount of information that is available to the organization is increased significantly by the use of IS, in particular the Internet. Thus, the information that is needed can be provided instantly saving valuable time. So the reasons for introducing IS into an organization are to:

- To take proper and timely decisions.
- To save time and money.
- To improve information handling and provision.
- To increase sources of revenue.
- To improve the competitive position of the business.
- To expand the business arena by enabling easy interaction between business units at different geographical locations.
- To find remedy for existing systems short comes.

The organization's aptitude and efforts to recognize the value of new external information, assimilate it and apply it commercially is known as the concept of absorptive capacity. The Absorptive capacity method is based on building on knowledge that members of an organization have already done by recognizing new information that can be applied usefully to what happens within a firm. Improvement and effectiveness are the aimed results of Absorptive Capacity. The use of IS to uphold effectiveness to improve.

Absorptive capacity has two dimensions: knowledge assimilation and knowledge integration. Knowledge assimilation involves collecting as much useful internal and external information as possible. IS in general makes the collection of information a far easier task than the one it would be without its aid as boundaries otherwise unthinkable to cross can be broadened. Information is circulated and integrated throughout a corporation by various IS application such as GroupWare, video-conferencing or project management programs. This builds the potential for innovation. Information is shared and thus many ideas can be generated and merged into a potentially innovative strategy. Along with IS flattens organizational hierarchies because it reduces top-down communication. As a result, workers are given responsibilities that were once reserved for management. Innovation and decentralization is encouraged greatly by IS in such cases. However, to take advantage of these opportunities, a firm must break free of any bureaucratic constraints.

IS MANAGEMENT

The specific technologies that collectively comprised information system are *computer technology* and *data communications technology*. Computers provide most of the storage and processing capabilities, while data communications—specifically networks—provide the means for dissemination and remote access of information. Advances in computer hardware, software, and networking technologies have spurred an evolution in the structure, design, and use of corporate information systems.

Together with computer technology, data communications technology has had a very significant impact on organizational information processing. There have been tremendous increases in the bandwidths (i.e., signal-carrying capacities) of all data communications media, including coaxial cables, fiber-optic cables, microwave transmission, and satellite transmission. Wide area networks (WANs) provide access to remote computers and databases, thus enabling organizations to gain access to global markets, as well as increase their information sources for decision making purposes. The Internet in particular— the worldwide network of computer networks— has greatly facilitated this globalization phenomenon by making it possible to connect any computer to virtually any other computer in any part of the world. Advances in networking technologies have also enabled organizations to connect their in-house personal computers to form local area networks (LANs). This greatly facilitates organizational communication and decision-making processes.

Management support is considered to be a critical factor in the successful implementation of information systems innovations. Otherwise success of information systems innovations remains a theoretical as well as a managerial challenge. A major systems failure could be serious consequences for business, ranging from

loss of revenue up to and including threatening the viability of the business and even, in the case of more catastrophic failures. As IS innovations are often based on complex technologies that pose a high knowledge burden and are difficult for end users to grasp (Attewell 1992; Fichman 1992). In such cases, the ability of end users to learn and use technologies effectively is often critical to successful implementation. End users resist IS innovations when they perceive learning barriers to be too high.

Managerial interference, such as authorizing end-user training and the development of end-user resource materials can promote end-user learning and overcome such barriers. Alternatively, institutional methods that reduce the burden of learning on end users can also overcome such barriers (Attewell 1992; Fichman 1992). For instance, internal technical help desks or access to external support services can reduce the initial knowledge burden on end users. Such changes to the institutional context are resource intensive and are more likely to be undertaken when IS innovations enjoy high levels of management support. Organizational routines are supported by stable patterns of interdependencies that involve exchanges of materials and information that are essential to perform organizational tasks. Thompson (1967) identifies three different forms of task interdependence: pooled, sequential, and reciprocal. Pooled interdependence involves only limited exchange of materials, resources, and information. It is characterized by low levels of task interdependence. In contrast, sequential and reciprocal forms involve significant exchanges. They are characterized by high levels of task interdependence (Pearce et al. 1992; Thompson 1967). For example, the use of IS innovations such as word processing, spreadsheets and other personal productivity applications is characterized by low levels of task interdependence. In contrast, the use of IS innovations such as enterprise resource planning (ERP) systems is characterized by high levels of task interdependence. Task interdependence has an important role in shaping organizational coordination mechanisms. High interdependence tasks require high levels of information exchange to clarify task assignments, develop effective task performance strategies, make decisions and obtain performance feedback (Andres and Zmud 2002). Coordination mechanisms with high information processing capacity, such as mutual adjustment, are required to coordinate the efforts of individual team members working on such tasks (Galbraith 1973; Groth 1999). In contrast, low interdependence tasks can be coordinated effectively with low information processing mechanisms such as rules and procedures (Galbraith 1973; Mintzberg 1979). When task interdependence is low, management support has a weak or low effect on implementation success. The effect of management support on implementation success is a positive function of task interdependence

ADVANTAGES OF IS ADOPTION

Information System provides several advantages to the modern organization, one such advantage is the ability of IT *to link and enable employees* (Dewett & Jones, 2001). Electronic communication increases the overall amount of communication within a firm. The most important facet is that people from the various units of a corporation can interact with each other and thus horizontal communication is promoted. All the noticeable advantages of quicker information availability is the outcome of this function of IT but it must also be remembered that too much electronic communication leads to increased hostility of employees due to increased impersonality. Relating to this, IT also *increases boundary spanning.* An individual can access any information in any part of the organization with the aid of the appropriate technology. This eliminates the need for the repetition of information and thus promotes non-redundancy. Also does Cost savings and improving the accuracy of exchanging information among inter, intra and extra organization. IS of an organization will be Integrating and coordinating several functions of several departments at once resulting in Improving the organizational efficiency and effectiveness by eliminating delay, administrative intermediaries, and redundant processing steps y providing better access to information. and avoiding human mistakes inherent when complex and repetitive tasks are used in turn saving money and the time it takes to accomplish tasks.

IS's ability to store information means that the organization does not have to rely solely on the fallibility of human error, which is subject to error and erosion (Dewett & Jones, 2001). Information can be stored, retrieved and communicated far more easily and effectively. However, IS can often lead to information overload, meaning that managers have to sift through an insurmountable amount of stored data and thus hindering timely decision-making. This problem is not as serious as first thought, though. Information overload is not an IS problem but more of a documentation problem. Furthermore, management tend to adapt to IT problems once it gets used to the idea of the new technologies.

CONCLUSION

Information Systems are a valuable part of the modern organization. With organizations becoming increasingly global, their IT systems have to be as well. IS has the ability to promote both improvement and efficiency. Efficiency deals with saving cost and time to provide better results. On the other hand, innovation is defined as the conceptualization of a new idea that provides new benefits.

IS, it can be fulfilled, is vital to all modern organizations no matter what their background or management style. Information Systems promotes efficiency as much as it does innovation and it also provides as much important benefits to centralized systems as much as it does to decentralized systems.

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SMALL ENTREPRENEURSHIP IN DEVELOPING AND LESS DEVELOPED COUNTRIES: GLOBAL COMPETITIVENESS

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ABSTRACT

Micro and Small Scale Entrepreneurship plays an important role in the world's employment, output and trade. Globalization has emerged as an opportunity with its enormous potential benefits for all nations including developing and less developed countries. At the same time, there arise substantial concerns and threats leading them to be victimized by the globalization process. This paper intends to investigate the competitive position of small-scale entrepreneurs in developing and less developed countries (LDCs) with special focus on African and Asian countries.

Globalization with more instability and competition necessitates small scale enterprises to enhance their competitiveness for survival. Numerous studies have previously been undertaken on various aspects of globalization impact. The purpose of present study is to look at some major obstacles in the global competitiveness of these enterprises more critically, as well as the ways to overcome those hurdles with its findings and suggestions.

This study recommends more coordinated and cooperative actions by the small scale enterprises, supportive actions/steps by national governments and non-government organizations (NGOs), non-aggressive but assertive attitude of foreign multinationals, more protective and regulatory roles of international bodies such as World Trade Organization (WTO), International Monetary Fund (IMF), World Bank, United Nations (UN) in order to make micro and small scale entrepreneurs globally competitive, viable and successful for sustenance.

Keywords: *Globalization, Entrepreneurship, Small Scale, Competitiveness, Multinationals, WTO, IMF, World Bank, UN.*

INTRODUCTION

Developing and less developed countries are, in many ways, the focus of modern world of globalization. There is no single internationally accepted definition/criterion of developed and developing countries. Different international agencies such as World Bank (WB), United Nations (UN), and International Monetary Fund (IMF) categorize them differently. The levels of development may vary widely even within the same category. As a rule of thumb, the level of development is described according to some criteria which are highly debatable. Economic criteria like income per capita and level of industrialization have tended to dominate the discussion. More recently, another measure known as human development index (HDI), which combines life expectancy and education with other economic measures, entered the discussion for development rating of countries. Countries with a very high HDI rating are considered to be developed. Top 38 countries considered to be advanced or developed have HDI scores ranging from 0.902 for Malta to 0.971 for Norway (UN, 2008). Countries not fitting in such classification are developing or less developed. World Bank considers all low and middle income countries as "developing". Based on 2008 Gross National Income (GNI) per capita, countries with GNI less than US$11,905 were considered to be developing. Other institutions use less specific and flexible definitions for classification. IMF considers

a classification system emphasizing on (1) per capital income level, (2) export diversification, and (3) degree of integration into the global financial system (IMF, 2009). Least developed or less developed countries (LDCs) are the countries that meet three criteria based on (1) low income (three-year average GNI less than US$905, which must exceed $1,086 to leave the category, (2) human resource weakness (depending on indicators of nutrition, health, education, and adult literacy), and (3) economic vulnerability (in terms of instability in agricultural production, instability in export of goods and services, importance of non-traditional economic activities, handicap of economic smallness, merchandise export concentration, population size, and the percentage of population displaced by natural disasters (UN, 2009). However, the current division of developed and developing world is largely a phenomenon of the 20th century (Sachs, 2005).

Micro and small scale enterprises along with medium scale enterprises sector has been recognized as an engine of growth all over the world. Micro enterprise is a type of small business having 5 or fewer employees and requiring capital of not more than $35,000. The term connotes different entities in different countries. In developed countries, micro enterprises comprise the smallest end of small scale business sector whereas in developing countries they comprise the vast majority of the small scale business sector. The term micro enterprise is often used in Australia to refer to a business with a single owner-operator without any employee. This definition is also used in the United States (U.S.). In Europe, a business with less than 10 employees is considered to be a micro enterprise. Most of these enterprises have no employees other than the self-employed owner and generally they do not have access to conventional commercial banking sector. EU categorizes small scale enterprises as those with fewer than 50 employees and medium scale ones as those with fewer than 250 employees. In the United States, small business is often referred to those with fewer than 100 employees while medium scale business is referred to ones with fewer than 500 employees. In most economies, micro and smaller enterprises are much greater in number. They allow rural poor including women, youth, and landless to diversify their income, create new sources of economic growth, and generate additional employment opportunities.

OBJECTIVES

In this age of globalization of world production and trade, private sector is being assigned an increasing role in many developing and less developed countries. As part of this shift, micro and small scale enterprise sector is emerging as a significant component of economic development and employment. So, it is necessary to emphasize on the importance of this sector for world-wide economic sustainability. The purpose of this study is to broadly look at the contribution of small scale enterprises including micro enterprises and the problems faced by them especially in developing and less developed countries. The specific objectives of the study are (a) to investigate the competitive position of small scale enterprises, (b) to look at various obstacles faced by small scale enterprises in global competitiveness, and (c) to find out possible and appropriate ways to overcome these obstacles.

ROLE AND PROSPECT OF SMALL ENTERPRISE

Micro and small scale enterprise sector is rapidly expanding in majority of countries throughout the world. The majority of the poor and hungry people in developing and less developed countries lives in rural areas and mostly depends on agriculture. Poverty alleviation in most agrarian economies requires development of small holder agriculture. Globalization and world-wide economic liberalization are exposing small scale farming, small and medium processors and agribusinesses to new opportunities as well as new forces of marginalization. Various studies such as Chen and Ravallion (2004), World Bank (2004) and Johannesburg Summit (2002) show that proportion of population living in poverty has fallen for East Asia and quite significantly in South Asia while has increased slightly in Sub-Saharan Africa. In the EU, small and medium enterprises comprise about 99% of all firms and employ about 65 million people. In many sectors, they are responsible for innovation and competition. Globally these enterprises account for 99% of business number and 40% to 50% of GDP. In India, micro and small scale enterprises play a pivotal role in the overall industrial economy. The sector accounts for 39% of manufacturing output and 33% of total export of the country with an estimated employment of 31 million people spread over 12.8 million enterprises.

GLOBALIZATION IMPACT

Globalization as economic interaction among individuals and organizations in different countries, has gathered momentum in last two decades. World trade has grown about 10 times during this time. Small enterprises are becoming more and more competitive. Standard of living is improving in developing and less developed countries. Foreign direct investment increased significantly. Thus, the process of globalization has profound impact on the world economy. While the impact has been largely positive for developed and industrial countries, there is still a debate as to whether the process has benefited LDCs or not. Proponents argue that globalization has increased economic growth, per capita income and living standard, decreased poverty and reduced inequality while opponents argue that globalization has not led to perceptible increase in per capita income since any increase has been achieved at the expense of the poor and future generation. Moreover, most of the small scale enterprises face competition from giant multinationals from advanced countries. They are at risk of survival.

CONCLUSIONS AND RECOMMENDATIONS

Small scale enterprises in developing and less developed countries generally lack the knowledge, information and resources to meet necessary quality standards and market specifications. These are in most cases beyond their technical and organizational capacities. So, well thought support is needed in this respect.

In order to achieve competitiveness as the capacity to improve their market position, existence of different associations and more coordinated strategies is necessary. Competitiveness depends on cost reduction strategies achievable through economies of scale in terms of input provision, technical assistance or commercial logistics.

Lack of negotiation power is another issue for small enterprises in their relationship with down-stream agents. Hence, negotiation skill, power, and political representation are critical for them. Horizontal cooperation as a strategy may improve the situation.

Foreign multinationals should have cooperative attitude toward these local enterprises and international bodies such as World Bank, United Nations, and International Monetary Fund should support, coordinate and facilitate their operation.

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SOCIAL ENTREPRENEURSHIP: AN EXAMINATION OF CORPORATE GOVERNANCE STRUCTURES OF COMMUNITY-OWNED CORPORATIONS IN BRITISH COLUMBIA, CANADA

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ABSTRACT

This research is the first empirical study that focuses on corporate governance structures of community-owned corporations on First Nations reserves in British Columbia. Community-owned corporations are social enterprises, which serve the goals of the community, such as education and employment creation. This exploratory research uses questionnaires, in-depth semi-structured interviews, a size index and a logit model to analyze corporate governance structures of business entities. The semi-structured interviews were used to examining three corporate governance models for business entities on First Nations reserves: the traditional (INAC) model, the development corporation model, and the modern native model. We find a close relationship between corporate goals and community goals and a close interaction between municipal governance and corporate governance. Our empirical evidence indicates that the native (INAC) corporate model is common in small communities in British Columbia where businesses are closely controlled by the Band government. In larger communities a development corporation or a modern native corporate model with more self-governance of businesses exists.

INTRODUCTION

First Nations communities have suffered disproportionately from the marginalization effects of globalization. While attempting to maintain their culture and traditions, they have been buffeted by ill-conceived efforts at modernization. The long-term goals of this research are to explore methods to increase the success rate of First Nation business entities competing in the larger Canadian and global economy. The purpose of this paper is to explore opportunities of integrating the stakeholder model of business in First Nations community development, present resent research documenting traditional First Nations business activities and solicit discussion on the current development of a entrepreneurship centre in the Prince George area which focuses on research, education and counseling activities supporting traditional enterprise and social enterprise development activities with First Nations and non-First Nations communities.

To address many of the negativisms of the past, the Federal and Provincial governments are in the process of negotiating treaties with First Nations in British Columbia with respect to the transfer of title over land and other resources to First Nations. The expectations are that these agreements will stimulate the economic development of First Nation communities in the near future to increase social and economic wealth. The Government of British Columbia recognizes the need to augment the First Nations treaty process in order to improve the province's investment climate and provide economic opportunities for First Nations. The need is real because the rate of unemployment of First Nations is high and there is slow progress in First Nations increasing their stake in local economies. According to the Aboriginal Peoples' Labor Force Survey (British Columbia, 2008) reported by BC Stats, the average unemployment rate of North American Indians in northern BC was 16.3% in February 2008, which is almost four times higher than the average unemployment rate of 4.3% for non-aboriginal peoples during this same period.

Therefore, there continues to be a genuine need to build further economic development and entrepreneurship in First Nations communities.

STAKEHOLDER VIEW ON COMMUNITY BUSINESS ENTITIES

The mainstream research approach of corporate governance starts from the assumption that the appropriate social purpose of corporations is to maximize shareholder return and shareholder wealth. Advocates of the finance model believe that shareholder interests are best served by corporate policies and managerial activities that maximize corporate value (Shleifer and Vishny, 1997). Within this paradigm, the only concern for a company is to maximize profits or shareholder value. Shareholders are seen as the owners of the company (providers of capital). Capitalist corporations are centers of productive activity whose purpose is to maximize profit for their owners. Ownership (principal) is normally disconnected from the corporation and management staff (agents) are normally hired and provided with incentives to maximize profits to the shareholders. Jensen and Meckling (1976) argued that agency costs arise when ownership and control are separated. Divergences between management's decisions and those decisions which would maximize the welfare of the shareholders (principals) are considered agency costs. Monitoring managerial activities (monitoring costs), as well as paying managers to expend resources (bonding costs) to guarantee that they will make optimal decisions are considered agency costs. The free market gauges the success of the corporation. Thus, constant adjustments to the delivery of products or services must be undertaken to ensure continued corporate profitability. Social and environmental development is an ancillary activity of the capitalist corporation, if it is considered at all.

This perception of the company gradually changed towards other constituencies (stakeholders). In the stakeholder approach, corporate responsibilities and objectives are not solely focused on shareholders, but also on other stakeholders, such as employees, customers, suppliers, the community, the government and the environment (Kim and Nofsinger, 2007). Some of these outside stakeholders might seek and earn active roles with respect to managerial decision-making. Identifying the responsibilities towards each stakeholder group and being judged by a wider range of performance indicators makes the stakeholder theory an interesting approach for corporations in First Nation communities, where corporate and social responsibilities and goals are highly related. The stakeholder concept may be a useful approach for introducing new corporate governance structures in First Nations business entities, such as the economic development corporations in First Nations communities.

Local groups, such as band members and the community government, are mostly the main constituency of development corporations. Communal business organizations use capital to support the development of the individual and, in many cases, the larger community. Ownership is tied to people who directly interact with the organization. In the case of consumer cooperatives, the consumer is the owner and in the case of worker cooperatives, the worker is the owner. The principle of one person, one vote ensures that one individual or a small group cannot control the organization. This direct ownership association has resulted over time in expanded business goals beyond simple profitability. Cooperatives are normally involved in social and environmental development of the community and the region within which they operate.

The local constituencies will try to insure that companies act in a socially responsible way taking account of social, cultural, environmental, and ethical considerations. Profitability is not the main focus anymore for companies. Within this paradigm, the company is serving the goals of the community. Agency problems, however, arise when local politicians, for example Chief and Council, do not act in the best interest of their band members and misuse community companies and development corporations for their own political goals.

CORPORATE GOVERNANCE STRUCTURES IN FIRST NATION COMMUNITIES

The empirical research reveals a progression or evolution of corporate governance structures in First Nations communities in British Columbia. A total of 31 questionnaires were administered and 10 communities were surveyed with community site visits and in-depth interviews conducted. The in-depth interviews were conducted using an open-ended survey questionnaire which permitted the collection of standard information and unique observations and comments in each community.

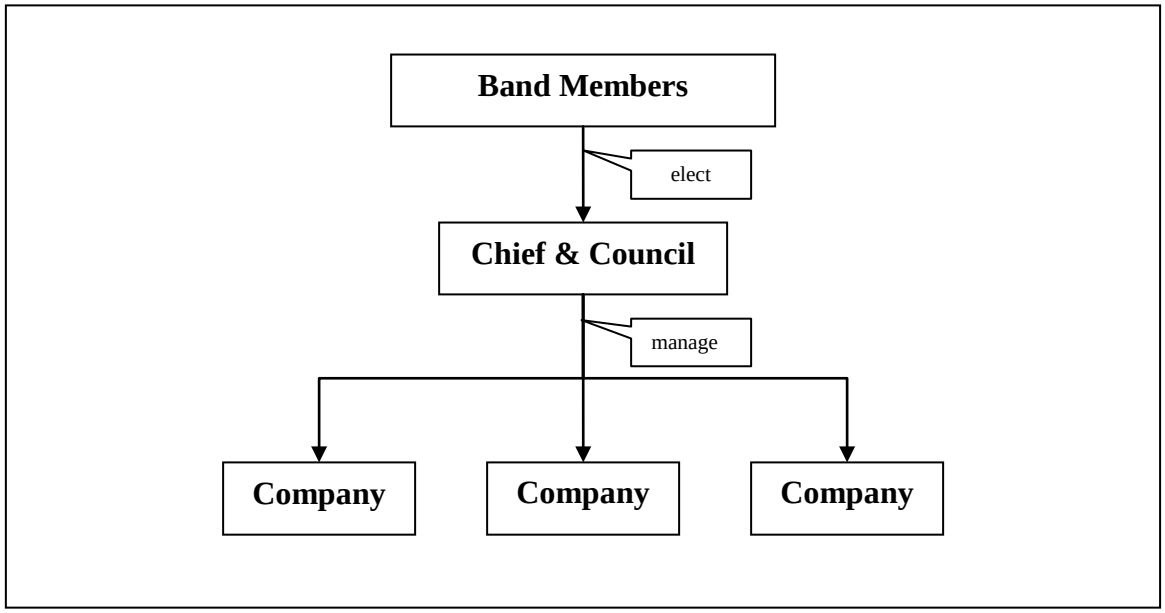
Alfred's (Chandler 1962, 1990) exploration of the historical stages of the development of industrial enterprises provided background knowledge and structure to this empirical research. The initial research undertaken by Chandler revealed four stages or chapters in the history of industrial enterprise: accumulation of resources, rationalization of the use of resources, continuation of growth, and rationalization of the use of expanding resources (1962). In "Scale and Scope" Chandler refined the process into three steps (1990). In step one investment took place in production facilities at a level which resulted in economies of scale and scope. In the second step, investment took place in networks of purchasing, distribution and marketing. In the concluding step the recruitment of human resources took place to manage the functional activities of production and distribution and to plan for future opportunities.

In a similar manner, we have identified three stages, chapters or steps in the evolution of governance structures in First Nation communities: the Native (INAC) Model, Economic Development Corporation, and Modern Model. Change from one model to the next is not a top-down process mandated by senior levels of government, rather a process initiated by individual First Nation communities as the need becomes evident to implement improved governance structures.

Native (INAC) Model

Over the past several decades, corporate governance models have developed in First Nations communities in an evolutionary manner. In the native model (Figure 1), the board of directors of each business was comprised solely of Chief and Council. The elected officials had access to the daily operations of tribally-owned businesses. Cameron (1990) argued that the decision-making process of these companies was highly politicized as political leaders, such as Chief and Council, act to preserve their positions.

Figure 1: Native (INAC) Model



The economic system became unstable when a new Chief and Council were elected with different ideas and knowledge. If the new Chief did not hold the same values and aspirations for business development as the business manager, the manager was fired and the business lost educated leadership, corporate history and accumulated knowledge. In addition, liability problems arose when a business encountered a problem resulting, in many cases, with the resignation of Chief and Council. The close association with tribal politics and dependency of management on the rapid changes of tribal politics made it an uncertain and risky business environment for outside investors. Band political interference in local businesses burdened long-term economic development and the development of a well-functioning private sector on the reserves. No independent oversight committee monitored the expenditures of tribal funds on business developments. The Band members solely relied on the prudence and reliability of their leaders without checks and

balances in place to provide transparent monitoring of business activities and decision-making processes. This model is still practiced in many of the smaller First Nations communities

Economic Development Corporation

Many business entities in First Nations communities are legally incorporated organizations – often called development corporations - set up and owned by the Band government on the reserves to serve the needs and goals of the local Band members and provide financial support for the community. Although situated on Indian Reserves, development corporations are often charged with the economic development of other areas within First Nations territories, including rural areas which generally involve Crown lands, or urban areas which usually involve private lands.

Development corporations are owned by the Band Members (shareholders) and serve the goals of the local community. Essentially, development corporations are community-owned corporations that manage local businesses on the reserves.

Many development corporations, although owned by Band members, operate on a day-to-day basis at arm's length from the community government. For example, the *Nipissing First Nation* Economic Development Corporation is a not-for-profit entity mandated to develop and improve business development activities on behalf of the community. Another example of a development corporation is the *Osoyoos* Indian Band Development Corporation in southern British Columbia. The *Osoyoos* Indian Band posted in their mission statement that the Development Corporation (n.d.) pursues economic self-sufficiency through the training and education of their people which ensures that 'Pride of Heritage' will guide them in developing their resources optimally both in socio-economic terms and for the benefit of future generations. More specifically, the goals of the *Osoyoos* Indian Band Development Corporation are to improve the wealth of their Band Members by increasing the standard of living and education, reducing the political influence within the Band and its agencies, reducing dependency and creating community involvement that brings back the traditional aboriginal concepts of honor, caring, sharing and respect and decreases dependency on government funding. In case of the *Osoyoos* Indian Band, the development corporation supports a variety of enterprises including construction companies, recreational businesses, vineyards, a daycare, and cultural centers. Therefore, the development corporation can be viewed as an entrepreneurial social enterprise pursuing innovative social initiatives.

A major advantage of a tribally owned economic development corporation is the fact that it may be exempt from income tax. The Canadian *Income Tax Act* (1985) provides an income tax exemption to non-profit organizations. This may include Indian-owned corporations, where these have been incorporated for social and welfare purposes. This exemption does not apply to for-profit corporations owned by a First Nation.

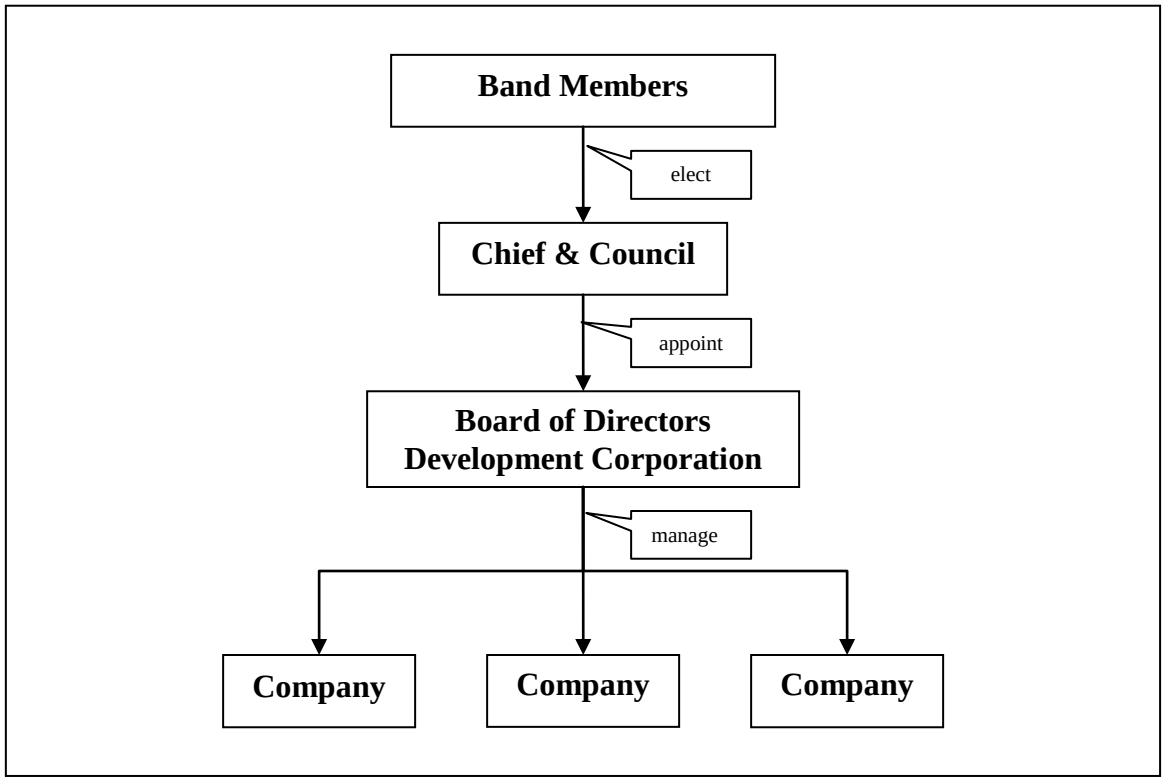
In addition, municipal authorities and First Nation Bands are exempt from paying tax under section 149.1.c of the *Income Tax Act* which treats Indian Bands as municipalities on a case-by-case basis. The tax exemption includes any corporation, commission or association at least 90% of the capital of which is owned by one or more entities each of which is a municipal or public body performing a function of the Government in Canada. Therefore Indian Bands, because they perform a function of the Government in Canada are not taxed by the federal government. This is a significant exemption for Bands which qualify under the Act, as a corporation owned by the Band earning 90% or more of its income on reserve would be exempt from income tax even if operated for a profit.

The first significant change in comparison with the Native (INAC) model (Figure 2) is that the establishment of an economic development corporation is an attempt to provide a degree of separation between the band Council and the business entities. In the early period of development the Chief and Council still appointed the board of directors of the economic development corporation. Predictably, the

same problems appeared as in the Native (INAC) model: the business system experienced severe pressure when a new Chief and Council were elected with other ambitions. In this period, Band members were not involved in the appointment of the board of directors.

As this model of economic development corporations evolved, modifications were made to board of directors' appointment procedures. Ultimately boards were comprised of only one or two members of Council plus other members of the community or outside business advisors. Thus, when Council changed, only a minority of the business board of directors changed, insuring board of director and business continuity.

Figure 2: Economic Development Corporation



Jorgensen and Taylor (2000) found that firms with non-politicized boards of directors tended to perform better. Based on a US sample of 59 tribal enterprises in 1996, their research found that corporate boards that served as a buffer between the political tasks and duties of local tribal governments and technical tasks and duties of managing corporations contributed to higher levels of success based on a corporate success index measuring gross and net income and employment. Conversely, they reported that tribally-owned corporations without such a buffer tended to perform more poorly because they faced pressures to increase profits for the local community and additional pressures to meet other community goals such as employment training. A further burden was elected local leaders interfering in the day-to-day operations of the corporation. A separation of civic governance and corporate governance was found to be crucial for the success of tribal enterprises.

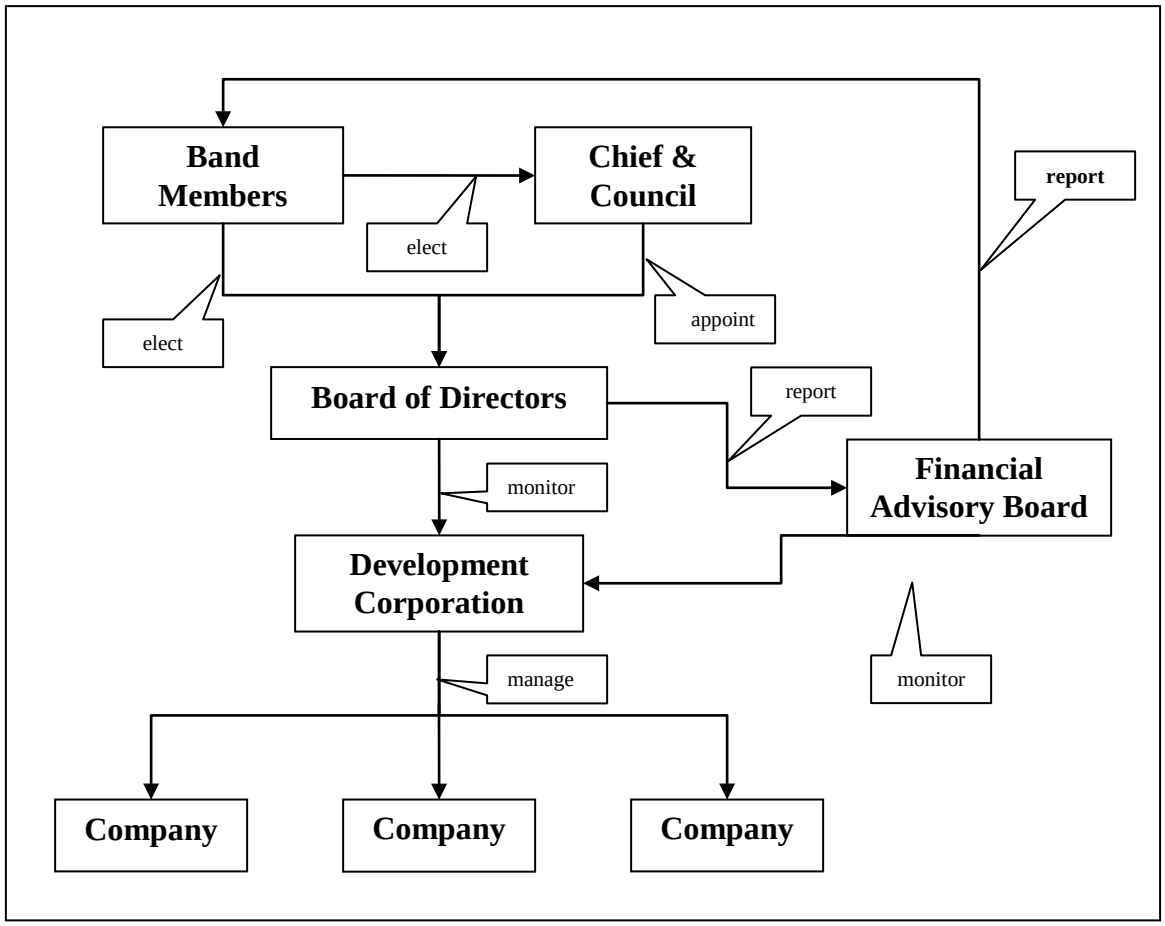
Their results contribute to Cameron's conclusions that the role of the elected tribal government in business operations must be limited and clearly defined. Members of the board of directors should

have staggered terms that overlap those of elected Chief and Council. Board members of the development corporation should be appointed during non-election years. These recommendations reduce the potential for tribal political interference in economic development corporations.

Modern Model

In the modern model (Figure 3), the Chief and Council, elected by the Band members, initially have control over the economic development corporation, but then delegate through a legal agreement, responsibilities to a board of directors. The board members are partly appointed by the Chief and Council and partly elected by the Band members.

Figure 3: Modern Model



A good example of the modern model is the *Saik'uz* Development Corporation. The board of directors consists of seven members. Four external directors are appointed by the Chief and Council for three year terms while three community board members are nominated and elected by the Band members for two year terms. The terms of board members are staggered in order to support knowledge and experience continuity. Board directors are responsible for all decisions and monitoring functions of the development corporation. This governance design supports corporate independence from tribal politics. Chief and Council have less influence on the nomination and appointment of board members resulting in a more a balanced relationship with the tribal businesses.

The Officers (Chief Executive Officer, Chief Financial Officer, and Chief Operating Officer) of the development corporation manage the companies and take care of day-to-day business on the reserve. In this model the chair of the board of directors is appointed by Chief and Council on an annual basis from among

the directors. The Financial Advisory Board consists of members of the local community and, where possible, residents experienced in financial, legal and business affairs in order to monitor the activities of the development corporation. They report to the annual meeting of the Band members.

As long as the development corporation is owned by the Band, tax exemptions are in place. This model restricts appropriation of power by insiders, such as Chiefs, Council members and Officers. The board of directors and the Financial Advisory Board are responsible for monitoring the activities of the development corporation and incumbent management, thus assisting in the continuity of the development corporation with its businesses.

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A COMPARATIVE ANALYSIS OF THE EXPLANATORY AND PREDICTIVE ARCHITECTURES OF INNOVATION ADOPTION THEORIES IN DETERMINING INFORMATION TECHNOLOGY (IT) USE BEHAVIOUR OF SMES

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ABSTRACT

This paper evaluates the explanatory and predictive architectures of six of the prominent Information Technology (IT) adoption theories with a view of reporting on their individual capabilities in providing lenses to understanding IT adoption behavior amongst SMEs. Literature was extensively reviewed and the theories critiqued to unravel the extent to which each takes into account the social and idiosyncratic components of Small and Medium-sized Enterprises (SMEs) in explaining IT adoption behaviour. While some theories were fair and even better than others, none was completely okay; each conspicuously neglected one or more important aspects of social and/or idiosyncratic features. For instance, the Technology Acceptance Model (TAM) narrowed its explanatory values to Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) constructs; The Theory of Planned Behavior (TPB) oversimplified complex social processes; The Resource Based Theory (RBT) and Porter's models assume that SMEs are exclusively entrepreneurial and strategic and so, pursue purely pecuniary ends; and The Technology Organization Environment (TOE) and DTOE models assume IT adoption behaviour as a collection of mediating barriers and drivers. The Innovation Diffusion Theory (IDT) is the only commonly used model applauded for recognizing adoption categories reflecting on SMEs' heterogeneity and the adoption decision-making processes bearing in mind the complex interplay of interpersonal relationships. Nevertheless, a more integrative model than IDT is still needed since none of these models recognized the perceptual, psychographic, personality, attitudinal, and other psychological characteristics that directly or indirectly influence the social and economic idiosyncrasies of IT adoption decision-makers. Though only a few studies have applied the Social Network Theory (SNT) to SME's IT adoption behavior, this paper draws from it (SNT) to propose the Socio-Psycho Networks Complexity Theory (SPNCT) model. SPNCT serves to integrate the social, economic, psychological and other environmental variables of IT decision-makers as a way of furthering scholarships and understanding of their idiosyncrasies of the actors. This model is believed to be theoretically more sound and practically more effective and realistic.

Keywords*: Architecture, SMEs, decision-making, information technology, innovation theories, innovation adoption, social relationship, idiosyncrasy.*

INTRODUCTION

Thomas Friedman's *The World is Flat* (Israel, 2007) implies that firms of any size can exploit the advantage of the today's IT driven world (Shuen, 2008) though inquiry into its adoption across industries and economies is an ongoing management challenge (Schwarz and Chin, 2007). IT has revolutionized everything, fundamentally disrupted the rule of the game and brought exponential changes (Mancini, 2009), which suggest that only firms that remain strategic and entrepreneurial in striving to improve market share, to grow corporate profit, and to gain competitive advantage (Chou *et al*, 2004) survive. SMEs are

highly idiosyncratic and social formation (Parker and Castleman, 2009) as evidenced by their interpersonal ties with families, friends and other businesses that shape and reshape their strategic behaviours (Parker and Castleman, 2009). The global village provides SMEs with ample opportunities and perhaps, threats. IT provides SMEs with opportunities that are largely unexploited (Ramdani *et al*, 2009) and plausible ways to exploit their flexibility trait to strengthen competitive capability against larger counterparts (Gengatharen and Standing, 2005).

Information Technology (IT) explains interactions between technical and social systems (Lee, 2001); it offers a wide range of functions, and people often adopt them on the basis of their compatibility with fulfilling the predetermined needs. The adoption of IT infrastructures by SMEs offers strategic grounds to build meaningful and lasting relationships with their customers and to achieve competitive advantage (Boyd and Spekman, 2004). Amidst the digital age, SMEs enjoy such specific opportunities as costs reduction and improved operational efficiencies via total cycle time and lead-time compression, communication, inventory holding (JIT), network relationship and search activities (Davenpart and Brooks, 2004); improved customer service and consistency through transparency, value-added information and new levels of innovation from network externalities and knowledge sharing (Raisch, 2001; de Burca *et al*, 2005). Often the exploitation of these opportunities is hampered by owner-family influences, lack of experience and other resources on the part of SMEs (Chuang *et al*, 2009; Shiau *et al*, 2009); size, organization form, and methods (Federici, 2009); and little awareness of the benefits of some IT infrastructures (Esteves, 2009). These demarcate them from large corporations, especially in terms of information-seeking practices (Buonanno *et al*, 2005; Ramdani *et al*, 2009) and thus, rarely allow research findings on IT adoption in large corporation to find fruitful applications to SMEs.

Recently, a number of scholarly inquiries have provided specific theoretical frameworks that offer explanatory and predictive insights into the adoption and use of IT in an organization (Ajzen, 1991; Davis, 1989; Mathieson, 1991). In fact, studies on IT diffusion amongst SMEs are really on surge, leading to too many explanatory and predictive theories/models and constructs. Most of such studies centre more on factors (barriers and drivers) affecting its adoption and use behaviour (Brown and Kaewkitipong, 2009; Quaddus and Hofmeyer, 2007; Roberts and Toleman, 2007). IT adoption studies differ in terms of the underlying theories and technologies investigated (Chuang *et al*, 2009). Organizational size and readiness, and external pressure (Mehrtens *et al*, 2001), perceived benefits/relative advantage (Mehrtens *et al*, 2001; Premkumar and Roberts, 1999; Rogers, 1983); location (Windrum and Berranger, 2002); external pressure and competitive pressures (Premkumar and Roberts, 1999); anticipated benefits/operational supports, cost reduction and social approval (Shiau *et al*, 2009); and application complexity and the provider perspective (Brown and Lockett, 2004; Grandon and Pearson, 2004; Kremers and van Dissel, 2000; Bradford and Richtermeyer, 2002) are among the major factors in the IT adoption models. A recent research emphasis takes a micro-organizational approach with focus on the influence of top management team (TMT) and owner-families on IT adoption behaviour. Of all the theories, none does complete justice of providing a seemingly universal knowledge of explaining and predicting the extent of IT adoption by all SMEs. Rather investigators enrich existing constructs or integrate two or more theories/frameworks to formulate what seems an improved model of IT adoption drivers and barriers to provide stronger explanatory and predictive values. The suitability of any frameworks, Hanseth *et al* (2004) posit, is judged by the extent to which they provide help in theorizing the IT artifact.

Perhaps because investigators are customarily inclined to TAM, most existing IT/IS research papers focused primarily upon reviewing literature on technology acceptance instead of providing a comprehensive review on broader issues (Williams *et al*, 2009). Review and meta-analysis of this nature unravels under-explored research issues, select theories and methods appropriate for investigation (Williams *et al*, 2009); and identify strengths and weaknesses of pertinent research streams, promote discussion on critical issues and identify alternative theoretical and methodological perspectives (Venkatesh *et al*, 2007). This paper recognizes the challenges of limited explanatory and predictive powers of each of the IT theories and the idiosyncratic and social contexts of SMEs; and drew its strengths from critical evaluation of the capability of each in explaining and predicting IT adoption behaviours with a view to proposing an integrated theoretical framework. All things being equal, the proposed framework is expected to complement existing literature, to provide scholarly lenses to future researchers and/or to further spark up the much glamoured theoretical debates and of course richer scholarly development in the

field. The paper is theoretically based and begins with a critique of the popular IT adoption theories by assessing their extent of

This paper proposes socio-psycho networks complexity theory (SPNCT) as a complementary and integrated framework, which seems an extension of TAM2 and a bit broader than Actor-Network Theory (ANT), and even Social Network Theory (SNT). TAM2 improves upon TAM1 (Moore and Benbasat, 1991); ANT uses human and non-human actors such as computer software, standards and hardware to explain adoption behaviour (Tatnall and Burgess, 2002); and SNT uses structures and processes of social system. The SPNCT model like SNT recognizes every organization, including SMEs, as idiosyncratic and social formation whose strategic choices are determined and shaped by the interpersonal values and cognitive bases of powerful actors (Shaw, 2006; Chuang *et al*, 2009), who may exhibit differences in terms of age, gender, experience, education and social standing. Both SNT and SPNCT believe that the social network has the capability of assisting SMEs to access, share and gain social capitals (Balkundi and Kilduff, 2006) that though do not exist internally (Butler *et al*, 2007) but assists to build competencies (BarNir and Smith, 2002). Feick and Price (1987) opine that some individuals labelled *market mavens*, who assimilate and disseminate IT information and therefore influence others rely on external sources of information.

SPNCT integrates with SNT, RBT and Porter's model only that unlike RBT and Porter's, SPNCT and SNT assume that in addition to economic goals (competitive advantage, reduced operational expense), actors have non-economic social capitals upon which social network resources rest (Parker and Castleman, 2009). Hoang and Antoncic (2003) opined that the social relationship between actors in a network takes three stances- exchange of information, advice, emotional support, know-how, and business exchange; network governance including trust between actors, power and influence, and sanctions; and network structure/pattern of relationship.

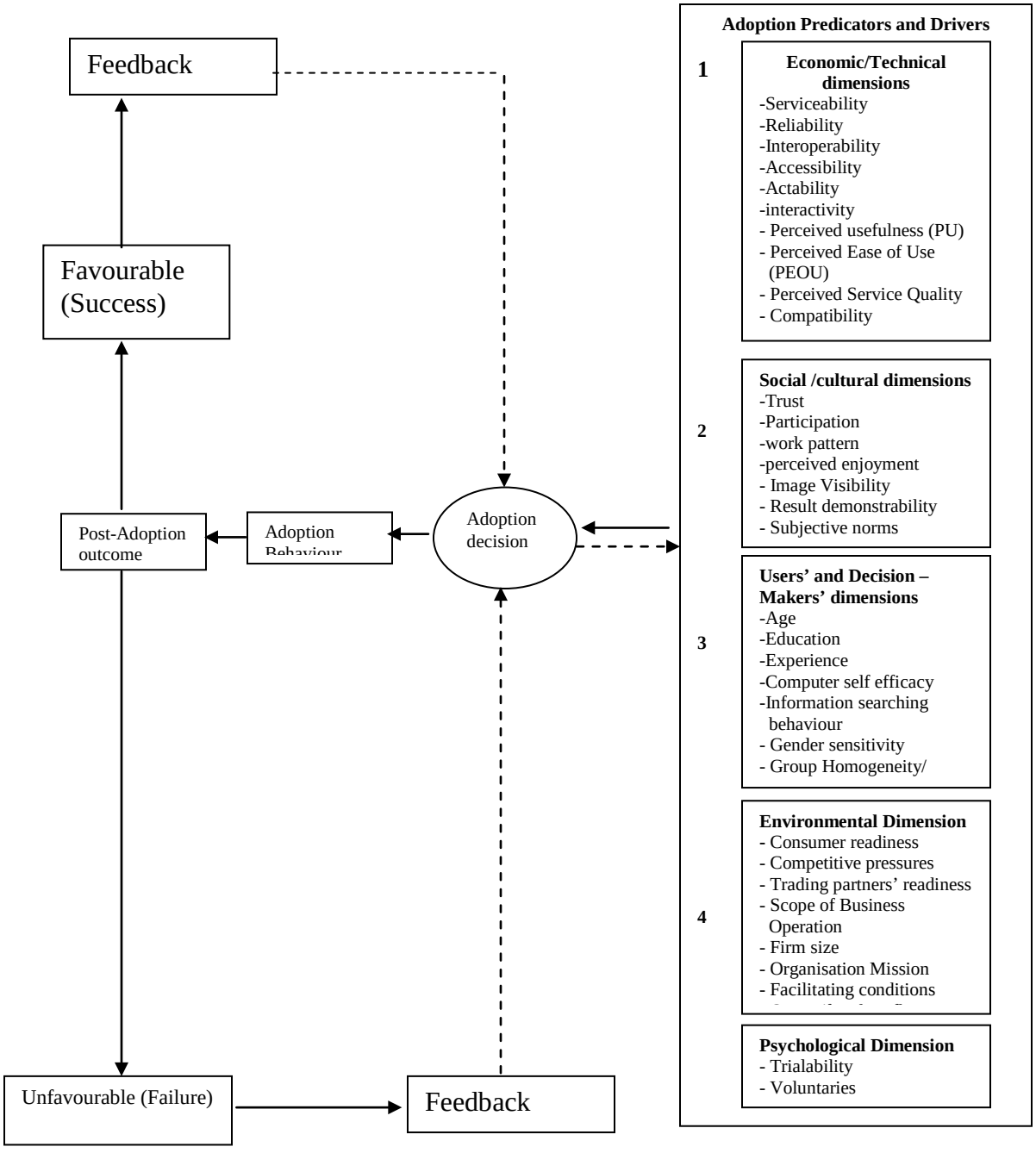

Figure 1: The SPNCT *Integrated Model of Innovation Adoption and Use Determinants*

CONCLUSION

The modern world is global; it is flat, it is IT driven, and it is distanceless. Information Technology (IT) revolutionizes the world as everything is connected to everything else. The adoption of IT by business organizations has been an object of wide scholarship. Scholars and practitioners alike have been

inescapably engulfed by the quest for the development of conceptual armoury that offers explanatory and predictive utilities to IT adoption behavior, especially with SMEs in mind. Basically, the essence of adoption theories is to unveil the current of states of nature and to equip the strategists on how to convert a potential adopter to adopter and to turn the latter to viral. In fact, it assists to move clients up in the hierarchy of customer loyalty ladder. This paper is specific in its focus; it makes a systematic critique of a few populous IT adoption models as they apply to SMEs and attempts to provide current state of play with a view developing an integrative and practically realistic framework that will not only contribute to knowledge but will spark off more scholarly debates. Apparently, SMEs are recognized as highly socio-economic and idiosyncratic formations, and thus need IT adoption theories that inculcate these and their psychological uniqueness relative to large organizations. Like large organizations, SMEs pursue pecuniary and non-pecuniary goals simultaneously but their future positioning is highly shaped by owner-managers' influences and so, IT adoption theories are judged by their ability to take into accounts these multiple goals and complex inter-personal relationships. RBT and Porter's models, for instance, do not provide integrative explanation to IT adoption by SMEs because their postulates erroneously assume all SMEs exclusively pursue pecuniary ends. The constructs of TAM and TPB provide incomplete explanation to IT adoption by SMEs; TAM overemphasized economic ends in their PU and PEOU constructs and TBP oversimplified complex social processes. In attempts to recognize the interplay of varying complexities of interpersonal relationships with internal and external parties, TOE and DTOE models brought in many more constructs, some of which were contained in Rogers' (1983) IDT. IDT is assumed to have better holistic explanatory power because it integrates the social dimensions of SMEs into IT adoption behaviour and unlike TOE and DTOE treats adoption as a process rather than a collection of mediating barriers and drivers. Perhaps IDT took this stand because it originates from social sciences though it did not explicitly acknowledge the relational aspects of SMEs' IT adoption as did SNT. SNT lends support to DTOE based on categorization of patterns of IT adoption behaviour shaped by the idiosyncrasy of powerful actors.

Despite the observed strengths of some models especially IDT, TOE, and DTOE, further integrative models need be developed by scholars to add to existing body of knowledge in explaining and predicting IT adoption behaviour amongst SMEs. The socio-psycho networks complexity theory (SPNCT) proposed by this paper is a bold step toward that. SPNCT, just as SNT and IDT, recognizes the economic and social relationships of SMEs in IT adoption decision but questions the models for neglecting the perceptual, psychographic, personality, attitudinal, and other psychological characteristics of the decision-makers that may directly or indirectly influence IT adoption behaviour. Though TOE and DTOE models are commended for considering the influence of such other environmental variables as competitive pressures, trading partners' readiness, government policy, and consumer readiness on IT adoption behaviour, SPNCT accused SNT and IDT of explicitly neglecting them. Also, the issue of mediating institutions that facilitates SMEs' learning curve was not given premium by IDT and in fact neglected by SNT. This is critical because by virtue of SMEs' minimal resources, their investment is largely guided by extent of know-how though for such change agents, tapping into the social network and identifying and targeting the opinion leaders therein, is advisable. So, by encapsulating other environmental variables such as the psychological disposition of owner-managers, competitive pressures, trading partners' readiness change agents, and consumer readiness; as well as the economic and complex social relationships, SPNCT model is assumed more encompassing and more holistic in approaching the integrative complex environmental factors that determine and shape the likelihood of IT adoption among SMEs.

Apparently, this paper provides useful insights into the strengths and flaws of many IT adoption theories in offering explanatory and predictive values to SMEs. No knowledge is final and so, none of the theories is an island or does a complete justice to SMEs' IT adoption behaviour rather many of the theories are often complemented to provide an integrated and holistic approach to explaining IT adoption behaviour. The SPNCT model proposed follows this complementary approach and integrated some constructs from existing models to build a richer explanatory and predictive utility. This is an honest contribution to IT adoption knowledge armoury and all things being equal, it is believed that this model will speak for itself in terms of triggering off further scholarships and providing a more integrative model that encapsulates larger number of key adoption drivers and adoption predictors.

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SMALL SCALE BUSINESS - A VEHICLE FOR LARGE EMPLOYMENT IN INFORMAL SECTOR IN ARBA MINCH CITY, ETHIOPIA

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ABSTRACT

Small-scale business enterprises offer immense opportunity for development of socio-economic system in poor but fast developing countries like Ethiopia. This sector is characterized by highly diversified activities which can create job opportunity for a substantial segment of population who have no access to organized employment, and provides a pertinent remedy for unemployment problems or an alternative source for employment creation in small urban areas. Small-scale businesses which include both industrial enterprises and service sectors are observed to be generating large employment opportunities in informal sector in addition to organized employment particularly in small and medium towns of Ethiopia. Therefore in this investigation an attempt has been made to explore the potential of employment generation in informal sector complementary to the organized employment in small businesses enterprise and service activities by considering four kinds of predominant small businesses and service activities, such as, transportation service, hotels and restaurants, tourism, and retail trade activities of Arba Minch town of Ethiopia. The examination of the above four types of activities reveal that each organized employment generates multiple informal employment and with proper impetus, such as, flexibility in licensing system, organized lending facilities for growth, and professional management for operations of such small business enterprises has the capability for multifold enhancement of employment in informal sector in complement to organized employment and alleviate pressure on increasing unemployment problem in small towns of Ethiopia.

Key-words: *Small business enterprise, Service activities, Organized employment, Informal employment, Small towns, Licensing system, Organized lending*

INTRODUCTION

Small business and entrepreneurship received scant attention in the managed economy in this era of globalization. They are generally considered less efficient than their larger counterparts, provide lower levels of employment opportunities, lesser compensation to the stakeholders including the promoters and employees, and only marginally involved in innovative activity. In short, the relative importance of small firms in the economy is declining Galbraith's (1967). However, in developing countries, the largest part, around seventy per cent of the employable population is self-employed, in contrast to developed countries, where wage employment predominates (World Institute for Development Economics Research (September 17–18, 2004). Although there are agreements, disagreements, views and arguments among the various schools of thoughts regarding the relationship between formal and informal economy and employment such as the dualists view, which regards the informal economy as a separate marginal sector – not directly linked to the formal sector – that provides income or a safety net for the poor (ILO 1972) and argue that the informal economy exists or persists because economic growth or industrial development has been failed, as yet, to absorb those who work in the informal economy; the structuralists view that the informal economy is being subordinated to the formal economy (Castells and Portes 1989) because the privileged capitalists in the formal economy seek informal economy in order to reduce their labour costs and increase their competitiveness; and the legalists view informal work arrangements – or, more specifically, unregistered businesses - as a rational response to over-regulation by government bureaucracies (de Soto

1990). However, despite the various agreement, disagreements and arguments about the need for existence of informal economy and relationship between these two sectors, both the sectors would exist particularly in developing countries because of the simple fact of the burgeoning problem of population and unemployment or underemployment, which the institutionalized occupation sector and formal economy could not able to provide. Thus, both the sectors would co-exist with a strong linkage between the two sectors for economic growth, sustainable job creation, and competitiveness in global markets (David, 2009; **Singh 2002) particularly in developing countries where the economy has not been institutionalized, and form an important factor for fighting the large scale and increasing unemployment problem in small and medium urban areas of these countries.** Therefore, in this investigation an attempt has been made to explore the potential of employment generation in informal sector complementary to the organized employment in small businesses enterprise and service activities in a small town- Arba Mich in Ethiopia by considering the predominant four kinds of small businesses and service activities of the town, such as, transportation service, hotels and restaurants, tourism, and retail trade activities.

STUDY AREA

The study area chosen for this investigation is Arba Minch town of Ethiopia. It is located in the Southern region of the Country and functions as the capital town for the Gamogofa zone of South Nations National Peoples Region (SNNPRS). The major functions of town are observed to be administrative as the capital town of the zone, educational because of the presence of the largest University of the Southern region- Arba Minch University and Tourism. The study area has a number of tourist locations of interest which includes a National (Park, Nech Sar park), Forty Spring (Forty numbers of natural springs), two large lakes (Abaya and Chamo), Adam's Bridge (the mountain separating the two lakes enhancing the contrast and beauty of the two lakes) and furthermore is a transit place for traditional cultural areas of Southern region, such as, Zinka, Konso, Malawye, Chencha inhibited by tribal population and full of traditional cultures. It is having a population of 1200000 (2008) and total area of 514 sq. km. It is observed by the investigators that these diverse and transit functions of the town, help in a number of small economic activities creating generation of informal employment in the town, and therefore this town is chosen for this investigation.

DATA AND METHODOLOGY

For this purpose, an investigation was carried out by the Instigators by employing survey research methodologies among the households, small business enterprises in the town and administrative as well as policy making authorities concerned with the town. Required statistical data from Secondary Sources i.e., published and unpublished literatures, documents from various authentic organizations, such as, Department of Statistics., Arba Minch Municipality, etc., are collected pertaining to this investigation. Further, it is understood that data from primary sources, such as, Households of the town is essential to obtain first-hand knowledge about socio-economic conditions and occupation scenario in the town. Therefore, sample survey at household level are conducted for obtaining requisite data and firsthand information at the grassroots level. For this purpose appropriate survey tools, such as, Household survey schedules were prepared, pre tested in the study area and then employed in this investigation for conducting survey. Similarly, to understand the relationship between the formal employment and informal unemployment in small business enterprises and services, a primary survey was conducted among such organizations in the town. For the purpose of household survey and business enterprise survey the whole town divided into three zones and about 100 households and 70 business enterprises are chosen for conducting survey. Stratified random survey methodology was employed in the investigation. In addition to the above, semi structured interviews among the business associations, administrative and policy making authorities; individual entrepreneurs and prospective promoters were conducted to have an insight to the problems and possible resolutions for various issues related to growth of small business activities in the study area. Consequently, the data collected were compiled, vetted, cross checked for discrepancies and statistically analyzed to observe the results.

ASSESSMENT OF SOCIO-ECONOMIC, SMALL BUSINESS AND EMPLOYMENT SCENARIO

The assessment was done in three aspects such as (1) Socio-economic condition, (2) Small business enterprise and service activities, relationship between formal and informal employment Scenario and (3) Impediments in setting up of Small business and service enterprises. An assessment of the statistical data

reveals that of the total population of the town more than two- third (67.60 per cent) are employable and there is no discrimination and restriction for employment based on gender. Only a small part of the people is employed in organized sector and most of the people are self employed either in their small business or service activities or informally employed in such activities. The socio-economic survey reveals that of the households' survey about 61.56 per cent per cent belong to employable of which about 32.40 per cent are either under employed or unemployed. A question regarding the future prospects of employment and choice of employment categorically reveals that more that four-fifths (81.45 per cent) of the total surveyed opine employment opportunity in organized sector is very meager or bleak, and more that three fourth (76.23 per cent) would prefer self employment and would not mind employment in informal sector.

To make an assessment of the Small business enterprise and service activity in the town, the whole activities have been categories into four categories which are predominant in the town, such as, Transportation, Hotels and Restaurant, Tourism and Retail trade. It is here to note that the units having an investment between 20000 Ethiopia Birr (approximately USD 1500) to 100000 Ethiopia Birr (approximately USD 7500) are considered as small business enterprises and service activities. The assessment was conducted under various aspects such as, the number of units and number of formal and informal employment in small business enterprises, type of formal and informal employment in respective activities and quantitative relationship between formal and informal employment in such activities. It is found as per the registration made and licenses obtained from Arba Minch Municipality until year 2010 for conducting business that there are 151 transpiration units (Service providers by bus and taxi service), 75 hotels and restaurants (Hotels include both boarding, lodging and food facilities, and restaurants provide only food facilities), 32 tourism service providers and 450 retail trade activities which includes various kinds of shops, retail business activities, etc.). The relationship between formal and informal employments is presented in Table 1. It is observed that in transportation sector the formal employment includes the owner, driver and conductor and informal employment constitutes cleaner, helper, repair and maintenance, porters, hawkers, etc. The formal employment in Hotels and restaurants include owner/ proprietor, managers, chefs, head waiter, housekeeping staff, where as informal employment constitutes food item suppliers (meat, fish, egg, fruits and vegetable, baked food), liquor supplies, milk, toiletries supplies, temporary waiters, porters, gardeners, cleaners, etc.). Similarly, the formal employment in tourism sector includes owners, managers of agencies and informal employment includes guides, boat service man, boat drivers, vehicle drivers, helpers, porters, transport organizers, photographers, etc. In retail trade the formal employment is under the category of owners, managers, accountants, purchase and sales men and informal employment comprises of temporary salesmen, porters, local fruits, vegetable, spices and other local material suppliers, cleaners, etc.

Table 1. Formal and Informal Employment in Small Business in Arba Minch

Sector	Formal Employment Types	Informal Employment Types
Transportation	owner, driver and conductor	cleaner, helper, repair and maintenance, porters, hawkers, etc
Hotels and Restaurants	owner/ proprietor, managers, chefs, head waiter, housekeeping staff,	food item suppliers (meat, fish, egg, fruits and vegetable, baked food, etc.) liquor supplies, milk, toiletries supplies, temporary waiters, porters, gardeners, cleaners, etc.
Tourism	owners, managers of agencies	guides, boat service man, boat drivers, vehicle drivers, helpers, porters, transport organizers, photographers, etc
Retail Trade	owners, managers, accountants, purchase and sales men	temporary salesmen, porters, local fruits, vegetable, spices and other local material suppliers, cleaners, etc.

(Primary survey result, 2010)

In odor to find the average employment in formal informal sector under the four categories of business and service activity in the study area, mean and S.D of employment are estimated and are presented in Table 2. It is observed that the average number of employment in formal and informal sector under Transportation are 2.4 and 7.9, Hotel and restaurants are 22.6 and 31.4, Tourism are 1 and 8.5, and in Retail trade are 3.1 and 9.6 respective in numbers and man-days. The S.Ds of employment in all the four categories in both formal and informal sector are found to be low, which corroborate the estimated average employment in both sectors under the mentioned categories of business. It is also observed that for each organized

employment in transport sector, hotel and restaurants, Tourism and Retail trade generates 3.30, 1.40, 8.50 and 3.10 man-days of informal employment respectively. It is construed from the analysis that while tourism generates higher number of informal employment, hotels and restaurants have lower capacity for informal employment generation and the average ratio of formal informal to informal employment It is thus manifested that for every formal employment generation in small business there is a possibility of significant amount of informal employment generation in the study area.

Table 2 Average number of employment in Formal and informal sector in Small business in Arba Minch

S.No	Sector	No of Units	Mean		S.D		Ratio of Formal to informal employment
			Formal Employment in numbers	Informal employment in mandays	Formal	Informal	
1	Transports	20	2.40	7.90	0.66	0.70	1:3.30
2	Hotels & Restaurants	20	22.60	31.40	14.23	20.02	1:1.40
3	Tourism	10	1.00	8.50	1.02	7.68	1:8.50
4	Retail Trade	20	3.10	9.60	0.94	2.37	1:3.10
5	Total	70	7.27	18.47	4.27	11.63	1:2.54

(Primary survey result, 2010)

Further, an analysis of the various impediments in growth of small business in the study area was done. For this purpose the rules and regulations and lending procedures were explored followed by discussion with the existing business owners, prospective business owners at local level and administrators and persons involved in policy making at local and regional level were conducted. It is revealed from the above discussion that there are three prime impediments such as (1) Registration, Licensing and tax rules, (2) Non-availability of Organized Finance, (3) Lack of operational management skill among existing and prospective business persons, which hamper growth of small business in the study area. The rules and regulations pertaining to establishment of small business and service activity require a mandatory registration and licensing of the units. Although it does not look very complex and is not usually refused to interested promoters, it is not highly accessible to the most people because of the unawareness among the people and hesitation among the new and prospective promoters. In fact, the delay in obtaining license and making registration before start of a small business, followed by tax system in which the owner has to pay a very high rate of tax (sometimes which exceed thirty per cent of the profits) and mandatory inclusion of VAT and Service tax; and employment regulation relating organized employees, where the legal rights seem to be more weighted towards the employee dissuade setting up of small business and service activity in the town. Lack of adequate finance and credit has always been a major problem of Ethiopian small business. Small-scale units do not have easy access to the capital market because they mostly organized on proprietary partnership basis and are of very small size. They do not have access to industrial sources of finance partly because of their size and partly because of the fact that their surpluses which can be utilized to repay loans are negligible. Further, lack of confidence of the money lenders in the enterprise or business activity, and lack of confidence of business persons on their own business, small business activities in the study area have meager accessibility to organized commercial banking finance for investment, although there are several banks and other micro-finance credit institutions available in the study area. Consequently, people resort to the informal money lenders available in the study area who charge high rate of interest and almost control the business; and hence small enterprises continue to be financially weak and find it find it difficult to grow.

Operational management skill is another important criterion for success of small business. However, it is observed in the study area that most of the existing businesses persons lack operational management and accounting skill having knowledge of investment, marketing and taxation and can not even afford such employment by paying huge remuneration. This factor also acts as an obstacle for growth of such entrepreneurial activities in the study area.

Thus, it is manifested that the small business activities in the study area has the ability to generate sizable amount of informal employment complementary to formal employment, however, there are certain impediments as discussed above which hampers the growth of small business in the study area, which needs attention.

PREDICTIVE FUTURE SCENARIO

Based on the above analysis and discussion with the various stakeholders in small business a predictive scenario was created to find out the growth of small business and service activities and consequent generation of employment in formal and informal sector in the study area. The various measures for creating predictive future scenario which would help in growth of small business in the town considered are (1) Streamlining of registration and licensing procedure, like registration may be done after establishment of the unit within a certain period such as one year period, (2) Banks and micro-finance agencies provide financial assistance to the prospective promoters without much bureaucratic complexities and stiff mortgage regulations and (3) providing adequate training facilities for business operation management, accounting and promotion, etc. The discussion with various stakeholders manifest that if the three conditions are implemented there is a possibility of incremental increase in yearly setting up of number of units in small business and service activities in the study area. After conducting a number of simulated scenarios, the scenario with annual incremental increase of 7.0 per cent in transportation sector, 5.0 per cent in Hotel and Restaurant sector, 5.0 per cent in tourism sector and 2.0 per cent in retail trade sector respectively over the previous year has been accepted for prediction of future scenario of small business and employment for next ten years up to 2020 A.D., in the study area and forecasting was made by employing linear regression method. Further, a comparative analysis was made between the future scenario in 2020 A.D., under normal conditions considering the prevailing situation to continue and the simulated scenario as mentioned above. The forecasted results under simulated conditions are presented in table 3, and comparative analysis is presented in table 4.

Table 3 Forecasting of Business Units and Employment in Formal and Informal Sector under various categories in the study area up to the year 2020 A.D under Simulated Scenario and Normal conditions

Year	Transport			Hotels & Restaurants			Tourism			Retail Trade		
	No. of Units	Formal Employment	Informal Employment	No. of Units	Formal Employment	Informal Employment	No. of Units	Formal Employment	Informal Employment	No. of Units	Formal Employment	Informal Employment
2010	150	360	1185	75	1695	2355	32	32	272	450	1395	4320
2012	203	487	1604	88	1989	2763	36	36	306	575	1783	5520
2014	285	684	2252	103	2328	3234	40	40	340	787	2440	7555
2016	413	991	3263	124	2802	2983	46	46	391	1152	3571	11059
2018	619	1486	4890	152	3435	4773	53	53	451	1799	5577	17270
2020	964	2314	7616	189	4271	5935	62	62	527	2994	9281	28742

Table 4 Comparative analysis of Future Business Units and Employment between Simulated Scenario and Normal conditions in the study area.

Scenarios	Transport			Hotels & Restaurants			Tourism			Retail Trade		
	No. of Units	Formal Employment	Informal Employment	No. of Units	Formal Employment	Informal Employment	No. of Units	Formal Employment	Informal Employment	No. of Units	Formal Employment	Informal Employment
Under simulated scenario	964	2314	7616	189	4271	5935	62	62	527	2994	9281	28742
Under normal conditions of growth	610	1464	4819	151	3413	4741	48	48	408	900	2790	8640
Percentage Increase under simulated scenario over normal conditions		57.73			25.16			29.16			232.66	

Table 3 reveals that number of small business units under transport, Hotel and restaurant, Tourism and Retail trade sector would be 964, 189, 62 and 2994 numbers and the employment in formal sector would

be 2314, 4271, 62 and 9231 numbers respectively in the year 2020 A.D. Consequently this would lead to an employment generation of 7616, 5935, 527, and 28742 mandays respectively in informal sector under these above business categories, such as transport, Hotel and restaurant, Tourism and Retail trade in the year 2020A.D. Further the comparative analysis between the simulated scenario as envisaged and the normal condition as prevailing in present situation without any qualitative change shows that the number of business units and consequent employment generation in both formal and informal sector would be increased by 57.73 per cent, 25.16 per cent, 29.16 per cent and 232.66 per cent under simulated scenario over the normal condition.

DISCUSSION AND CONCLUSION

The biggest challenge in front of the small and medium towns, such as , Arba Minch in Ethiopia on the continual onslaught of burgeoning population and unemployment is creation of business and service activities within the affordable capacity of people, which would provide large earning opportunities. Although, in many countries earning opportunity in informal sectors are increasingly seen negatively because of the fact that they are neither taxed nor controlled by Governments, this investigation manifests that employment in informal sector complements the employment in formal sector, particularly in small business enterprises and service activities and would generate substantial employment in conformity with the preference of the people of the town. It is also construed from this investigation that small business and service activities generates multifold employment opportunities in informal sector in contrast to employment opportunities in formal sector, thus acting as a vehicle for employment generation in informal sector. With proper opportunities, such as, provision of an enabling policy environment, institutional framework, i.e., streamlining registration, and licensing procedures, (K**rishna, and Awasthi** 1994), requisite reforms for proactive financial institutions including incentives and instruments, like easing of lending procedures, taxation regulations (**Florence 2006;** Hart and Christensen. 2002), and array of complementary educational programmes including provision of operational management skill and training **(Nkya 2003)** given , there would be substantial growth of small business activities in small and medium towns of developing countries **as envisaged in this investigation, which consequently would generate significant formal employment opportunities in complement to employment in informal sector**, and would help in alleviating the unemployment problems reasonably in small towns of developing countries..

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WOMAN ENTREPRENEURSHIP IN THE AL-BATINAH REGION OF OMAN: AN IDENTIFICATION OF THE BARRIERS

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ABSTRACT

Entrepreneurship is important for countries and societies as a process of identifying opportunities and combining productive resources for producing profitable products and services. It is one of the important factors in creating and increasing employment opportunities and fostering economic growth. For Oman, which is looking seriously for viable alternatives to oil and gas, entrepreneurship could provide a big bang to the government's programs of diversification and economic growth. The situation of women entrepreneurs in the Middle East and Africa is far more distinct than in the rest of the world, where a majority is active and quite a good numbers are struggling to secure a place for themselves. Current perceptions are that women entrepreneurs are much affected especially in the Arab world where gender differences are enshrined in the Qur'an, the holy book and in Sharia, the Islamic law. The participation of women in business in Oman is still restricted, and men hold the bulk of the business and investment in the local market. Currently little data exists on women entrepreneurship in Oman, except for a few limited studies that have been attempted in the past to identify the barriers affecting women in the region. This area needs special focus and the attention of active researchers and there is certainly a lot to discover and add.

A review of the literature suggests that the entry of women in the field of entrepreneurship is constrained by a large number of barriers and challenges, and these obstacles can be divided into seven core categories: infrastructural, professional, educational, socio-cultural, legal, behavioral, and role-related. Following a survey-based approach, this paper addresses the following major research questions, particularly: the challenges faced by woman entrepreneurs, the major inhibitors to their entrepreneurial activities, the measures that could attract Omani women to start their own businesses, and how to improve the overall participation of women in entrepreneurial ventures. The study targets all women entrepreneurs who originate from Al Batinah – the most heavily populated region of Oman – and who are members of the Oman Chambers of Commerce. This study collects data using personally administered questionnaires followed by interviews with selected entrepreneurs, and utilizes simple quantitative and qualitative analysis to reveal the findings. It focuses on woman entrepreneurship in an Islamic cultural context and the potential to generalize the findings for rest of the Gulf countries makes this study somehow special.

INTRODUCTION

Entrepreneurship has its origin from the French word *entreprendre* that means "to undertake" Burch (1986). The word reflects a willingness to do something, and usually the person who exhibits the willingness is known as an entrepreneur. There are many definitions for entrepreneurship but, simply, entrepreneurship is the process of identifying new opportunities and transferring them into marketable ideas, products and services. Lazear (2005: 649) defines entrepreneurship as "the process of assembling necessary factors of production consisting of human, physical, and information resources and doing so in an efficient manner" and entrepreneurs as those who "put people together in particular ways and combine

them with physical capital and ideas to create a new product or to produce an existing." Entrepreneurship is considered as a factor of production, linked to innovation and risk taking, where entrepreneurial compensations are tied to uncertainty and profits (Montanye, 2006).

Several studies debate the definition of entrepreneurship (Howorth, Tempest, & Coupland, 2005), albeit entrepreneurship is all-pervasive as it occurs in every firm, enterprise, and sector (Collins, Smith & Hannon, 2005). Likewise, entrepreneurs are found in every country and in different enterprises therein. According to Montanye (2006), entrepreneurship enables talented individuals to realize rewards and enable them to live better than others. The drive to entrepreneurship is innate to human beings, as they compete in life for profit, similar to what they do in business (Montanye, 2006). At the micro level, while entrepreneurship benefits individuals or teams, at the macro level it creates and catalyzes employment and economic growth (World Bank, 2009). However, "To find a single appropriate and ubiquitous definition of entrepreneurship is a challenging problem for academic researchers and students of entrepreneurship" (Louw, van Eeden, Bosch, & Venter, 2003: 7).

In developing countries, small and medium enterprises are important for the economic growth and development. Entrepreneurship supports the process of economic development, fosters economic growth, job creation, and reduces rural unemployment and migration. Women, all over the world, have demonstrated success in handling small scale projects. In addition to meeting the needs of some large-scale industries and boosting innovation, the small-scale enterprises help the commercial and industrial community and also the development of women (OCCI, 2006).

Recently, the Sultanate of Oman has devised certain strategies to diversify the economic activities to sectors other than oil, on which the economy was heavily dependent earlier. The government encourages the private sector and focuses on the human resources with a special drive towards 'Omanisation', inducing Omani nationals to support and create enterprises (McElwee and Al Riyami, 2003; Al-Mansory and Nagee, 2003).

To boost entrepreneurship and the Small and Medium Enterprises, the government of Oman has taken many initiatives such as the *Sanad* Program, Knowledge Oasis Muscat (KON), and projects under the Oman Development Bank and the Ministry of Social Development. The private sector has also created similar programs such as Youth Projects Development Scheme, *Intilaqa* Program and *Grofin Oman*, to boost entrepreneurship. Furthermore, private sector banks such as HSBC Bank, Middle East Limited, Bank Muscat, Sohar Bank, and National Bank of Oman also support the small and medium enterprises. Small and medium sectors such as sewing, cosmetics, design and other sectors that do not require large amounts of capital have attracted largely Omani women (Nadwa, 2009). However, there are certain barriers that challenge women entrepreneurs.

Many studies have been conducted on women entrepreneurs since the beginning of the 1980s, but more research is needed to understand various aspects of the women entrepreneurship. However, there is a dearth of research on women entrepreneurs in the Gulf, where the economy relies more on the oil sector and expatriates (Dechant & Al Lamky, 2005). Recognizing the presence of some self-motivated women entrepreneurs in Oman, this study identifies the barriers that they confront and highlights the challenges that are needed to boost entrepreneurship. This study aims to find the factors inhibiting women entrepreneurship in the Al-Batinah region of Oman, focusing on women entrepreneurs especially from the small and medium scale enterprises.

A REVIEW OF WOMEN ENTREPRENEURSHIP

The rising number of female business owners is, currently, a global trend. In advanced market economies, women own more than 25% of all businesses (Woldie & Adersua, 2004). Walker et al. (2007) argue that historically women were "pushed" rather than "pulled" into business ownership, but more recent studies have indicated that overall many women now actively choose self-employment, specifically younger women. In a different study, Walker et al. (2008) observe that women's preference to home-based business ownership is driven predominantly by the flexibility afforded to lifestyle and the ability to balance work and family.

Women entrepreneurs can significantly contribute in poverty reduction, mobilization of entrepreneurial initiatives, autonomy, and in accelerating the achievement of wider socio-economic objectives (Belwal & Singh, 2008). However, the contribution of women entrepreneurs depends on their performance, which in turn is affected by the underlying facilitators and barriers, understaing of which is a key to nurturing a balance economy and the growth in a long run.

In his search for factors that influence the survival of women owned small business startups in Ghana, Chea (2004) observed innovation, flexible business planning, strong family support systems, strategic social networks, professional development, and economic policies as prime facilitators. Similar studies on women entrepreneurs in Ethiopia and Nigeria found 'support from family, society, and government', 'presence of an environment of work culture, awareness, and trust', education, and training as facilitators; the main inhibitors to success were lack of competence and exposure, problems in finding the markets, limited opportunities of promotion and participation, limited amount of government and institutional support, and absence of technological knowhow (Belwal and Singh, 2006; Woldie and Adersua, 2004). Approaching from a social capital theoretical framework, Brunetto et al. (2007) find that trust affects the networking behaviour of women entrepreneurs where government involvement may affect the relational dynamics. Rather than pinpointing specific facilitators or inhibitors, Dhaliwal (2000), however, contemplated that there are distinctive issues faced by South Asian women, and that each case is unique and must be weighed on its own merits.

However, women entrepreneurs in developed countries such as the US are much more ambitious in constructing a professional identity. James et al. (2006) revealed that they actively draw on role models from different domains and prefer to learn from external role models. Petridou et al. (2008) appraise rural women entrepreneurs running co-operatives in Greece to examine the effects of training support on their entrepreneurial skills and attitudes, co-operatives' viability and growth prospects, and work-family balance. Their study illustrates that participants perceived training positively in terms of skill improvements, identification and capturing of business opportunities, effective co-operation and flexibility in decision making, more positive attitudes towards entrepreneurship, development and growth prospects for the co-operative, and better work-family balance.

Women entrepreneurship in the Arab world has certain peculiarities and demands specific attention. The Arab world faces a different politico-economic setup, culture, and family structure, where people are highly conscious of each other, and of family memberships, identities, and status. McElwee & Al Riyami (2003) argue that gender differences are enshrined in the Islamic holy book and Shari'a law, limiting woman's role in the family to either that of a wife or a mother. Employers give priority to males, in employment and promotion, even if women command higher merits. Women, despite their interest, lack work opportunities and represent only 9.7% of the labor force (Al Mandhry, 2000: 20; McElwee & Al Riyami, 2003). Jamali (2009) observes that such differences, even in Lebanon - a relatively liberal country, and conclude that gender differences in identification of opportunities are, however, linked to differences in human capital that includes education and work experience as important variables.

The Arab world has its own outlook on women's involvement in business activities. Sidani (2005) presents varying discourses between Muslim scholars and active feminists pertaining to women's work and how it is impacted by interpretations of Islam, and argues that developing the status of women in Arab societies needs a major reassessment of Muslim history and tradition. Amid all the setbacks, women in the Arab world look further to establish their careers and identities. Some Arab women managers have succeeded in creating their social identities even with their traditional clothing attire, in pursuit of managerial careers (Omair, 2009).

Although various sectors of the economy are open to Omani women for work, their participation is limited and does not exceed 12% of the total effective institutions (Omani Women Workshop, 2009). Collectively, in Arab states, 28% of the women participate in the work force (Nayeem, 2010). Although woman have benefitted from the recent initiatives, they still represent a very small percentage of business owners in the Sultanate (Omani Women Workshop, 2009).

However, Oman marks a significant departure from its traditional and exclusive male dominated decision-making situation. The era of exclusive patriarchal dominance in leadership positions is changing to an

evolving phase of women's empowerment (Al-Lamky, 2007). Omani Women Workshop (2009) observes that legal, educational, training, and financial support have offered some opportunities to Omani Women in the field of entrepreneurship. McElwee and Al-Riyami (2003) find that factors such as family support and encouragement have positively influenced women in emerging as entrepreneurs in Oman. They note also that increased educational opportunities for women and the level of education have led to increased productivity.

Although the experience of women's entry in the field of entrepreneurship is a relatively new experience in Oman, it has not been free from challenges and difficulties. Task-related issues such as funding difficulties, access to business information and technology, and personal issues such as self-reliance and the need for change and continuous innovation to ensure the ability of competitiveness impose major challenges, especially in the light of rapid advances in various sectors at the local and the global levels (Omani Women Workshop, 2009).

CONCEPTUAL FRAMEWORK AND RESEARCH QUESTIONS

Naqshbandi (2004) in his article on women entrepreneurship (in Arabic) affirms that the entry of women in the field of entrepreneurship in Asia and Africa is constrained by a large number of barriers and challenges. Contextualizing the basic framework of El Namaki & Gerritson (Birley, 1988), he identifies these challenges under seven categories:

1- *Barriers of infrastructure* such as access to credit, access to technology, support and guidance, information on opportunities, government support, industrial support and financial support (for raising capital);
2- *Professional barriers* such as traditional occupational restrictions, lack of professional education, generating skill, and knowledge of industrial collaboration;
3- *Educational and training barriers* such as vocational training opportunities, lack of information/ advice on how to start an enterprise, basic educations, and no time for training/ upgrading skills;
4- *Social and cultural barriers* such as values and family structure, combining family and work life, and gender bias;
5- *Legal barriers* such as discrimination in acting independently and assuming responsibility;
6- *Behavioral constraints* such as self-confidence, finding the right contacts for your business ventures, gaining of acceptance/ respect of people, and the negative image of self; and
7- *Barriers of role*: leadership requirements, compatibility with tasks, and the pressures to achieve.

Adopting the above framework, this study conducts a detailed survey on women entrepreneurs in the Al Batinah region of Oman and assesses the major obstacles that they face while running their business ventures. The main purpose of this research is to reveal to what extent these factors and components affect women entrepreneurs in Oman and to give a descriptive account of associated problems. The paper addresses the following research questions in its coverage:

1. What are the challenges faced by Woman Entrepreneurs in Al Batinah Region of Oman?
2. What factors inhibit the women from starting their entrepreneurial ventures?
3. How could improve the participation of women in the entrepreneurial ventures?

METHODOLOGY

The survey targeted Women Entrepreneurs from the Al-Batinah region of Oman, who are registered with the Oman Chamber of Commerce (OCC). Our initial contact with the OCC office at Sohar - the headquarters of the Al-Batinah region, led to a list of 165 individuals. To capture the responses of these individuals on the barriers to entrepreneurship, a structured questionnaire was prepared, which was aimed to be administered to this entire population.

The questionnaire was initially prepared in English and had both open-ended as well as close-ended questions. For easy administration and securing clear responses, the questionnaire in English was converted into Arabic. Face validity of the questionnaire was performed to ensure the relevance of content and interpretation by discussing with experienced faculty members of Sohar University. The exercise produced a response of 101 completed questionnaires and 22 interviews. Soon after the administration of

questionnaires, interviews were conducted with those who confirmed their availability and interest to cooperate further.

Although we tried to contact each of the 165 women on the list, we could contact only 101. Out of these 101 women, 27 women were contacted by phone, 33 were visited in their business ventures, and 41 were contacted through the OCC. Out of the remaining 64, seven women refused to meet with the team, some of them took the questionnaires but did not reply. Fifty-seven women entrepreneurs were found no more in business.

A descriptive analysis was made, comprising the generation of frequency tables and bar diagrams. The percentage/number of cases was computed for each variable of interest for reporting and comparing quantitative data (number of cases represents percentage too, since the total number of cases was 101). SPSS software was used to generate the frequency tables and to perform the reliability analysis. MS Excel was used to create bar diagrams. For comparing the variables, a weighted score was calculated for each sub-component of the main barriers.

ANALYSIS AND FINDINGS

Demographic Profile of Respondents

The profile of sample respondents indicates that 53% of the entrepreneurs were married and 69 % of them resided in the city. A majority had secondary or higher education, and were less than 30 years of age. Sixty percent had monthly income more than 200 Omani Rials (1 Omani Rial = 2.67 USD). Almost 45% had driving license and drove cars for their personal mobility.

Table 1
Profile of Respondents

Particulars	Number	Percent	Particulars	Number	Percent
Marital Status			**Residing in**		
Unmarried	47	46.5	City	69	68.3
Married	53	52.5	Village	32	31.7
Divorced/ Widowed	1	1.0	**Driver's License**		
Education Level			Yes	46	45.5
Primary	7	6.9	No	55	54.5
Secondary and more	94	93.1	**Age**		
Monthly Income			Less than 30 years	66	65.3
Less than 200 RO	41	40.6	30-50	35	34.7
200-500 RO	43	42.6	**Nationality**		
More than 500 RO	17	16.8	Omani	101	100

Further to what is covered in the sample profile, 42 % have children. A sizeable majority (80%) have less than two children. Eighty-eight percent have domestic help in their homes and almost half of them work alone, while a quarter depend on family for work related assistance. Almost 95% of the women participate in their domestic decisions and 61% participate in decision-making bodies of other organizations or entities. While 28% of the entrepreneurs work 8 hours a day, 14% work for 6 hours and another 14% for 12 hours. Almost 36% work 6 days a week, 28% work 5 days a week, and other 23% work 7 days a week. Only 14% work less than 4 days a week.

Personal mobility affects women entrepreneurs. Those not having driving licenses, have to depend on others. Some women travel by using rented transportation, which becomes costly. Others depend on family, friends, or relatives. Also, some women use private lady drivers, while entrepreneurs with large enterprise also use company drivers. Balancing home and work is a big challenge. Most of these women work from 8:00 am to 7:00 pm and complete routine or any specific business related work usually within these time limits. The women need to travel to attend conferences organized by OCC, and prepare reports. "Raising a typical Arab family consisting on an average 10 children is not possible for us", this is what was stated by one such entrepreneur.

A majority of respondents work alone. They are involved in activities such as the making of Omani caps for males (known as Kemma), running traditional retail outlets, manufacturing handicrafts, working as ladies tailors, and running beauty parlors. A quarter of women depend on their family for the feasibility study of the project, the initial planning, and financial support at the beginning. Their participate in domestic decisions are generally related to family budget, children's education, other family related issues, and future planning such as construction and design of the houses. Friday is the Islamic holy day, so most of them do not work on this day. On this day, gathering with the family, entertaining children, and taking a break from the routine of work are prime on their agendas.

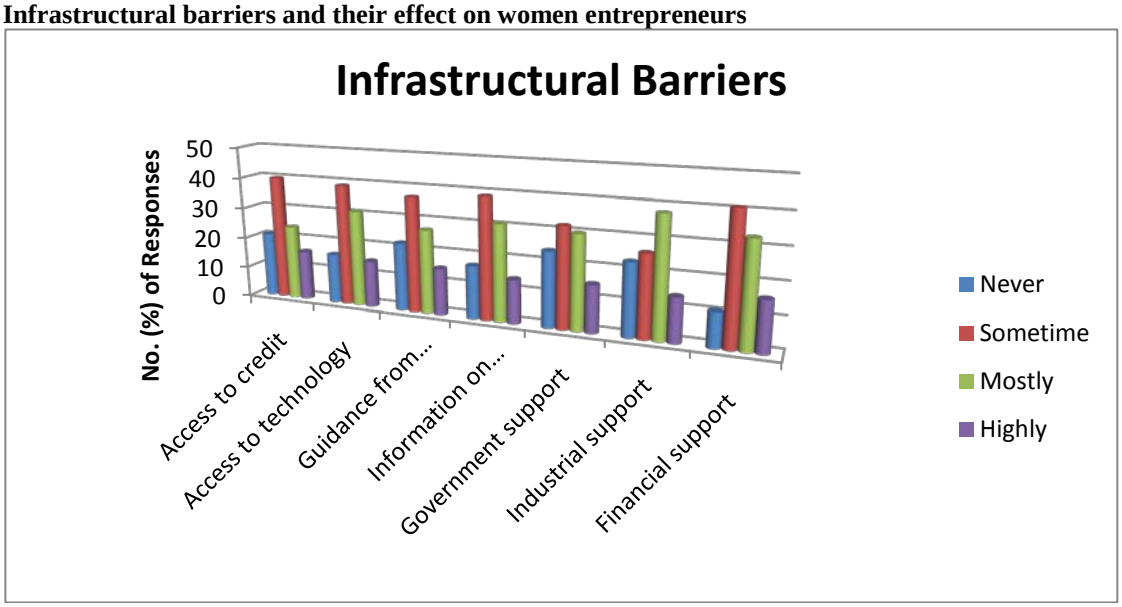
Table 2 indicates that most of the women entrepreneurs (80%) work in micro and small scale enterprises. However, a few run large enterprises having more than 250 employees. Respondents were found running big businesses such as laundry services of high quality, construction companies, housekeeping and cleaning services, and food suppliers.

Table 2
Women entrepreneurs and Enterprises

	Number	Percent
Micro (1- 9 employees)	60	59.4
Small (10 - 49 employees)	21	20.8
Medium (50-249 employees)	15	14.9
Large (250+ employees)	5	5.0

Barriers affecting women entrepreneurs
This subsection covers the seven barriers and the intensity with which they affect women entrepreneurs in the North Al-Batinah region of Oman. Table 3 in combination with Figure 1 indicates that all seven barriers affect the women entrepreneurs. In approximately 20 cases only, these barriers have no effect, but in the remaining cases they affect sometimes or mostly. *Financial support*, *access to technology*, *industrial support*, and *information on opportunities* affect with higher intensities (in reducing order) among others.

Figure 1
Infrastructural barriers and their effect on women entrepreneurs



Women complained about the unavailability of capital for their projects and the limitation of financial support from institutions. "We need an increase in the amount of loans which are offered to the women and a greater support from financing bodies", expressed one entrepreneur. Some reported technology and related materials as expensive and also highlighted a shortage of trained people. They further reported a

lack of industrial support, as not enough information flows from industrial companies, and difficulties in establishing communication with such companies. They cited the unavailability of centralized modes of information and complained that most opportunities are given to the already well-established companies.

Table 3
Infrastructural Barriers

	Access to credit	Access to technology	Guidance from institutions	Information on opportunities	Government support	Industrial support	Financial support
Never	21	16	22	17	24	23	11
Sometimes	40	39	37	39	32	26	41
Mostly	24	31	27	31	30	38	33
Highly	16	15	15	14	15	14	16
Weighted score	136	146	136	143	137	144	155

Table 4 in combination with Figure 2 indicates that while all four components affect women entrepreneurs professionally, *generation of skills* and *knowledge to collaborate* affect more intensity than the other two, t*raditional restrictions* and *lack of professional education*.

Table 4
Professional Barriers

	Traditional restrictions	Lack of professional education	Generation of skills	Knowledge to collaborate
Never	32	38	20	16
Sometimes	43	29	40	33
Mostly	20	27	27	34
Highly	6	7	14	18
Weighted score	101	104	136	155

In the area of educational and training barrier, Table 5 and Figure 3 collectively indicate that *training opportunities* have the largest effect, followed by *timings for training*. *Basic education* as well as *information on education* also affect but with lower intensities.

Among traditional restrictions are difficulties in travelling alone, working after hours, and difficulties in attending places such as hotels. “We are bound by social customs and values, which do not allow us to be present in such places”, claimed one entrepreneur. They felt constrained with lower business-related skills such as newer ways of doing business. Collaborations are affected due to weak networking or relationship between the parties and lack of good communication. “We don’t have a common platform where we can share the experiences and discuss our issues with each other or with the concerned authorities”, replied another entrepreneur. Training opportunities are not freely available, as there are shortages of professional institutions, high costs of education, and transportation problems to attend institutions. Further, timings for such training impose difficulties as hours are not suitable, because of family obligations, and work fatigue.

Figure 2
Professional barriers and their effect on women entrepreneurs

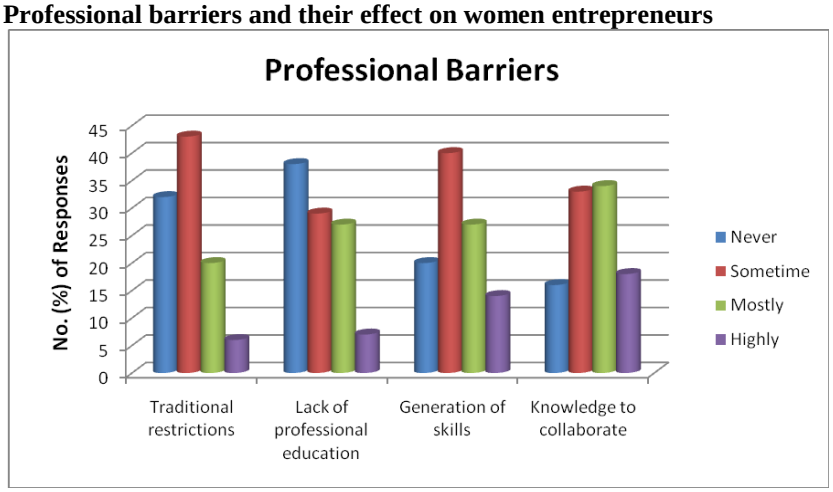


Table 5
Education & Training Barriers

	Training opportunities	Information on education	Time for training	Basic education
Never	19	27	21	30
Sometimes	39	47	35	43
Mostly	28	21	37	18
Highly	15	6	8	10
Weighted score	140	107	133	109

Figure 3
Education and Training Barriers and their effect on women entrepreneurs

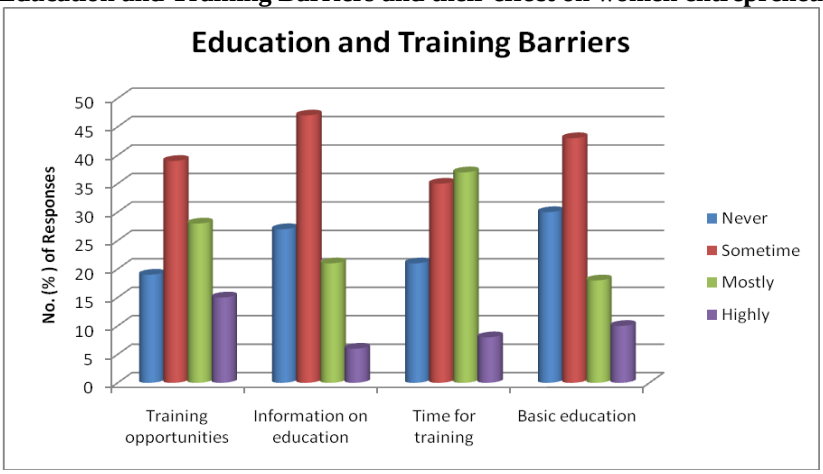


Table 6 and Figure 4 collectively indicate that *combining family and work life* along with *family structure* affect more in terms of intensity. The factors v*alue system of the society* as well as *gender-bias* also affect, but with lower intensities.

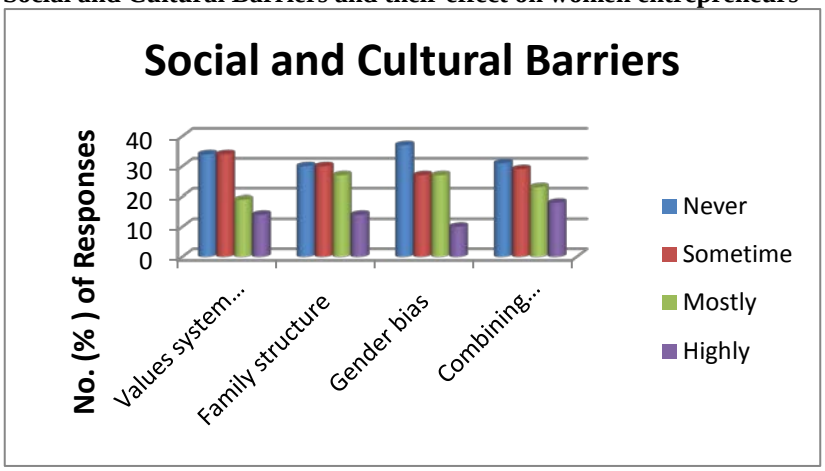
The values system of society exerts constraints as some sections of society expect women to practice a full veil on their face, restricts genders to mix at work, and puts restrictions in traveling alone, etc. “Our customs and traditions discourage women in seeking or offering employment. We find it difficult to review such proposals independently, to travel and recruit people, and interact with other institutions.”, asserted an

entrepreneur who wished to recruit people for her business venture. Family structure is patriarchic, women are supposed to do only the minor works, and are restricted from making decisions and sharing responsibilities, outside their homes. Combining family and work life is difficult because amidst other constraints, the women find difficult to rationalize their time between their work and the family.

Table 6
Social and Cultural Barriers

	Values system of society	Family structure	Gender bias	Combining family and work life
Never	34	30	37	31
Sometimes	34	30	27	29
Mostly	19	27	27	23
Highly	14	14	10	18
Weighted score	114	126	111	129

Figure 4
Social and Cultural Barriers and their effect on women entrepreneurs



Regarding the discrimination of the legal system on women acting independently and assuming responsibilities, the respondents lacked specific knowledge. While 42% said that laws do not discriminate in their assuming responsibilities, a considerably lower proportion (30%) admitted that laws do not discriminate in their acting independently (See Table 7).

Table 7
Legal Barriers

	Act independently	Responsibility center
Never	30	42
Sometimes	32	28
Mostly	18	20
Highly	21	11

Table 8 and Figure 5 collectively indicate *that interacting with males* along with *finding the right contacts* affect with higher intensity. Almost half of the respondents feel that *self confidence* and *negative image of the self* have never been barriers for them, while the other half of the respondents consider *gaining respect from others* as a barrier.

Table 8
Behavioral Barriers

	Self confidence	Negative image of self	Interacting with males	Finding the right contacts	Gaining respect from others
Never	51	45	17	42	31
Sometimes	22	27	42	24	48
Mostly	10	21	30	13	19
Highly	18	8	12	22	3
Weighted score	96	93	138	116	95

Figure 5
Behavioral Barriers and their effect on women entrepreneurs

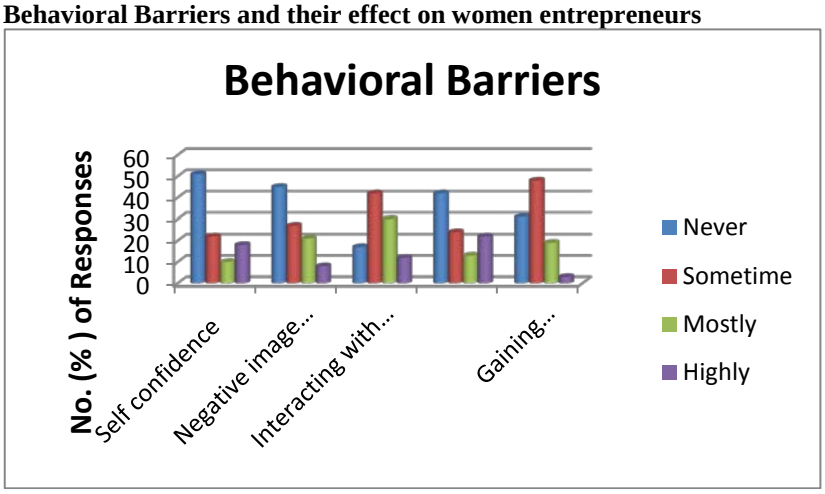
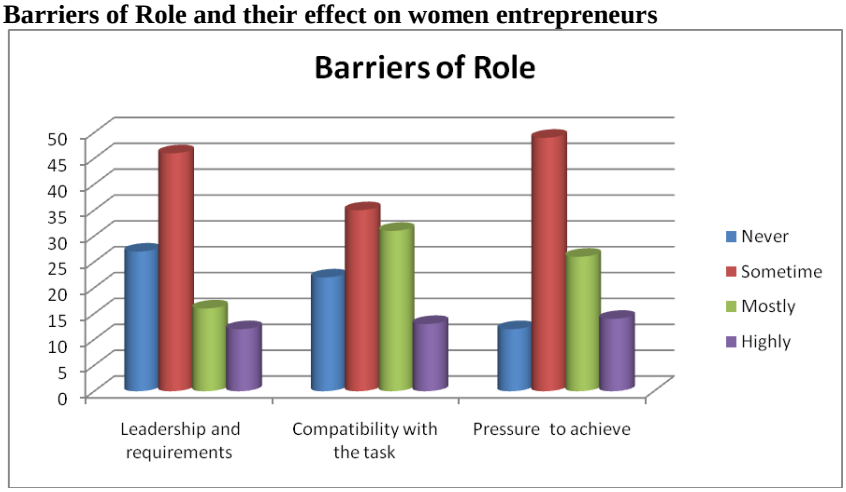


Table 9 and Figure 6 collectively indicate that *pressure to achieve* along with *compatibility with the task* affect with higher intensity. Almost 72% respondents consider *leadership and requirements* as a barrier.

Table 9
Barriers of Role

	Leadership and requirements	Compatibility with the task	Pressure to achieve
Never	27	22	12
Sometimes	46	35	49
Mostly	16	31	26
Highly	12	13	14
Weighted score	114	136	143

Figure 6
Barriers of Role and their effect on women entrepreneurs



Further to what is presented above, Table 10 presents the most important benefits which women perceive in entrepreneurship. Similarly, Table 11 presents the most formidable challenges which women perceive in their ventures.

Table 10
Major benefits that women perceive being an entrepreneur

No.	Reasons	Number
1	Freedom to take decision/ decision making	31
2	Freedom to choose any type of work and to work any time	22
3	To earn more profit as an individual	18
4	Self-dependence	10
5	Increase in skills and experience	9
6	Apply creation and innovation at work	8
7	Opportunity to deal with others and getting respect	7
8	Participation in the social services	6

Table 11
Major challenges that women face being an entrepreneur

No.	Reasons	Number
1	How to get the capital/ sources of capital	34
2	How to choose the location	19
3	Society's outlook at the women entrepreneurs	15
4	Supplier search and interactions	13
5	Management of time (balancing work and home)	10
6	Dealing with the males	8
7	Problems with the customers	6
8	How to market their products	5
9	Personal mobility (Transportation)	4

DISCUSSION AND POLICY IMPLICATIONS

Taking note of the above findings, this section discusses the barriers affecting women entrepreneurs in Oman, particularly the Al-Batinah Region. The profile indicates that most of the entrepreneurs are less than 30 years old and almost half are unmarried. Interview discussions indicate that after marriage women have to follow the expectations of their husbands and in-laws, who might not be supportive. This finding coincides with the quote of an Abu Dhabi based resident -"Irrespective of socio-economic independence, there are certain expectations from women that haven't changed with time. The pressure to get married, have children, and nurture a domestic life continues to exist" (Nayeem, 2010). The study found that almost all the potential barriers identified affect the women entrepreneurs, though with different intensities. Most

prominent among these are *financial support, knowledge to collaborate, access to technology, industrial support, pressure to achieve, interacting with males, training opportunities, information on opportunities*, and *the time for training.* This indicates that women need support in raising finance, in opening up in their interactions with males, and in securing training opportunities. Khan (2010: 4) reports that "Networking in the workplace is very important and this can be difficult for some women who may not be able to interact freely with men." *Traditional restrictions, value system of society, gender bias, lack of professional education, finding the right contacts, negative image of self, and self confidence* are the barriers that affect with lower intensities. This along with the findings on Table 11 indicates that the women, despite affected by these barriers, have learnt to live with some of these. Khan (2010: 4) reports that "Arabs see the need to adapt to the modern world to survive economically and politically, but they also do not want to lose traditional values". The last two components, namely *negative image of self* and *self confidence* occupying the lowest position indicate that the sample respondents have generated some self confidence and positive outlook for their work and do not find these two as major barriers in their growth. The benefits cited by the women in Table 10 support this argument.

In view of the findings and the discussion, to ensure the success of women in their ventures the following policy implications are suggested:

1. Women need to be trained for better time management to create a balance between work and home.
2. Women need better understanding from the community, and their support.
3. There is a need for support from the government in diverse areas related to supportive policies, legal protection, financial support, professional education, and training.
4. Local chambers of commerce or other professional bodies need to assist women in finding raw materials, suppliers, and markets for finished products.
5. There is a need to develop a communication system to facilitate better information flow among stakeholders.
6. Women need to be given updates through the organization of workshops and conferences in related business sectors for better developmental plans, implementation, and control of their ventures.

CONCLUSIONS

Entrepreneurship is a desirable trait for catalyzing the economic growth and development in developing countries. The participation of women as entrepreneurs is low all over the world. Research on women entrepreneurs is scant, particularly in the context of the Arab world. Women entrepreneurship in the Arab world has certain peculiarities in itself and demands specific attention. The Arab world has its own outlook on women's involvement in business activities. Although the experience of women's entry in the field of entrepreneurship is a relatively new phenomenon in Oman, it has not been free from challenges and difficulties. This study focused on the factors inhibiting women entrepreneurship in the Al-Batinah region of Oman, and observed that barriers related to infrastructure, profession, education and training, society and culture, legal system, behavior, and role, all affect women entrepreneurs. Women are involved in activities such as the making of Omani caps for males, running traditional retail outlets, manufacturing handicrafts, tailoring, and operating beauty parlors. Although a quarter of women depend on their family for the initial planning and financial support, almost 95% of such women participate in their domestic decision making. The most prominent barriers that affect women entrepreneurship are financial support, knowledge to collaborate, access to technology, industrial support, pressure to achieve, interacting with males, training opportunities, information on opportunities, and the time for training. Personal mobility affects those who do not have a driving licence. This affects more those women who work alone in their ventures. Women entrepreneurship is constrained after their marriage and a drop-out tends to take place when the families which they join after marriage are non supportive. Despite these constraints, women in Oman are emerging as entrepreneurs, since they have revealed some self-confidence and positive outlook for their work. They have learnt to face some of the barriers and to compromise with others, especially those which are connected to the value system, tradition, and family structure.

The role of women entrepreneurs has been growing and progressing throughout the world. Creating a balance between work and home is not easy, especially in the Arab world, and particularly Oman where the socio-cultural expectations are highly challenging. For women, raising a family in itself is not an easy task

and beyond it successfully running a business adds additional responsibility. Women demand social, institutional and family support to succeed in their efforts. To ensure the success of women in their ventures, there is a clear need for supportive policies, education and training opportunities, understanding from the community, establishment of a communication system, and work-related assistance.

SIGNIFICANCE AND LIMITATIONS

This study illustrates and focuses on women entrepreneurship in Oman how it is developing; it observes and reports the hindrances; and it suggests some measures for improvement in the role of women entrepreneurs. Overall, it adds to the literature on entrepreneurship, especially in the context of socio-cultural aspects and the Islamic Arab world, where the literature is still scant. The study is limited to a particular region of Oman and covers only those women who are registered with OCC. Hence any generalization of our findings has to be tempered by these limitations. Although the survey was personally administered by the researchers, the biases on the part of respondents could also impose some limitation and impact the outcomes of the study. Furthermore, responses from the women who quitted from their business could not be secured. Although the team met three of such women personally, they avoided discussing on the topic, and briefly responded that they faced some problems - one of them attributed it as a failure in partnership.

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PUTTING ENTREPRENEURS IN THE LIMELIGHT: IS ENTREPRENEURIAL COMPETENCY THE "SILVER BULLET" FOR SME TRIUMPH?

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ABSTRACT

This paper proposed the direct relationship between entrepreneurial competencies and business success in SMEs by taking into consideration the various roles held by entrepreneurs in managing their own ventures. Evidence suggests that entrepreneurs, especially in SMEs engage in various tasks that demand possession of relevant competencies to enable them manage their ventures effectively. Linking the roles of entrepreneurs, as identified in the literature namely entrepreneurial, managerial, and functional roles with the competencies required in handling successful ventures, a conceptual framework is advanced for further empirical investigation. Propositions are made by integrating the roles of entrepreneurs in examining the relationship between entrepreneurial competencies and business success in SMEs. The suggested model of entrepreneurial competencies is intended for use by business practitioners, trainers, and educators in efforts to develop the right mix of competencies in generating more successful ventures in SMEs.

Keywords*: SME entrepreneurs, competency model, SME success.*

INTRODUCTION

More than ever, SMEs especially in the emerging economies are struggling to navigate the current rough economic ocean. Debates are going on among scholars, practitioners, and policy makers to identify a model to assist SMEs to sail smoothly through the stretch of hurdles. Reflecting on Gibb's (2005) contention pertaining to the significant role of SME entrepreneurs in managing their ventures, some insights into how to increase the odds of survival and success among SMEs could possibly be unearthed.

In essence, calls to refocus on the key roles of the entrepreneurs open up rooms for further deliberation on the requisite competencies that can be ingrained to cushion the adverse economic impact among SMEs. Based on the Theory of Entrepreneurial Competency proposed by Bird (1995), this paper posits that competency model could shed some light into ways to increase the likelihood of business survival and success.

The concept of competency is not new to the management field. Building upon the work of Mintzberg (1973) that identifies ten important roles of managers, management scholars have further investigated the competencies associated with these roles which could lead to superior performance in organisation. Some studies have noted the importance of understanding an individual's job roles in exploring competencies associated with each role (Spencer & Spencer, 1993). In view of this, it is believed that by understanding the roles of entrepreneurs, better insights into the competencies needed for business survival and success in SMEs could be generated. Researchers have reached consensus on the fact that entrepreneurs operating in SMEs assume complex and challenging tasks which require them to engage in several different roles. Among the most important roles played by entrepreneurs are entrepreneurial role, managerial role (Beaver & Jennings, 2005; Chandler & Jansen, 1992), and functional roles (Chandler & Jansen, 1992). Accordingly, being engaged in each role demands possession and application of certain skills and abilities (competencies) among entrepreneurs. Following this logic, entrepreneurs must equip themselves with

competencies that allow them to perform effectively in their business, which may subsequently lead to business success.

THE ROLES OF SME ENTREPRENEURS

In SMEs, the critical resources are likely to be held by the individual entrepreneurs which are reflected in their skills, knowledge, abilities, experience, and education (Edelman, Brush, & Manolova, 2002). Being the key decision makers, the entrepreneurs have high influence on the formation of business strategy and are responsible to set the roadmap for their firms to move towards the set goals (Masurel, Montfort, & Lentink, 2003). The lack of separation between ownership and control in small firms suggests that the business owners themselves are responsible for the direction and the development of their firms (Yu, 2001). Various studies have confirmed that the person, who forms a venture, is ultimately responsible for its success or failure (Hall & Hofer, 1993; Shane & Venkataraman, 2000). To put it differently, a proposition has been made that in order to understand why organisation fail, researchers should focus on the actions of the top management (Longenecker, Simonetti, & Sharkey, 1999), in which in the case of SMEs, refers to the entrepreneurs themselves. Hence, the success or failure of the firms is largely influenced by the skills and abilities (or competencies) of the owners. Thus, as key players, the ability of entrepreneurs to cope with all responsibilities (as shown in their competencies) that come along with these roles—entrepreneurial, managerial, and functional—should not be overlooked.

Entrepreneurial role

Engaging in entrepreneurial role involves performing activities such as developing challenging but achievable vision, formulating strategies, perceiving unmet consumer needs, scanning the environment, spotting high quality opportunities, and producing superior products or services (Chandler & Hanks, 1994; Chandler & Jansen, 1992). These roles require entrepreneurs 'alertness' (Kitzner, 1979), innovativeness and creativity (Thompson, 1999), strong commitment (Man & Lau, 2001), and conceptual ability to seek, identify, assess, and seize opportunities and transmute them into profitable outcome (Thompson, Stuart, & Lindsay, 1997). Thompson (1999, p.209) maintained that, "an entrepreneur is someone with a vision who spots a new opportunity and is minded to act on it and start something", and enterprising behaviour relates to starting a new venture which requires setting out ideas, obtaining resources, and making things happen. Extending this view, it has been suggested that the ability to select high quality opportunities and devise appropriate strategies to turn these opportunities into reality may have a considerable impact on venture performance (Wang & Ang, 2004).

Furthermore, engaging in entrepreneurial role demands entrepreneurs to continually seek out customer needs and find ways to offer their product and services in such a way that what they are offering is more attractive than others (Tracy, 2005). This requires ability to use appropriate strategies and tactics in commercialising their products or services. Entrepreneurs must also be willing to experiment different strategies in the pursuit of profitable outcome because it is the entrepreneurs' energy, creativity, and motivation that trigger the production of superior product and services (Baum & Locke, 2004). Thus, it is proposed that engaging in entrepreneurial role requires entrepreneurs to equip themselves with relevant competencies that will increase the odds of their business success.

Managerial role

As the owner-managers who have the overall control of the firms, entrepreneurs especially in SMEs, are required to take up managerial role. Managerial tasks reflect activities such as planning, organizing, directing, and controlling various resources in organization. These functions are said to be goal-directed, interrelated, and interdependent. Planning, for example, involves devising a systematic process for attaining the goals of the organization and organizing involves arranging the necessary resources to carry out the plan (Chandler & Hanks, 1994). These resources include people, technology, facilities and equipment, materials and supplies, information, and money. Directing generally involves guiding, leading, and overseeing of employees to achieve organizational goals, while controlling involves verifying that actual performance matches the plan.

In many ways, engaging in managerial role requires interpersonal skills such as establishing relationship and interacting with others. For example, the classic managerial role proposed by Mintzberg (1973)

specifies figurehead, leader, liaison, disseminator, spokesperson, disturbance handler, and negotiator as roles that are critical for managers. These roles obviously require abilities in relationship building and interpersonal communication with people within or outside the organisation. Chandler and Hanks (1994) argue that engaging in managerial role requires entrepreneurs to lead and motivate employees, delegate tasks, and manage employee relations, which clearly requires good interpersonal skills on the part of the entrepreneurs. In sum, the ability to organise and build relationship is related to managerial role. It is therefore argued that engaging in managerial role requires entrepreneurs to equip themselves with appropriate competencies that will enhance the possibility of business success.

Functional role

As business owners, SME entrepreneurs are also engaged in functional role. Assuming this role requires possession of technical knowledge and procedures relevant to specific field and also the ability to utilize tools (Chandler & Jansen, 1992). The importance of having technical capabilities in conducting business has been highlighted in many studies (Baum, 1995; Winterton, 2002) suggesting that possessing specific skills in job-related activities is a vital requirement for entrepreneurs. Practically in SMEs, training employees internally would incur less cost compared to sending staff for external training courses. In this sense, technical competencies are required so as to facilitate entrepreneurs in handling business-related tasks which require specific expertise and also in training the employees on tasks relevant to the business. Therefore, it is proposed that engaging in functional role requires entrepreneurs to equip themselves with relevant competencies that will increase the likelihood of their business success.

To further understand the entrepreneurs' competencies, the following section will tap into various content of competencies that, which consequently lead to the development of the conceptual framework and propositions for this paper.

ENTREPRENEURS' COMPETENCIES

Being engaged in various roles including entrepreneurial, managerial, and functional roles, demand entrepreneurs to take up tasks and activities that are far more complex than those of managers employed in organizations. The complexity of tasks perform by entrepreneurs suggests that it is vital to investigate further the forms of competencies that could increase the chances of success in SMEs. Investigating further the important competencies relevant to entrepreneurs is also considered an effort to address issue on the unacceptably high failure rates reported among SMEs. This problem, unless addressed, would negatively affect the socio-economic aspect of a country and the well being of the business owners themselves.

Competencies are "underlying characteristics such as generic and specific knowledge, motives, traits, self-images, social roles, and skills which result in venture birth, survival and/or growth" (Bird, 1995, p.55). Similarly, Baum et al. define competencies as "individual characteristics such as knowledge, skills, and/or abilities required to perform a specific job" (p. 293). By incorporating the findings of mainly Man (2001) and a qualitative work of Ahmad and Seet (2009), together with a few other similar works, an analysis is developed to identify the competencies that can be linked to the role played by SME entrepreneurs. A critical analysis conducted on the earlier models of entrepreneurial competencies ultimately generated eight significant competencies that are recommended for further investigation which include strategic, conceptual, opportunity, organising, relationship, technical, and personal competencies (refer to Table 1).

Strategic competency

Strategic competency refers to the ability of the owners to develop future-focused vision and goals, devise strategies to match the goals, and diagnose the effectiveness of the strategies through (Man & Lau, 2000). This involves strategic thinking which reflects the ability of the organization's leader to develop future vision and take strategic action which requires them to think beyond day-to-day operations (Stonehouse & Pemberton, 2002). Evidence suggests that the future of smaller firms depends heavily on the entrepreneur's vision (Yu, 2001). Having this vision allows entrepreneurs to focus their actions and decisions more strategically and when achieved, will give their firms significant advantages over the competitors. Therefore, it is crucial for entrepreneurs to develop a description of the desired future goals that are clear,

measurable, and challenging since it will give them an overall picture of where they are going, what they want to achieve, and how they are going to compete.

By having a set of clear goals and an overall picture of where and how the firm is going to compete, entrepreneurs are able to formulate appropriate strategies and implement them to achieve the preset goals. It also allows entrepreneurs to set their priorities to ensure that the activities undertaken are aligned with the business goals (Man & Lau, 2000). These strategies serve as a bridge that links firms' resources and their capabilities to gain competitive advantage (Porter, 1991) and to overcome organisational uncertainty (Parnell, Lester, & Menefee, 2000). In a sense, strategic competency also involves entrepreneur's ability to develop vision, devise appropriate strategies, diagnose their effectiveness, and improve these strategies when needed.

Entrepreneurs are also strategic leaders who are responsible for making choices and actions that could influence their business success (Lado, Boyd, & Wright, 1992). Some further added that this competency area involves the ability to view things from different angle as well as the ability to analyse the possible pros and cons of a specific issue (Man & Lau, 2001). In the attempt to relate strategic change and competent organisation, Thompson (1996) proposed that strategic change is a part of strategic competence that could be linked to competitive success particularly for firms that operate in a dynamic and competitive environment. Operating in a dynamic environment often results in misfit between firms' strategies and external demand, which in turn, impel organisations to strategically change their operations and restructure their business when necessary. Several important elements required by entrepreneurs in doing so is the ability to be proactive and responsive to the changes in the environment and always be ready to respond to the changes in market condition and the environment (Man & Lau, 2000). As such, the ability to make strategic change also allows entrepreneurs to adapt and adjust the business operations to match the current demand in the industry.

Conceptual competency

Conceptual competency is related to the ability to 'think out of the box' which is often reflected in the ability to stimulate new thinking patterns and develop new ideas and concepts which may sometimes require deviation from the normal procedure of doing things (Michalko, 2000). This ability allows entrepreneurs to do things differently, take on new perspectives, create value in new ways, as well as focus on finding new ideas and act on them (Thompson et al., 1997). Conceptual ability assists in reversing the conventional thinking patterns about problems and situations and helps entrepreneurs to find alternative approach and new ways of looking at things (Thompson et al., 1997). The ability to think analytically and to cope with uncertainty depends heavily on conceptual abilities (Bird, 1995). Analytical ability, as an important behavioural aspect in conceptual competency, is essential since possessing this ability will help entrepreneurs in solving complex problems in the business context (Durkan, Harrison, Lindsay, & Thompson, 1993). According to Man and Lau (2000), conceptual competency reflects the conceptual abilities of entrepreneurs such as analyzing, problem solving, decision-making, innovating, and risk taking. These competencies has been operationalised by the authors as the ability to apply ideas, issues and observations to alternative context, to integrate ideas, issues and observation into a more general contexts, to take reasonable job-related risks, to monitor progress toward objectives in risky actions, to look at old problems in new ways, as well as to explore new ideas.

The concept of conceptual flexibility (Cockerill, Hunt, & Schroder, 1995), which refers to the ability to identify feasible alternatives to decision-making and the ability to evaluate pros and cons when making decision, also represents an aspect of conceptual competency. Conceptual competency also reflects the mental ability to coordinate all of the organisation's interests and activities (Chandler & Jansen, 1992). More often than not, entrepreneurs are regarded as people whom "creatively create new products, new services, new organisations, and new ways of satisfying customers and doing business" (Thompson, 1999, p. 210). Being creative, innovative, and flexible especially in dealing with opportunities, risks, and uncertainties illustrate the important capabilities which enable entrepreneurs to make a difference (Thompson, 1999). Entrepreneurs especially those operating in the SME context, face numerous situations that require them to make quick decisions. Therefore, having the abilities to undertake high level of conceptual activities as reflected in their ability to analyse, solve problems and make decisions under the situation of uncertainty are important for the success and survival of their business.

Opportunity competency

One aspect of entrepreneurial role is the ability to recognize and taking advantage of opportunities. This competency is also associated with the ability of entrepreneurs to seek, develop, and assess high quality opportunities that are available in the market (Man & Lau, 2001). In order to discover opportunities that could create value to the business, entrepreneurs must be able to identify goods or services customer wants, perceive unmet consumer needs, and actively look for products or services that provide real benefit to customers (Chandler & Jansen, 1992). The recognition of high quality opportunities prompts entrepreneurs to create organizations and embrace considerable risks to turn these opportunities into positive outcome.

Literature revealed that an important competency requirement for growing companies is the readiness to seize relevant opportunities (Snell & Lau, 1994). Similarly, a study conducted by Hill (1995) suggested that successful entrepreneurs perceived alertness to new opportunities as crucial for their business success and the ability to evaluate the opportunities is a fundamental process to seize high quality opportunities. Proactive marketing and sales activities is considered as a means to seek and develop new opportunities (Thompson, 1996). Entrepreneurs are also required to engage in a continuous search for products and services that could add value for the buyers or end users because the decision to exploit the opportunities depends on the entrepreneurs' knowledge of customer demand (Choi & Shepherd, 2004).

Organizing and Leading competency

Previous model on entrepreneurial competencies suggested that organizing competency is one of the important competency areas that need to be mastered by entrepreneurs (Man & Lau, 2001). This is considering the fact that as the owner-managers, entrepreneurs have to take up some aspects of managerial role (Chandler & Jansen, 1992). Managerial competencies, as suggested by Chandler and Hanks (1994) includes the abilities to develop plans, allocate resources, organize, motivate and lead employees, coordinate activities, delegate tasks, and keep organization runs smoothly. McClelland (1987) suggested that monitoring is essential in keeping the firm operating efficiently, suggesting that business owners should be able to monitor closely their business activities so that activities are appropriately carried out.

Some further added that the management of human resources in SME is reported as distinctive activities which require entrepreneurs to equip themselves with organising skills, especially leading, delegating, couching, and training (Martin & Staines, 1994). In most SMEs, business owners have to deal directly with the employees and in many cases, there is no specific unit to administer employees, as undertaken by human resources department in large firms. Since evidence revealed that lack of managerial and planning skills (Gaskill, Van Auken, & Manning, 1993) possessing these abilities is believed to reduce the staggering rate of failures in SMEs. In sum, being the owner of the business, entrepreneurs are required to take up a variety of tasks and handle different functional areas which demand the ability to plan, organise, monitor, and control various resources in the organisation.

Relationship competency

In business, entrepreneurs are required to deal with a lot of people including suppliers, customers, employees, government authorities, competitors, and other stakeholders. Being in contact with a diverse set of individuals is important for entrepreneurs because it gives them access to information and other resources (Jenssen & Greve, 2002). In doing so, entrepreneurs need to have good relationship competency to enable them to advance in their business. This is in line with resource dependency theory (Barringer & Harrison, 2000) which suggests that entrepreneurs use their social relations to get the resources they need to launch a business (Hansen, 2001; Jenssen, 2001). Evidence suggests that small firms are engaged in networks especially in gaining advice and support from professionals and experts such as lawyers, accountants, and consultants (Ramsden & Bennett, 2005) as well as government bodies, research and training institutes, and even suppliers and customers (Ritter & Gemunden, 2004). To successfully secure business dealings with customers and suppliers, entrepreneurs engage in relationship building activities which are referred to as 'entrepreneurial bonding' (Bird, 1995). Entrepreneurial bonding reflects establishing and restructuring relationships with the most important stakeholders such as customers and suppliers as the company grow.

Previous studies revealed that interpersonal skills, especially those related to building relationships and networking, is one of the most important competencies among the SMEs in Hong Kong (Man & Lau, 2000). To some extent, possessing these competencies enable entrepreneurs to overcome constraints faced by firms such as limitation in finance or lack of expertise by establishing networks or bargaining for favours and deals (Jenssen & Greve, 2002).Evidence suggests that establishing and maintaining good relationship with customer is seen to be pivotal especially for smaller firms (McGowan, Durkin, Allen, Dougan, & Nixon, 2001). These competencies are seen as critical to entrepreneurs operating in SMEs because the ability to do so might provide a lot of advantages to the business, especially in the long run. Satisfied customers will eventually become repeat and loyal customers who may go to the extent of introducing new customers to the business.

Technical competency

Technical competency includes the ability to use and adopt technical skills including the techniques and tools handling which are relevant to the business (Martin & Staines, 1994). This involves possessing knowledge of instruments and the functioning of tools, machines or work procedure as well as mastery of tasks or content of work. It has been proposed that engaging in functional role, entrepreneurs require technical competency to ensure that business-related tasks could be accomplished satisfactorily (Chandler & Hanks, 1994). Baum (1995) has endorsed this by suggesting that that technical skill is an important requirement for entrepreneurs to create successful ventures. It has been further argued that it is crucial for entrepreneurs to have '*know-how*' (technical skill) and '*know that'* (knowledge) (Winterton, 2002) as well as the ability to obtain '*know how*' in handling their business (Bull & Willard, 1993).

Even though the business owners might not need to deal directly with tools and equipment or might not need to undertake certain tasks by themselves, the knowledge and skills are necessary since they are the source of reference in the organisation. It also helps to demonstrate the owners' professionalism in the operating a business, which is referred by Tett, Guterman, Bleier, and Murphy (2000) as possessing specific skills as determined by the profession.

Personal competency

Personal competency refers to important personal qualities and abilities that help in building up personal strength and enhance an individual effectiveness in performing certain challenging tasks such as managing one own business (Man & Lau, 2001). This may include determination and self-belief (Thompson, 1997), emotional intelligence and self-awareness (Goleman, 1985), self-control and stress tolerance (Markman & Baron, 1998), self-motivation (Martin & Satines, 1994), as well as self-management (Winterton, 2002). These competencies have strong linkage with personality traits and less directly observable (Bird, 1995), yet, they can be quite obvious from the way entrepreneurs deal with problems and challenging situations that they encounter in business.

Other personal qualities that are important in managing own business include positive-mindedness and persistence. These positive aspects are most commonly found among successful entrepreneurs and inventors. *Possessing* these competencies may assist entrepreneurs in building up their personal strengths to face challenges in handling their business. In sum, the personal strength of the business owners is seen as one of the important resources a business has and only those who possess these competencies will eventually succeed.

BUSINESS SUCCESS IN SMES

Business success is considered the ultimate directions of any entrepreneurial efforts. In a larger context, efforts to increase the chances of success among SMEs would have huge implications for the growth and socio-economic wellbeing of a country. The creation of more successful SMEs could potentially create more new jobs, increase trade, and consequently GDP of a country. At the individual level, the ability to enhance the likelihood of a business succeeding could help protect business owners from financial and emotional hazards (Blackman, 2003).

It has been suggested that in measuring the success of a firm, reliable and valid measures are essential to develop a plausible model of business success in SMEs (Man & Lau, 2000). Clearly, there are many reasons stated by entrepreneurs for running their own business and some are non-financial in nature. Jennings and Beaver (1997) argued that measuring financial performance is insufficient and other non-financial measures should be incorporated. This view has been endorsed by other researchers, for example Buttner and Moore (1997) when they hinted that some entrepreneurs consider success in terms of self-fulfilment and goal achievement. Similarly, Beaver (2002) pointed out that to many entrepreneurs, money is not a prime motivator rather a *pleasant by-product* of having the freedom to take charge of their own future. Even though some studies have indicated that entrepreneurs value the attainment of their personal goals more than the financial gains, it may not be appropriate to solely rely on the non-financial measure since this measure presumes that a certain level of financial security has already been created (Walker & Brown, 2004). A strong argument on considering financial measure of success is that 'businesses are only viable if they are financially solvent' (Marlow & Strange, 1994, p.9). Financial success, as indicated by profitability, return to investment, and sales growth (Hall & Fulshaw, 1993; Walker & Brown, 2004), determines the firms' ability to sustain and continue its operation, as well as their ability to grow in the industry. On the other hand, non-financial measure of success as indicated by overall satisfaction with goal attainment is also important because achieving entrepreneurs' personal objectives are also important for small business owners (Kuratko, Hornsby, & Naffziger, 1997). Taken together, this paper considers the importance of utilising both financial and non-financial measure of success.

CONCEPTUAL FRAMEWORK

Based upon the contention that call researchers to focus on the contribution and ability of the business owners in generating successful ventures, a theoretical framework is developed to link entrepreneurial competencies and business success by taking into consideration the various roles held by entrepreneurs in managing their own business. This paper generally proposed that entrepreneurs are engaged in three different roles including entrepreneurial role, managerial role, and functional role. To excel in performing these roles requires eight important competencies namely strategic, opportunity, conceptual, organizing, relationship, personal and technical competencies that could increase the odds of business success. Based upon the model of entrepreneurial competency proposed by Bird (1995) and by incorporating the content of entrepreneurial competencies developed by the existing studies, see for example, Ahmad et al. (2006); Chandler and Jansen (1992); Martin and Staines (1994); Man (2001), a theoretical framework that integrates the various roles of entrepreneurs with competencies and business success in SMEs is advanced for consideration (refer to Figure 1).

RESEARCH PROPOSITIONS

This paper argues that researchers should revisit the contribution of an individual entrepreneur in understanding the critical success factors of an SME. Since the competencies of the entrepreneurs reflect the quality of action taken by them that would enhance their effectiveness in managing the firms, it is strongly predicted that entrepreneurial competencies have direct impact on business success in SMEs. Specifically, traditional entrepreneurial role suggests that entrepreneurs are normally engaged in several major tasks including establishing long-term vision, formulating strategies, recognizing and responding to opportunities, taking risks, and innovating (Chandler & Hanks, 1994). Various studies have endorsed that opportunity recognition and development is the heart of entrepreneurial activities (de Koning 2003). In their efforts to explore and develop these opportunities, entrepreneurs act under the condition of uncertainty, which require them to take risks.

As suggested, in taking up these roles, entrepreneurs do not act blindfolded; they learn from their environment, from previous mistakes they have made, and also from other people (Smilor, 1997). Evidently, they do not simply take risk without considering the pros and cons of their decisions. Entrepreneurs evaluate and analyse risks, in which mostly being conducted informally, before making business-related judgments. Once decisions are made, entrepreneurs then commit themselves to achieve their goals and objectives. In order to achieve the goals and objectives, entrepreneurs need to combine productive resources and innovate new things or new way of doing things. In doing so, strong commitment on the part of entrepreneurs is essential since this commitment will keep them motivated to pursue their goals despite obstacles and hindrances impose by the environment. Synthesizing these arguments, engaging

in entrepreneurial role requires entrepreneurs to prepare themselves with strategic, opportunity, conceptual, competencies to enable them increase the chances of their business success. It is therefore conjectured that:

Proposition 1: Engaging in entrepreneurial role, SME entrepreneurs require strategic, opportunity, commitment, conceptual competencies and these competencies are positively related to business success in SME.

Entrepreneurs also take up tasks and activities that mirror managerial role. SMEs, considering its small nature, depend heavily on the owners to manage and organise the various activities relevant to the firms. Evidence has highlighted the importance of developing managerial skills in mapping small firm's achievements (Martin & Staines, 1994). In fact, managerial skills which include developing plans, managing employees, delegating and coordinating tasks are found to be of paramount importance (Chandler & Hanks, 1994). In addition, undertaking the managerial role also requires entrepreneurs to access various business resources including financial, human and other assets, as well as organising and mobilising those resources to maintain a viable venture. The socio cognitive approach to entrepreneurship suggest that to get access to various resources, entrepreneurs recognise the importance of establishing relationship, connections, and networks (Koning, 2003). In a sense, establishing good connections and contacts with the right people is seen as a useful means to overcome the shortage of resources in SMEs.

Also, given the difficulty in attracting skilled labours, energising teamwork is rather imperative. There is evidence to suggest that embracing teamwork is one of the means to gain competitive advantages (Longenecker, Simonetti, & Sharkey, 1999). To strengthen teamwork, it requires a strong leadership on the part of entrepreneurs to create a good working climate where people are ready to work in team. Taken in concert, it is speculated that to lead a successful venture, entrepreneurs need to prepare themselves with organising competency, which involve managing and organising the tangible and intangible resources, and relationship competency which involve building and maintain relationship within and outside the organisation. Therefore, it is proposed that:

Proposition 2: Engaging in managerial role, SME entrepreneurs require organizing, and relationship competencies and these competencies are positively related to business success in SME.

The third role played by an entrepreneur is functional role. Performing this role requires specific grounding or background knowledge related to the business as well as expertise of using certain techniques or tool handling (Martin & Staines, 1994). Baum, Locke, and Smith (2001) maintain that entrepreneurs require a strong set of technical and industrial skill, besides organising and opportunity recognition abilities. Even though entrepreneurs may then employ more people to help in the businesses as they grow, it is essential for the entrepreneurs to have some basic know-how on the areas related to their own field. This is because, technical or industry-related skill is seen as important sources of expert power that support the implementation of entrepreneur's vision and plan (Baum et al, 2001). Clearly, it is essential for the entrepreneurs to possess and master venture-specific skills to provide sustainable competitive advantage for their ventures. In view of this, it is contended that having engaged in functional role, entrepreneurs need to prepare themselves with technical competency to lead successful ventures. It is therefore predicted that:

Proposition 3: Engaging in functional role, SME entrepreneurs require technical competency and this competency is positively related to business success in SME.

Personal competency refers to the possession of personal qualities that will enhance the effectiveness of entrepreneurs (Man & Lau, 2000) is seen as an important competency area that support all the roles played by entrepreneurs. Successful entrepreneurs are often observed to possess high level of confidence and have tremendous amount of personal energy and drive, and the capacity to work long hours (Timmons, 1978). They possess high level of determination and desire to overcomes hurdles, solve the problems, and continue to pursue their goals, which are often high and challenging but realistic and attainable. They are believed to be goal and action-oriented and possess high need for achievement (Blackman, 2003). It is therefore predicted that, personal competency would enhance the effectiveness of entrepreneurs in performing all roles which have positive implication on the business.

Proposition 4: Engaging in entrepreneurial, managerial, and functional roles requires personal competency to support entrepreneurs in accomplishing various tasks and these personal competency is positively related to business success in SME.

IMPLICATIONS

This study offers theoretical and practical ramifications. Its theoretical contribution is grounded in conceptualizing a model of entrepreneurs' competencies by taking into consideration the various roles played by entrepreneurs in handling their own business. This study could contribute to the advancement of entrepreneurship development through the identification of important competencies. Practically, noting the radical changes in today's business environment, entrepreneurs are made aware of important competencies that may have causal connection to their business success. It provides business owners with knowledge about the way they do business and to some extent helping them to be more conscious of their business and surroundings.

The findings derived from this research may also be useful to entrepreneurs insofar as alerting them to the kind of training that may be necessary to improve their business performance. Finally, it is envisaged that this study may provide some useful guidelines for policy makers and educators as to ways in which educational programs might be improved to support the development and success of SMEs.

CONCLUSION

Entrepreneurs are believed to hold vital positions in the organisation they have created. Through their decisions and actions, entrepreneurs pursue their business agenda that would ensure their survival and success in the industry. Their business vision and personal goals are also believed to affect the way they run their organisation. Engaging in entrepreneurial role demands familiarity with the environment surrounding them to enable them recognise and spot high quality opportunities that will benefit their business. In translating these opportunities into positive outcome, entrepreneurs are required to carefully manage their internal and external resources.

Although some of the resources are readily available in the environment, it still depends on the ability of the entrepreneurs themselves to get access to those resources and mobilise them. Clearly, entrepreneurs in SMEs engage in complex tasks in operating successful ventures. The complexity of tasks undertaken by entrepreneurs dictates that they need to prepare themselves with relevant competencies that could be utilised in developing a successful organisation. In other words, it is important for entrepreneurs to equip themselves with relevant competencies that will eventually enhance their business performance.

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Table 1
Competency Model Proposed

Entrepreneurial competency domain	Examples of behaviours
Strategic	Set challenging but achievable business goals and vision; devise strategies to achieve goals; diagnose the effectiveness of strategies and take corrective action when necessary; make strategic change and use tactics in business.
Commitment	Sustain effort; commit to long-term goals; commit to personal goals; and restart after failure.
Conceptual	Think intuitively and quickly when making decision; view from different angle; innovate; assess risks.
Opportunity	Identify, assess and seek business opportunities.
Organising and Leading	Plan, organise, lead, motivate, delegate and control.
Relationship	Build relationship and network; communicate; negotiate; manage conflict effectively.
Personal	Personal qualities include self-confidence; self-awareness; self-motivation; persistence; self-management; positive mindedness.
Technical	Handle tools and equipment relevant to business; expertise in business-related areas

Table 2
A Synthesis of Behaviours Reflecting Competencies Identified in Previous Studies

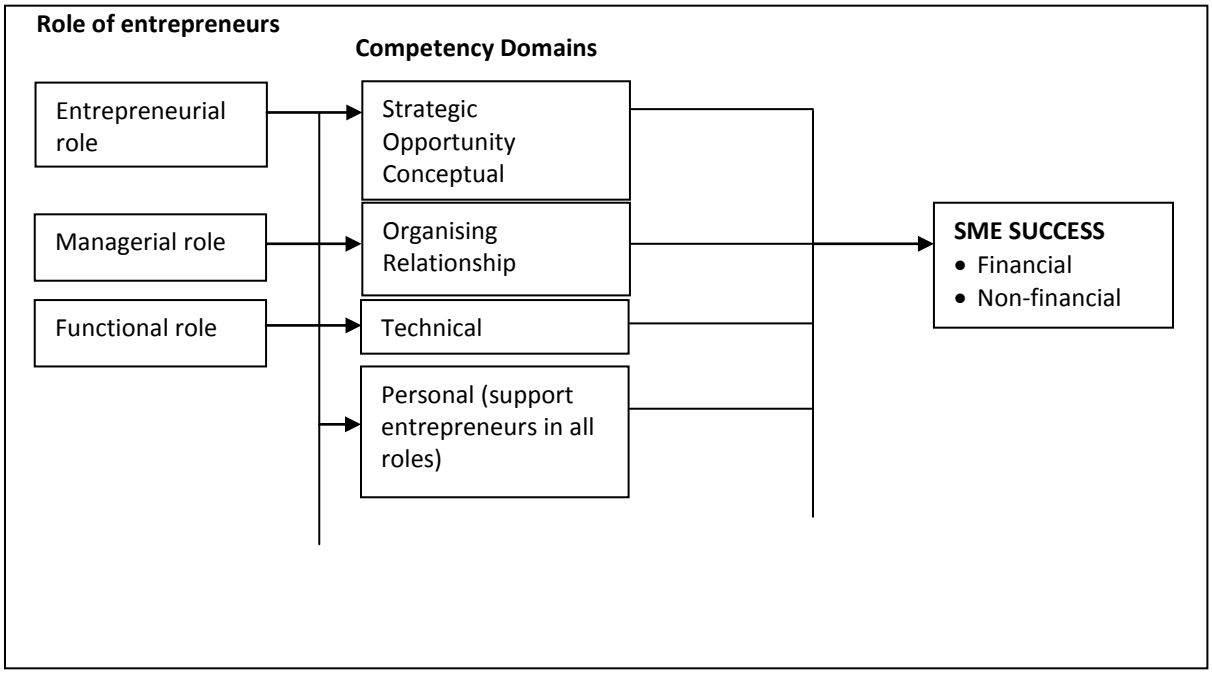
Competency area	Examples of behaviours	Model of entrepreneurial competency									
		1	2	3	4	5	6	7	8	9	10
Strategic[a]	Develop vision and strategy, plan ahead, set goals and standards, sell ideas.				*			*	*	*	*
Commitment[a]	Demonstrate strong motivation to compete, drive to see venture through to fruition, capacity to make an impact, drive and dedication.		*		*		*			*	
Conceptual [a]	Demonstrate the possession of cognitive ability and decision-making skill, ability to weigh risks, think analytically, be innovative, be creative, show reasoning, capacity to reduce risks.	*	*		*	*			*	*	*
Opportunity[a]	Ability to recognise opportunity, ability to capture opportunity, ability to identify customers need.	*	*		*		*		*	*	
Relationship[a]	Possess and use good interpersonal and communication skills, ability to influence others and gain support.		*		*	*	*	*	*	*	*
Organising and Leading[a]	Ability to direct, lead, delegate, motivate, plan and schedule work, develop program, prepare budget.	*	*		*	*	*	*	*	*	*
Personal[a]	Demonstrate the possession of high self-motivation, awareness of own strength, self-confidence, achievement drive, resilience, time				*	*	*	*		*	*

	management, accountability, persistence and determination.								
Technical[b]	Demonstrate the possession of technical skills, show an understanding of business and industry.	*	*		*			*	*

[a] Competency areas identified by Man (2001).
[b] A competency area identified by Chandler and Jansen (1992).
[c] Literature source: (1) Baum (1995); (2) Chandler and Jansen (1992); (3) Georgellis et al. (2000); (4) Man (2001); (5) Martin and Staines (1994); (6) McClelland (1987); (7) McGee and Peterson (2000); (8) Snell and Lau (1994); (9) Thompson et al. (1997); (10) Winterton (2002).

Figure 1

Conceptual framework



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EMPLOYEES VARIABLE AND CUSTOMER RELATIONSHIP MANAGEMENT IN RETAIL BANKING: AN EMPIRICAL STUDY

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ABSTRACT

Banks are important role players to the economy of any country (Rootman, 2007). Retail internationalization, emerging new technologies, fierce competition, economic uncertainties, and deregulation have led to the restructuring of retail bank offerings (Flier et al., 2001; Lovelock, 2001; A. C. Worthington, 2004). To survive in such a competitive business environment banks need to focus on building and maintaining customer relationships and to identify how their employees influence these relationships (Rootman, 2007). This study aims to explore the variables influencing customer satisfaction and relationship with their banks, with regard to bank employees and to analyse the difference in the degree of importance attached to these employees variable w.r.t male and female customers. To study the impact of the predetermined variables from literature on the CRM of banks, a sample of 302 banking customers was tested empirically .

The findings reveal that the variables knowledgeability, attitude and availability of bank employees have a statistically significant impact on the customer satisfaction and effectiveness of the CRM strategies of banks while other two factors communication and appearance of bank employees is not of major concern to customers. The findings of this paper will create a greater awareness among, retail banks of the advantages of superior CRM, how their employees influence the effectiveness of their CRM strategies and how they can adapt these employees variables to positively influence their CRM strategies. Ultimately, this could lead to benefits for banks, their customers and the Indian economy as a whole.

Keywords: *Customer Relationship Management, Retail banking, Employees Influence, Customer Satisfaction.*

INTRODUCTION

Today's world is different with its hyper competitive environment. "Survival of the fittest is the mantra of this century and banking being a service industry is no exception. Managing customers is one of the main issues faced by every firm. The demands and expectations of the customers grow at a much faster rate than the firm can equip themselves to deal with them. Changing with time, marketing science has also witnessed a paradigm shift from short-term exchange transactions to long-term, mutually satisfying relationships between customers and firms (Constantine, 2006) . Relationship management receives renewed interest in marketing (Sheth and Parvatiyar, 1995). Consequently, companies focus heavily on customer relationship development and invest in customer relationship management systems (Verhoef, 2002), as customer-seller relationships are recognised as pervasive, inescapable and highly interdependent, with ties between consumers and businesses vital to the interests of both parties (Claycomb and Martin, 2002, p. 616).

In service industries, particularly, the development of effective customer relationships is increasingly recognised as an essential component of marketing strategies (Bejou et al., 1998). In most cases, the

success of a service provider is dependent on the high quality relationships with customers (Panda, 2003). Banks are important role players to the economy of any country (Rootman, 2007). In the financial services industry, high quality customer relationships are very important, as the financial services sector is characterised by increasing competition (Avkiran, 1999), Retail internationalization, emerging new technologies, fierce competition, economic uncertainties, and deregulation have led to the restructuring of retail bank offerings (Flier et al., 2001; Lovelock, 2001; A. C. Worthington, 2004). With increased number of banks, products and services and practically nil switching costs, customers are easily switching banks whenever and wherever they find better services and products. Banks are finding it tough to get new customers and more importantly satisfy existing customers.Therefore customer satisfaction with banking services is an area of growing interest to many researchers and managers (Vimi Jham, Kaleem Mohd,2008).

To survive in a competitive business environment banks need to focus on building and maintaining customer relationships and to identify how their employees influence these relationships (Rootman, 2007).The relationships between a service firm and its customers are created and maintained by the firm ' s employees, who interact with the customers. The quality of the interaction between employee and customer is critical in determining customer satisfaction. Therefore, the behavior of the employee plays an important role in shaping the customer's perception of service quality.(Hui liau, 2004)

All employees are involved with CRM, either through their direct interactions with customers or their involvement in and application of processes, tools and methods used to enhance client value. More importantly front-line service employees, placed at the organization-customer interface and representing an organization to its customers, play a pivotal role in service encounters and relationship building, which often involve dyadic interactions between customers and service employees (Solomon, Suprenant, Czepiel, & Gutman, 1985). Empirical evidence shows that, to the extent employees are able to deliver high-quality service, customers are more likely to generate favourable evaluations of service encounters, experience higher satisfaction, and increase their purchases and the frequency of their future visits (Hui Liao,2004; Borucki & Burke, 1999; Bowen, Siehl, & Schneider, 1989). Therefore, it is important to understand the employee's variable that influence customer satisfaction and CRM.

Based on this background, this paper addresses the need for a further understanding of CRM in banks. With the background provided, for the purpose of this paper, CRM refers to the process whereby a service provider (a bank) attempts to maintain and enhance long-term relationships with its customers. Specifically, the problem statement of this paper is as follows:

To identify the variables relating to bank employees influencing CRM strategies in retail banks and to analyse the difference in the degree of importance attached to these employees variable w.r.t male and female customers.

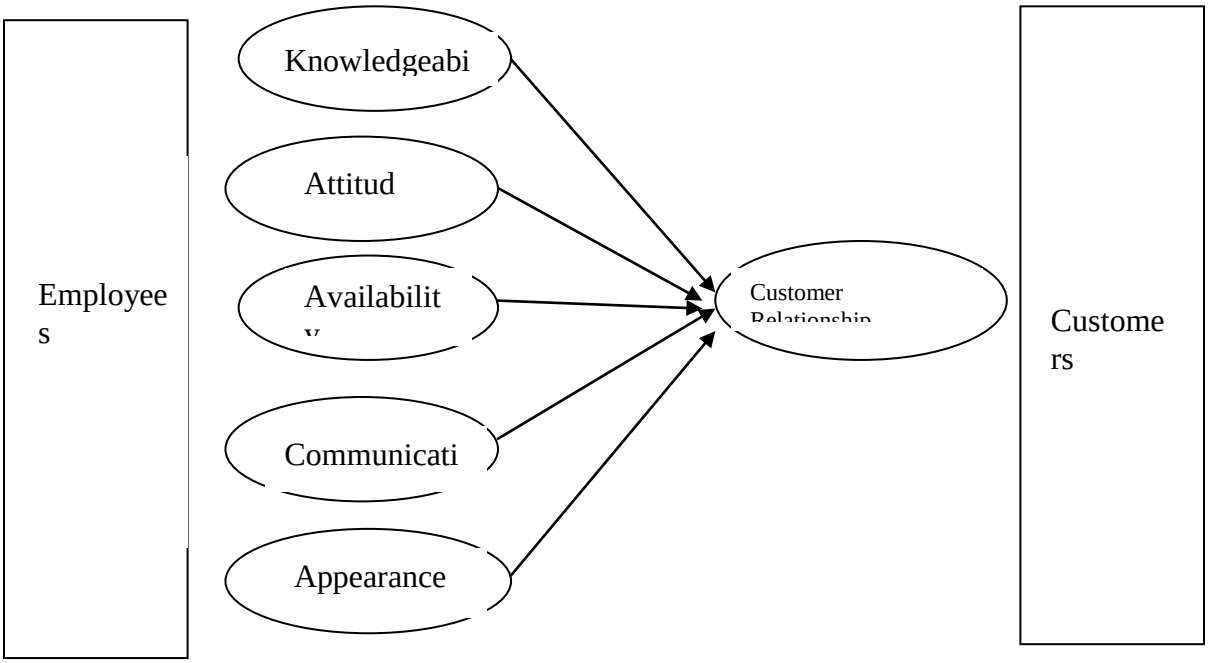

Figure 1: Influence of employees variable on CRM strategies

The employees variables constitute five variables, as identified in the literature on *CRM* . These variables are *knowledgeability, attitude, availability, communication, appearance*. For the purpose of this paper, *attitude* is the reaction, response or behaviour displayed by bank employees towards their jobs. In a bank, an employee ' s *knowledgeability* will depend on his / her insight into or ability to remember and ability to implement banking procedures, policies, products and services. In a bank, availability implies employees presence on their respective seats and giving enough time to solve customers queries, communication implies use of effective, simple , easy to understand language by employees to interact with customers and appearance refers to employees personality, looks, dressing etc. It is proposed that this paper will be beneficial for banks, as the results and conclusions drawn may be used to ensure more effective CRM strategies in banks.

RESEARCH METHODOLOGY

The research process involved the following steps. First a literature review was undertaken to identify variable influencing customer satisfaction with regards to employees in banking industry. Second, focus group discussions were held with customers to establish the relationship influencing criteria and factors were identified for customer satisfaction. Third a questionnaire was constructed and piloted. Last, a population and sampling procedure was established and methods of data collection and analysis determined.

The questionnaire consisted of three sections. Section A of the questionnaire explored the degree of importance attached by the respondents to different employees variable namely *knowledgeability, attitude* , availability, communication , appearance influencing their relationship with bank, measured on a five-point Likert scale, comprising of 19 items. The statements response continuum ranged from 1 to 5, where 1 = strongly disagree; 2 = disagree, 3 = neither agree nor disagree; 4 = agree and 5 = strongly agree.
While Section B of the questionaire covered the demographical data of the respondents which was gathered through five questions of the questionnaire, namely the gender, age, Income, Profession, Years of being a customer of the bank.

Random sampling was used, and questionnaires were distributed among a sample of 350 bank customers including both public and private banks. A satisfactory response rate of 86.28 per cent was achieved, as 302 questionnaires were usable for analysis.

The raw data was captured in a Microsoft excel database to ensure accuracy. The spreadsheet was then imported into a advance statistical software package (SPSS version 16.0). factor analysis was used to find out important relationship dimensions of customer satisfaction with regards to bank employees. Results of the factor analysis were put through the Cronbach's Alpha reliability test.

ANALYSIS AND RESULTS

1. Factor Analysis

During the first phase of data analysis the items of the questionnaire were loaded onto five distinct factors, which were labeled knowledgeability, attitude, availability, communication, appearance. The five factors explained 77.10 per cent of the variance of the data. For the purpose of this paper, the influence of these five independent variables on *CRM* will be focused on, as the research focuses on the influence of variables which relates to bank employees. Therefore, the influence of knowledgeability, attitude, availability, communication, appearance on the customer satisfaction and relationship building with bank will be discussed. Only items that loaded significantly (above 0.5) on the factors were used for further statistical analysis.

Factor one was named *knowledgeability* (KNOW), because all six items expected to measure k*nowledgeability* loaded significantly on this factor. The loading of first six items onto the KNOW factor can be explained through their relationship with *knowledgeability* . All the items that significantly loaded on factor two were expected to measure a*vailability of bank employees* . Therefore, factor two was named Availability (Avail). Factor three was named Appearance (Appear), because the three items expected to measure physical appearance of bank employees , loaded significantly on this factor. Factor four was

named Attitude (ATT) , five items loaded significantly on this factor and all of them were expected to define the attitude of bank employees. Fifth and the last factor was expected to measure the influence of employees communication skills in building and maintaining relationship with customers therefore was named, Communication (COMMUN) .The actual statements can be viewed in the Appendix 1.

The five factors (19 items) with their factor loading are shown in Table 1.

Table 1: Rotated Factor Analysis

Rotated Component Matrix[a]

	Component				
	Factor1 KNOW	**Factor2 AVAIL**	**Factor3 APPEAR**	**Factor 4 ATT**	**Factor5 COMMUN**
KNOW 1 (procedures)	**.622**	..252	-.093	.023	.459
KNOW 2 (advise)	**.842**	.065	.122	.170	.136
KNOW 3 (Policies)	**.726**	.333	.157	.056	.337
KNOW 4 (Knowledgeable)	**.832**	.146	.138	.200	.116
KNOW 5 (Inform)	**.815**	.144	.077	.079	.218
KNOW 6(efficient)	**.788**	.333	-.166	-.087	-.044
AVAIL 1(Available)	-.189	**.756**	.170	-.030	.448
AVAIL 2.(Attentive)	-.006	**.783**	.141	.051	.316
COMMUN1 (ease)	.466	.060	.531	.054	**.531**
COMMUN2 Simplicity)	-.029	.219	.468	-.084	**.655**
COMMUN3 Effective)	-.103	.289	.485	.105	**.677**
APPEAR 1(Personality)	.311	.362	**.707**	.122	-.058
APPEAR 2 (Looks)	-.009	.107	**.842**	.359	.152
APPEAR 3 (Attire)	.081	.086	**.824**	.250	.041
ATT1 (Polite)	.148	.228	.179	**.760**	.169
ATT2 (courtesy)	.328	.103	.355	**.604**	.071
ATT3 (Family)	-.002	.384	.188	**.749**	.163
ATT 4 (satisfied)	.174	-.083	.209	**.880**	.069
ATT 5 (lively)	.378	.022	.312	**.701**	-.362
Cronbach Alpha value	.838	.887	.874	**.783**	.812

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

2. Reliability and Validity

The second phase of the data analysis was to assess the internal reliability of the measuring instrument used to test the variables in the model. This was done by calculating Cronbach ' s alpha coeffi cient scores(Cronbach, 1951), using the statistical software SPSS version 16.0.

The Cronbach's alpha values for all the 19 scales (five principal components) are shown in Table 2.

Table 2: Reliability Tests for Five Principal Components

Factor	No: of Items	Cronbach alpha value
Knowledgeability	6	0.838
Attitude	5	0.783
Availability	2	0.887
Communication	3	0.812
Appearance	3	0.874

It is recommended that Cronbach ' s alpha coefficient scores are above the 0.7 cut-off value (Nunnally & Bernstein , 1994). Table 1 shows that all the Cronbach ' s alpha coeffi cient scores were above the recommended 0.7 cut-off value. Therefore, the measuring instrument and items can be regarded as reliable.

3. One – Way ANOVA

Third phase of data analysis involved testing whether there is any significance difference in the degree of importance given to various employee variables namely knowledgeability, attitude, availability, communication, appearance by male and female customers. For testing the significance difference in means one way ANOVA test was applied, also to check which group is having more influence was checked through posthoc, lcd ,descriptive analysis, using SPSS software. The results are shown in Table :3

Table 3 : One -Way ANOVA

Factors	F	Significance
KNOW 1 (procedures)	3.034	.083
KNOW 2 (advise)	1.660	.199
KNOW 3 (Policies)	1.938	.165
KNOW 4 (Knowledgeable)	11.177	.001
KNOW 5 (Inform)	.155	.695
KNOW 6(efficient)	.578	.448
AVAIL 1(Available)	15.134	.000
AVAIL 2.(Attentive)	26.047	.000
COMMUN1 (ease)	**3.5**	**.06**
COMMUN2 Simplicity)	**6.014**	**.015**
COMMUN3 Effective)	**2.607**	**.108**
APPEAR 1(Personality)	14.142	.000
APPEAR 2 (Looks)	24.47	.000
APPEAR 3 (Attire)	11.95	.001
ATT1 (Polite)	1.294	.257
ATT2 (courtesy)	2.7	.099
ATT3 (Family)	2.22	.137
ATT 4 (satisfied)	.042	.837
ATT 5 (lively)	2.104	.148

It was found that, out of 19 variables for seven variable there was a significant difference in opinion of male and female customers. Knowledgeability, availability and attentiveness were the variable considered more important by male customers and simplicity in language, physical appearance of bank employees was given more importance by female customers as compared to their male counterparts.

RECOMMENDATION CONCERNING BANK EMPLOYEES

The following recommendations are provided for retail banks in order to improve the commitment and quality of their employees:

- Educate employees about the bank ' s complex, ever-changing business environment.
- Continuously inform all employees of new and changed products and / or services.
- Motivate employees to notify customers about new and changed products and / or services.
- Inform employees of all the banking policies and procedures.
- Immediately inform employees when banking policies, procedures, rules and / or regulations change.
- Encourage employees to admit to clients if they do not fully understand a product, service, policy and / or procedure or if they are unable to inform them immediately about certain aspects.
- Encourage employees to consult other bank employees if needing help with client queries.
- Friendliness should be a key value of the bank and should be practically displayed by superior bank employees.

CONCLUSION

Banks should be aware of the fact that a bank ' s interaction with its customers, through employees, influences the effectiveness of the institution ' s *CRM* strategies. Specifically, two variables influence the effectiveness of the CRM strategies in banks, namely the *knowledgeability* and the *availability* of the bank employees. The *knowledgeability* of bank employees with regard to banking products, services, policies and / or procedures and the *availability* of bank employees in each banking branch should be positively adapted in order to improve a banks ' *CRM* .

Strategies to improve, specifi cally, the *knowledgeability* and *availability* of bank employees can and should be implemented by banks in ways to positively influence their relationship with their customers . In effect, this will increase the service quality of the bank. Ultimately, this will contribute to the bank ' s success, which will ensure economic stability and prosperity for a country.

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Appendix 1:

I will have a better relationship with my (any) bank if:

Variables w.r.t bank employees	Rate
Knowledge	
If the employees of my bank know the bank's procedures of delivering services.(procedures)	
If the employees of my bank can advise me on banking products and services. (advise)	
If the employees of my bank can inform me of banking policies and procedures. (Policies)	
If the employees of my bank have extensive knowledge regarding the banking products and services. (Knowledgeable)	
If the employees of my bank can fully inform me on banking products and services.(Inform)	
If bank employees are efficient enough to solve my queries at the earliest.(efficient)	
Availability	
If I find frontline employees on their respective seats,on my visits to bank.(Available)	
If bank employees give me enough time and attention to solve my queries.(Attentive)	
Communication	
If bank employees use , the language (regional) I understand well.(ease)	
If employees use simple (not very technical) language, while communicating with me.(Simplicity)	
If bank employees speaks very effectively and fluently.(Effective)	
Appearance	
If bank employees have a pleasant personality.(Personality)	
If bank employees are good looking and attractive(Looks)	
If employees are well dressed.(Attire)	
Attitude	
If the employees of my bank are friendly and polite.(Polite)	
If the employees are courteous.(courtesy)	
If the employees seem like a coherent family, caring about each other and the institution. (Family)	
If they appear satisfied with their jobs, I wl feel more positive towards my bank.(satisfied)	
If the employees of my bank appear really happy and without stress.(lively)	

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EMERGING TRENDS IN THE GLOBAL VENTURE CAPITAL ENVIRONMENT: A QUALITATIVE ANALYSIS

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VENTURE CAPITAL – PRIVATE EQUITY – CURRENT DEVELOPMENTS

The concept of Venture Capital seems to have been present from the earliest stages of economic development. While the term under which the concept existed may have had a very different perspective, it was the private lending that allowed ancient businesses to develop and flourish. While "economics", deals with the "efficient allocation of scarce resources", the venture capital(ist) is concerned with identifying the most efficient use of surplus capital and how its employment could lead to exceptional financial returns, as well as the best type of economic development, and diffusion and implementation of innovation.

The diffusion of new technologies, and their broader economic consequences, has become an area of critical importance in today's globalized environment. In this environment, the fusion of knowledge in new disciplines with new sources of value creation can lead to the further development and enhancement of key emerging areas such as environmental engineering, industrial ecology, biotechnology and alternative energy resources. By implementing innovative ideas in these areas, a dramatic impact on the environment can be attained, but that can only be accomplished with the aid of Venture Capital.

In order to facilitate the implementation of such innovative ideas, that could have a significant potential benefit on the environment, it is essential that a new *Global Perspective* on venture capital, and the economics of knowledge commercialization, be developed. Therefore, we need to start developing and implementing novel techniques of collaborative research, which will allow such transformations to materialize. Venture capitalists could play an essential role in this process by identifying fresh, disruptive technologies, and the best ways to commercialize them. By providing the seed capital for these original ideas to come to life, the venture capitalists will facilitate the emergence of specialized knowledge, and the creation of value in a world economy that is defined by a maze of new research. Furthermore, policy makers, in their effort to harness the innovative skills and to facilitate the creation of prosperity through the commercialization of existing knowledge, are also becoming an integral part of the process. Establishing a policy framework that is conducive to business development, and providing financial incentives for those willing to employ their capital in areas of relative high risk, will also become a dominant priority.
Only by acknowledging the risk venture capitalists are taking when investing in unproven technologies (that could potentially turn into disruptive technologies) through the implementation of an organized framework, where the examination of the commercial prospects of such original ideas is assisted, will the policy makers contribute to the global effort of innovation. Such framework needs to provide financial incentives through tax breaks for those willing to risk their accumulated capital in areas of high uncertainty. Such framework can be established by shifting the focus from the old "heavy" technologies, towards a more nimble network of knowledge creation, and technology commercialization. In this environment, the cornerstone of a country's innovation policy has to revolve around a true commitment of scarce resources to specialized knowledge. This will lead to an economy that espouses a knowledge-to-value facilitative environment.

In this regard, both the United States and Canada are creating a more relaxed investment environment, where the inflow of cash into Venture Capital funds is encouraged and facilitated through different types of tax incentives. In Canada, the creation of LSVCCs (Labour Sponsored Venture Capital Corporations) is providing a regulatory framework that assists the flow of capital towards funds interested in investing in start-ups and unproven industries.

While the vast majority of the funds in the Venture Capital area are seeking to maximize financial profits, through the tremendous potential disruptive technologies could have, these funds are also playing a central

role in financing small and medium size entrepreneurs, which would otherwise not be considered by the traditional lending organizations, such as banks. A society, which is committed to the development of new ideas, will have act as a facilitating bridge between inventive sources and financial resources and strategies. According to Jim de Wilde, a professor at McGill University in Montreal Canada, "innovation is about market resiliency". Therefore, the mechanics of diffusing information, and the removal of obstacles to developing collaborative knowledge, are becoming key aspects in the strategy of creating value from knowledge. This can be most easily accomplished in innovative economies, or in economies that emphasize the role of knowledge creation and knowledge diffusion. Jim de Wilde is also considering that innovation depends on several factors, among which is the role played by the society in facilitating the interaction process between investment and inventive sources, and commercialization of technology. Furthermore, innovation is dependent upon the existing mechanisms to synchronize corporate strategies with entrepreneurial capital markets, and research organizations.
Here are a few ways in which the development of an innovative economy can be achieved:

1. Encouraging entrepreneurial academic and learning institutions to share knowledge with local and global communities
2. Building creative communities, where multiculturalism becomes a key factor in the information flow
3. Ensuring reduced costs for the knowledge dissemination process through the implementation of world-wide internet access
4. Designing and implementing institutions where science, commerce and imagination connect easily in a facilitative environment

In accomplishing such tasks, the venture capital can play an instrumental role by acting as the glue between these distinct components.
The ability of the venture capital to connect the sources of specialized knowledge with a global knowledge network, will ultimately determine an economy's competitiveness.

In the 21st century the venture capital will have to be concerned more with *backing* winners, rather than its old mandate of *picking* winners. Society as a whole will need to engender the discipline and the commitment to organizations that will allow for an efficient transfer of knowledge among all its individual constituents. The old adage "Information is Power" is becoming obsolete and is being replaced by the new adage that "The Dissemination of Information is Power"! Since the private sector is, in general, far more efficient at eliminating ineffective organizations, and since the venture capital targets (in principle and in particular) the private sector, we could conclude that the role played by the venture capital will continue to be extremely important in identifying the potential economic winners, therefore enhancing the opportunities for success.
In this respect, the efficient allocation of capital resources towards the most productive players becomes the key to a prosperous economy. Such efficiency can be attained only by having the most scientifically educated and business oriented investors, operating within a framework of conducive public policy and a globally oriented capital market.

This will provide financial funding to early-stage corporations and create value from the entrepreneurial environment, therefore enhancing the economic prospect. Most prosperous societies will be the ones, which will widely and effectively disseminate information within a structured quality control mechanism.

While innovation will play a paramount role in the societal development, a significant role will be played by the capital markets and the venture capital markets, which will act as the main distributors of financial resources towards ground-breaking industries and corporations. In this sense, entrepreneurs will have to focus on building companies in spaces where demonstrated specialized knowledge exist.

VENTURE CAPITAL – ROLE

New corporations seeking to enter the economic area require two types of resources; human resources and financial resources. Through their different stages of growth, corporations are looking for the specialized financial support that can aid then in continuing their economic activity.
Main stages of growth exhibited by new corporations are:

- Early – Stage
  - Seed (Angel Investing)
    - Purpose – Proving a concept and raising start-up funds
  - Startups
    - Finance source – Angels and Venture Capital
    - Purpose – Organizing initial marketing efforts
  - Other Early-Stage
    - Finance source – Venture Capital
    - Purpose – Rise in Valuation
- Mid – Stage
  - Shipping products

- Late – Stage
  - Generic late stage
    - Companies reaching fairly stable growth
  - Bridge/Mezzanine
    - Preparing for IPOs within six months to one year
    - Restructuring for stockholder positions

The role of the venture capital investments is to provide financial resources for these companies at the most critical point in their existence, when unproven concepts will not allow such entrepreneurs to obtain funding through traditional sources.
From this perspective, venture capital providers can be considered as being fundamental to the regional/national economic development and competitive strategies. Here, we need to differentiate between strategic venture capital, which provides funding capital to innovative technologies within a competitive global marketplace, and venture capital as a critical ingredient for regional economic development. The former commercializes disruptive and innovative technologies, while the later backs local entrepreneurs for niches within larger markets. As such, these strategies are quite different in both approach and outcomes. In designing venture capital strategies for new environments, we need to focus on local competencies. Through an analysis of the local/regional economic environment, we can determine the most suitable strategy for a particular type situation.

PRIVATE EQUITY RECENT TRENDS

A sea of change is currently under way, as private equity firms examine ways to be more transparent and introduce more formal corporate governance structures. Change is far from uniform; however, a trend is definitely visible.
Private equity is now reacting to greater competition by improving its unique ability to develop portfolio companies' operating performance. Furthermore, private equity managers are focusing on enhancing their ability to create economic value through strategic advice as well as practical assistance in important transitions such as expanding into new countries.
One of the critical issues faced by the Private Equity and the Venture Capital relate to transparency and corporate governance.
This particular industry is in currently in the middle of a dramatic evolution in size and influence. Less apparent though, is the beginning of the change in transparency and corporate governance. This trend will transform the industry from a low profile, private industry dominated by a deal-making culture, into one that conforms to a far greater extent with the norms of the public listed markets.
The industry's greater size and visibility, as well as its potential desire to access public equity markets are seen as major drivers of this trend. However, accounting and regulatory changes are also contributing to the paradigm shift, given the growing need to manage increasing tax risks. Private equity General Partners (GPs) are dealing with this trend in several ways. For example, the UK's British Venture Capital Association (BVCA) is conducting a review of transparency and disclosure with the intention of establishing a voluntary code. Individual groups have started to take actions ranging from enhancing their corporate governance structures through to implementing 'fair value' accounting for portfolio companies. This is a significant departure from previous strategies, which tended to engender value through the unique

skills of its principals. The industry used to focus on acquiring businesses at the right price, improving operational performance and then selling those businesses for a high profit (the Exist Strategy).
In the past, leading GPs have relied on their impressive historical returns to continue to attract capital from investors. However, the industry's growth means that several changes need to be implemented, since competition is becoming far fiercer in this area. Fund raising after hitting record highs in 2007, has started to level off in 2008. Private Equity Intelligence shows global fund raising at US$ 450 – 500 billion in 2007, up from US$ 404 billion in 2006. Such growth has propelled private equity beyond its US roots into Europe and Asia. It is also becoming clear that the UK has developed into a serious player in this sector over the last ten years.
One of the significant trends ensuing right now as the proportion of the economy influenced by private equity grows, is that a larger group of stakeholders are demanding greater disclosure and more corporate governance transparency.
Demands for disclosure are the greatest in Europe, where private equity business models are clashing with Continental Europe's stakeholder models of capitalism.
The wider range of investors involved in private equity funds is also pushing greater disclosure, as well as more formal corporate governance at the forefront of the investing process. In particular, as GPs list Permanent Capital Vehicles (PCVs) on stock exchanges, they will be forced to report more frequently and to a much wider audience.
Some industry leaders now expect most major firms to become public companies over the next few years, this bringing with it a more significant level of corporate disclosure and accountability.
However, industry growth always brings with it a new set of tax risks. As portfolio companies are being acquired in areas disconnected from the acquirer's main area of competency, the holding company structures are getting more complex. Therefore, some tax authorities are challenging these tax structures – most notably, the South Korean and German governments.
Finally, all changes occurring in the accounting practices, as well as the financial services regulation, are forcing companies to become more adaptive to these changes. In particular, the move to 'fair value' accounting is having a significant impact.

SOME OF THE KEY AREAS OF CHANGE

Transparency

While a global move towards greater transparency and disclosure is more than apparent, it looks like this is most immediately evident in Europe, where the BVCA is working towards introducing a voluntary code. Current listings in the United States and Europe of private equity firms and PCVs are leading to increased focus on the quality of reporting financial performance and balance sheet structures, descriptions of how performance has been achieved, directors' remuneration and even the primary risks faced. This is a major departure in an industry, which used to be extremely secretive with such details as fund valuations and Directors remuneration.
Another important driver of transparency is the move towards 'fair value' accounting.
The convergence of worldwide accounting standards in respect of fair value accounting will have a definite impact on the industry.
Historically, private equity firms used to value portfolio companies on a conservative basis, sometimes even equal to the acquisition cost. This had the advantage of allowing them to report smooth returns. Howver, recent developments in accounting standards pushing funds to 'fair value' their investments on an *exit basis* mean that growing numbers are reporting what they forecast to be the potential realizable values of portfolio companies. Fair value, is being defined as 'the price that would be received to sell an asset in an orderly transaction'. As this method of valuation becomes more common, it will lead to greater volatility in reported fund performance. Furthermore, GPs will have to describe why portfolio companies have both risen and fallen in value. They will also have to explain how they have reached a valuation, disclosing in detail the valuation methodology applied.

Corporate governance

An increasing number of GPs are establishing more formal corporate governance structures within their companies. This is being driven by the need to align with international accounting standards.

In particular, this is a necessity for those seeking to list on stock exchanges. In addition, the introduction of Basel II's Pillar 2 requirements, which will affect few GPs directly, is another factor leading to a general improvement in corporate governance in the financial services industry that will definitely be an influencing factor.

Even without these factors, there is greater emphasis on middle and back office areas. A number of GPs have strengthened their teams in these areas. Third party administrators typically carry out many of the back office functions, although the quality of their services offering can vary. Those GPs that seek listings will need to create corporate governance models, if they do not already have them, and make these transparent to prospective investors. Any corporate governance model will need to have formal controls for managing and monitoring the investment portfolio.

This might include systems for prescribed management reporting from portfolio companies. A number of GPs do not, as yet, require portfolio company finance directors to report in a uniform fashion. There should also be controls for managing risks, such as fraud risk within the underlying operating companies.

As the private equity investor base widens, we expect more GPs to commission SAS 70 type reviews of their corporate governance systems. An SAS 70 provides an insight into key control objectives established by management. These can be shown to prospective and existing investors performing due diligence.

Finally, the second pillar of Basel II, which is being introduced in many countries at the beginning of 2008, requires financial services firms to make holistic estimates of the risks they face and to allocate capital accordingly.

Most GPs will escape having to comply with this directly – although it will apply to the few marketing retail investment vehicles. Such developments are generally leading to the creation of more formal risk controls in the investment industry, and may increase investor expectations for private equity to follow suit.

Taxation risks

According to the current (in place) governance structure, GPs have a fiduciary responsibility to ensure that tax-efficient structures are being employed so that returns to investors are maximized.

However, investors are responsible for their own tax affairs in their domestic jurisdiction. Unless this is properly addressed, the risk that investors will be taxed twice remains a great possibility. Potential investors expect to see evidence from GPs on how such probable risk will be mitigated. This is becoming a significant concern to investors as funds invest in a wider range of countries and as governments begin to challenge investing structures.

In South Korea, for example, the tax authorities have recently probed the payment of dividends to a Netherlands private equity holding company. They concluded that because the beneficial owners of the company were not based there, the Netherlands' double taxation treaty with South Korea did not apply. As a result, the tax on dividends paid has increased from 10% to 25%. Similarly, Germany's tax authorities are challenging the status of private equity holding companies established in Luxembourg to acquire companies in Germany. The German authorities currently recognize the validity of these structures, and therefore honor the double taxation treaty between the two countries, only if the companies are substantial business players, and not if they are simple 'post box' corporations.

Several governments have also been looking at the way in which private equity portfolio companies structure their balance sheets, where interest payments have a significant impact on taxable profits, since this could be a leading indicator of potential financial and accounting misconduct.

Value creation

As private equity grows, it is concentrating far more on creating value in portfolio companies through enhancing their profits. Some firms have identified how they can help portfolio companies to improve performance. In general, such firms are providing strategic advice, and are helping with management recruitment, overseas expansion and pursuing economies of scale. At a time when globalization is posing significant challenges for numerous companies, there are many examples of private equity assisting portfolio companies in making the crucial transition to a new environment.

GPs should resift their focus from quarterly earnings of portfolio companies toward understanding the fact that a company's earnings may be volatile. As such, the emphasis will need to be placed on longer-term goals. Several CEOs of portfolio companies have stated that they truly value the insights of the private equity industry. Since GPs operate across jurisdictions and industries and are able to use their unique

expertise to improve financial performance, they can definitely broaden market opportunities beyond traditional domestic focus and increase employment opportunities as a result.
Private equity and venture capital are playing a key role in numerous economies, both in the medium term and in the long term. In particular, this is attributed to the strong alignment of interests between GPs and portfolio company managements. GPs recognize that appropriate financial engineering does not in isolation provide longer-term value creation. Private equity provides significant internal resource and guiding strategy, and facilitates operational improvements at portfolio companies. They are doing this primarily because fierce competition for deals means they have to pay higher prices. Therefore, they have to create value by promoting profitable growth.

FUND RAISING AND INVESTMENT TRENDS

According to a recent survey by PricewaterhouseCoopers regarding private equity investment data from across the world, it is quite apparent that Asia Pacific as a destination for private equity investment is becoming a significant area of growth. Same study also illustrates the generally buoyant level of private equity activity globally.
Demonstrating the increased influence of private equity in Asia Pacific, private equity invested US$29.6 billion in 2005, which was equivalent to 0.29% of GDP. Investment was 68% up on 2004, when it represented 0.21% of GDP.
By comparison, approximately US$136 billion of private equity and venture capital was invested globally in 2005, almost a quarter more than the US$110 billion invested in 2004. As a percentage of global GDP, 2005 investment was equivalent to 0.31%. Fund raising reached a record US$272 billion globally for 2005, up 105% from US$133 billion in 2004.

Source: PricewaterhouseCoopers Global Private Equity Report 2006

RISE OF ASIA AND EMERGING MARKETS

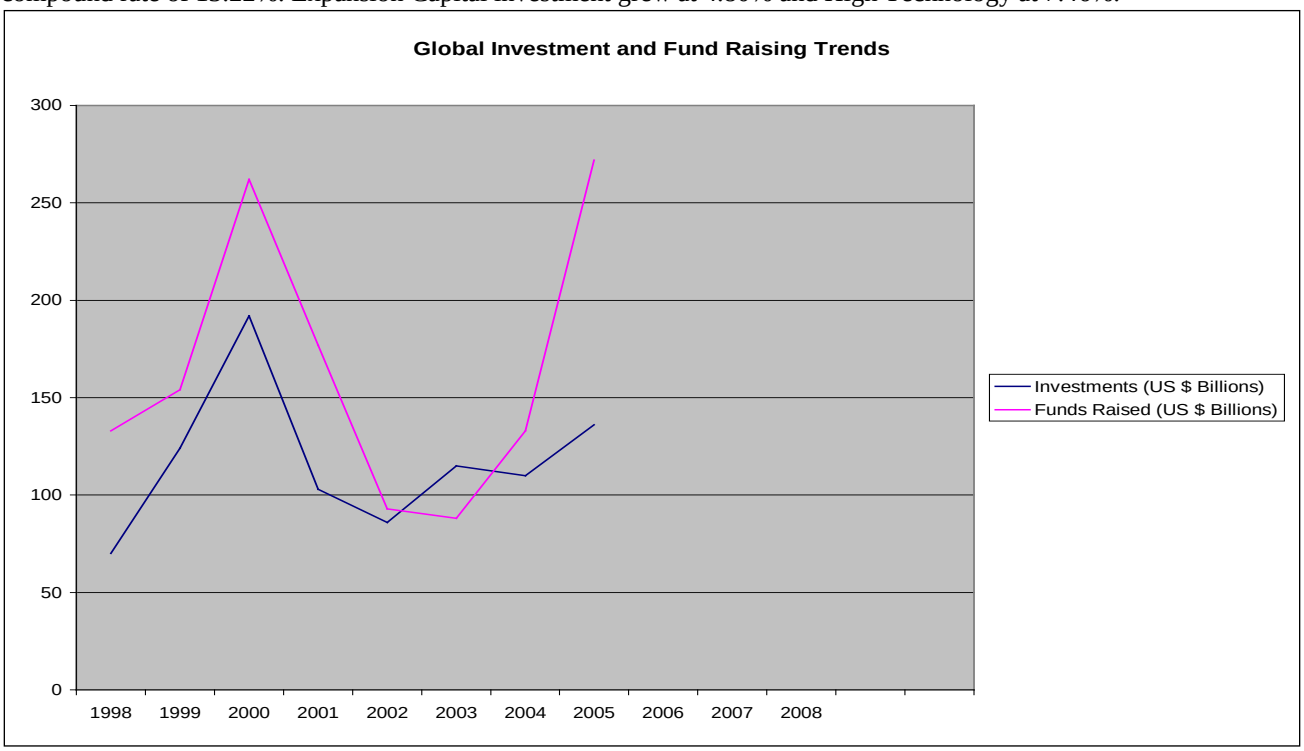
The most striking current trend identified by PWC's analysis is the rise of the Asia Pacific and Emerging Markets as investment destinations. There were exceptional rises in investment in the following countries: China up 328% to US$ 8.81 billion, Singapore up 241% to US$ 4.41 billion, South Korea up 35% to US$ 2.10 billion and India up 45% to US$ 1.94 billion.
The amounts invested in individual countries were small by the standards of today's huge transactions, but they undeniably show a significant shift in investment to developing markets. Investments made exceeded locally raised funds, showing that capital has been transferred from North America and Europe over the study period of 1998 to 2005.
For example, in the Asia Pacific US$ 111.51 billion was invested in the period, compared with just US$ 92.78 billion of funds raised.
North America remains largest market – and home of fund raising North America remains far and away the largest private equity market. The amounts of raised fund soared during 2005 to US$ 160.5 billion, a rise of 87% on 2004's US$ 85.9 billion. More than US$ 47.6 billion was invested in the region in 2005, up only 3% on 2004's US$ 46.1 billion. This was equivalent to 0.35% of North American GDP, marginally lower than the 0.38% figure for 2004. Reflecting its position as the most mature private equity market, the annual compound average growth rate for investment from1998 to 2005 was just 2.60%. Funds raised expanded at a higher rate of 7.63% as the continent exported capital to the rest of the world.
This average masks considerable volatility, with investment peaking at US$ 128.7 billion in 2000 and touching a low of US$ 42.5 billion in 2002. Funds raised peaked at US$ 180.5 billion in 2000, but bottomed at US$ 57.1 billion in 2002.

HIGH TECHNOLOGY AND EXPANSION CAPITAL INVESTMENTS

There were strong increases in technology and expansion capital activity. At US$ 47 billion in 2005, High-Technology investment accounted for 35% of total 2005 investment. Almost US$ 29 billion of Expansion Capital was invested, a rise of 31% on 2004.

Buyouts investments, the largest sector, totaled US $73 billion globally for 2005. While this represented an annual growth of just 9%, Buyout investment had continued to expand steadily through the volatile early

years of this decade. Over the period 1998 to 2005, Buyout investments expanded at an annual average compound rate of 13.22%. Expansion Capital investment grew at 4.80% and High Technology at 7.46%.



Investments: Compound average growth rate = 10.10%
Funds Raised: Compound average growth rate = 10.79%
Note: The data for Eastern Europe, Middle East & Africa and Central & South America has been up-weighted to take account of under-reporting in these regions.
Israel did not raise any funds in 2002, but returned US$145 million
Source: The PricewaterhouseCoopers/Venture Economics/National Venture Capital Association MoneyTree™ Survey / Buyout Newsletter /
Private Equity Analyst / CVCA Annual Statistical Review / EVCA Yearbook / AVCJ Guide to Venture Capital in Asia / Venture Equity Latin America / SAVCA Private Equity Survey / IVC Online

While a four-year period ending in 2007 has been extremely proper to the Private Equity and the Venture Capital industries, recent developments in the financial markets are playing a key role in the potential development of such areas. As financial funds are becoming scarcer, and harder to come by, the venture capital will become more and more selective regarding the corporations, funds will be invested in. This will definitely be detrimental to such activity, and will implicitly lead to a deterioration of activity in this critically important area.

For the venture capitalist to stay proficient, it will need to have a more comprehensive global strategy in order to better identify countries or regions that will present the greatest level of attractiveness for the venture capital. This should be reflected not only by the potential for returns, but also by the tax facilitations put together by the local governments. As noted in an earlier part of this paper, the political environment is quickly becoming a chief factor in the decision-making process, through which the fund manager needs to go in order to identify the best environment where investments should be made.

Furthermore, better understanding how VC business practices are evolving and changing, will lead to a more detailed comprehension of the global investment approaches needed to obtain superior results. The type of outstanding financial returns that VC funds have experienced over the past decade, may turn out to be a thing of the past, therefore, expectations will have to be adjusted and managed accordingly. Given the numerous challenges that VCs encounter in establishing footholds in various geographic markets, GPs will

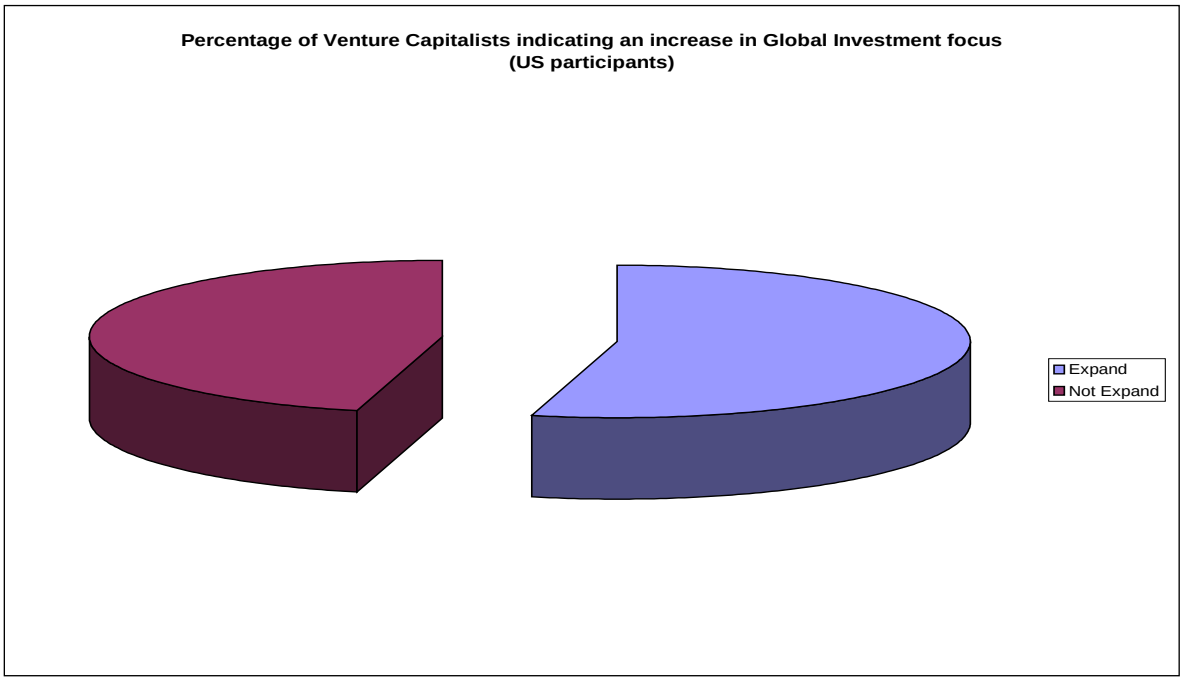
need to become more focused on local realities, as well as financial limitations imposed through taxation and profit repatriation laws.

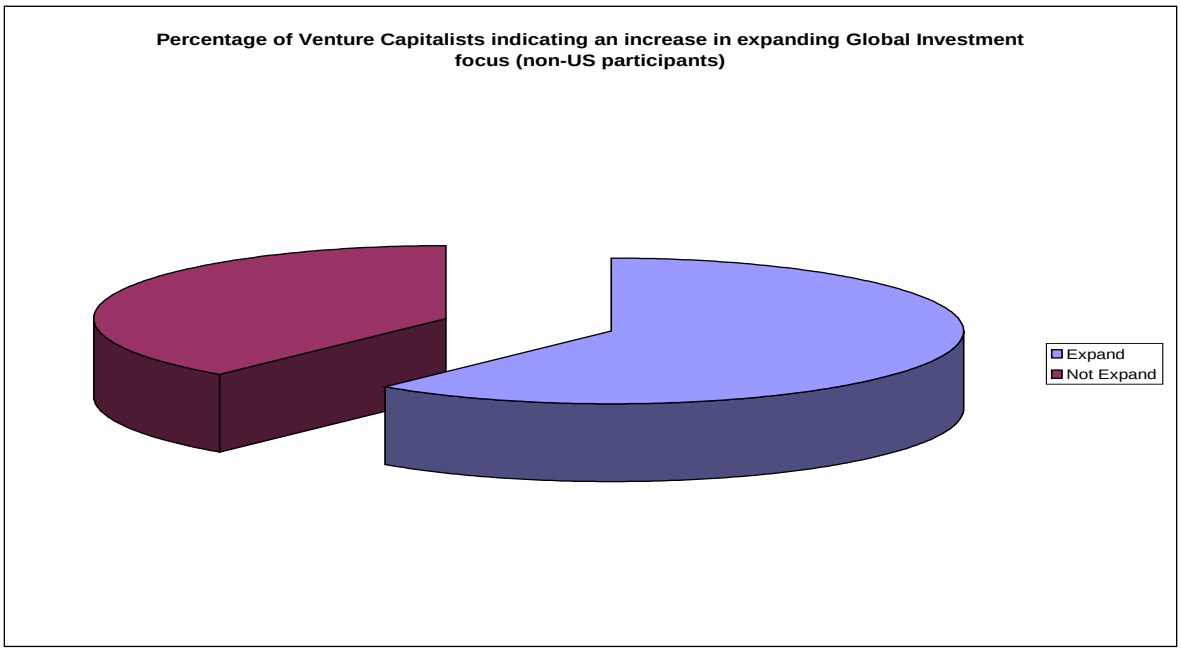
Currently, the venture community remains closely split regarding whether to embark upon a global investment strategy. According to a recent study by Deloitte and Touche, fifty-four percent of U.S. VCs stated that they are *not* investing globally and 73 percent of those do not intend to invest globally anytime soon. Adequate deal flow in their home country was the reason indicated most for not wanting to expand globally.

The intentions for growth of foreign investment currently remain modest at best. Among U.S. investors, 54 percent indicated that they would be expanding their investment focus outside of their home country or region in the next five years, compared with 53 percent in 2006. The enthusiasm was slightly higher among non-U.S. firms, which show an increase to 61 percent this year from 58 percent last year.
The venture community remains closely split regarding whether to embark upon a global investment strategy.

The Deloitte study found that:

"U.S.-based VCs are essentially dabbling in global markets, with the majority of U.S. VC respondents indicating that less than 5 percent of their capital is invested overseas, generally in less than three deals per fund," said Mark Jensen, national managing partner of Deloitte's Venture Capital Services. "VCs are making the majority of their foreign investment in areas with higher quality deal flow, entrepreneurial environments, and access to foreign markets, as well as places where they have experience and thus greater comfort levels."





Source: Deloitte and Touche
Global Trends in Venture Capital '07

Here, we can clearly see how the international /global investors are more interested in shifting the focus towards a potential expansion in the global markets. However, there could be an inherent skewness embedded in these charts, as non-us investors may think about actually investing in the US markets, and considering that as a move toward "global markets".

One of the notable emerging trends in recent years in Venture Capital strategies is for VC firms to take advantage of global opportunities by investing in domestic companies that have global operations. Furthermore, these VCs are now partnering with investors and firms that have a proven record of accomplishment in targeted countries. This provides the VC firm with an opportunity to take advantage of specific market segment, without the major risks and high costs associated with performing a thorough market research for those particular markets.
The study finds that 88% of the VC firms are currently expanding their investing operations in China and India. These two countries have become the hotbed for VC funds, and now attracting a significant portion of the globally existing capital.
Investing in the global markets through domestic proxies, that have an established footprint in the targeted countries, engenders several benefits to VC firms. This is particularly true for the smaller firms who are lacking the resources to manage global investment portfolios. This strategy not only reduces costs but also lessens the concerns over issues such as intellectual property protection, and the challenges of operating in foreign cultures.

Numerous VC firms operating in the global investment industry are highly sensitive and acutely aware of the local culture limitations, as well as of the need to take advantage of in-country expertise. As such, VC firms are now employing more than half of their staff locally so that specific knowledge associated with a particular geographic environment is fully utilized.
The hands-on approach, with having people on the ground, understanding the culture and taking advantage of the local connections, has now become a global imperative for firms looking to get established in those market segments.

In conclusion, taking advantage of global opportunities is not an easy task, as tremendous resources and sophisticated infrastructure is required in order for the VC firm to manage a global investment portfolio and succeed in foreign environments.

Yes, opportunities do exist in markets outside the VC's home market; however, taking advantage of such opportunities requires specific knowledge, significant resources and a superior infrastructure that allows the VC firm to be competitive in those particular markets.

The emergence of entrepreneurial environments, particularly in China and India, creates substantial business prospects for the globally oriented venture capitalist. Investing in such areas has a secondary benefit, that of diversifying investment portfolios not only across industries and organizations but also across geographic environments. Through the deployment of some available capital in the global markets, VC firms are now acting as a lubricant for the development of new and innovative entrepreneurial ideas and concepts that could one day transform into disruptive technologies. The world requires significant advances in key area such as biotechnology, energy, media and telecommunications in order for the population to become more efficient and more productive. A better transformation of the existing resources is required so that the world can advance and reach a sustainable level of living.

Investing in research and development, taking advantage of skills dispersed around the world by employing local work force, and building highly effective network infrastructures, will allow Venture Capital firms to contribute to the development of the global environment. Challenges such as climate change, local taxation policies, profit repatriation constraints, and many others, will always be part of the difficulties with which VC firms will be faced. However, with a concerted effort by local governments and the regulation they can impose, venture capital could play one of the most meaningful roles in the world's development throughout the twenty-first century.

Such collaboration has to be an evolutionary, rather than a revolutionary process, as incremental steps will help everyone cope with the challenges ahead.

Despite the recent turmoil in the capital markets, investors and entrepreneurs alike, need to understand that the best lubricant for the world's industrial machine remains 'the capital'.

"Money makes the world go round!"

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SMES – A ROAD TO ECONOMIC SUSTAINABILITY: A CASE OF INDIA

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ABSTRACT

Small and medium enterprises (SME) play an important role in the development of a country. There are around 26 million MSME units in India, of which 13 million are SMEs. SMEs contribute nearly 45% share of manufactured output, accounting for 40% in overall exports of the country and providing employment to about 32 million people. The performance of SMEs in India though impressive comes next to China where this sector provides employment to 94 million people with a network of 37 million units. SMEs contribute to economic development in various ways such as creating employment opportunities to rural and urban population, providing goods & services at affordable costs by offering innovative solutions and sustainable development to the economy as a whole. SMEs in India face a number of problems - absence of adequate and timely banking finance, non-availability of suitable technology, ineffective marketing due to limited resources and non availability of skilled manpower.
India has registered a high economic growth (6-9%) consistently over the last one decade. For the sustainability of this kind of growth proper nurturing of SME sector is imperative. The need of the hour is to empower the SME Sector so that it is able to take its rightful place as the growth engine of the economy.
The paper throws light on various challenges being faced by SMEs in India at present and tries to find solutions to these problems, so that the SMEs become more vibrant and are able to make forays to new un-chartered areas such as infrastructure etc.

PROLOGUE

SMEs contribution in accelerating the growth of economy has been given due consideration all over the world. The lack of a universal definition for SMEs is often considered to be an obstacle in business studies and market research. SMEs have been defined in different countries in different manner; mostly on the basis of number of persons employed or on the basis of investment made, or on the basis of both. In some of the countries turnover of business is also taken into account in defining a small enterprise. Thus, we find that there is no uniformity in defining a SME. For instance traditional definition in Germany had a limit of 250 employees, while in Belgium it is 200. But, now the EU has standardized the concept. Its current definition categorizes companies with fewer than 10 employees as "micro", those with fewer than 50 employees as "small", and those with fewer than 250 but more than 50 as "medium". In United States, small business is defined as a business with fewer than 100 employees, while medium-sized business refers to those with fewer than 500 employees. Both the US and the EU generally use the same threshold of fewer than 10 employees for micro enterprises. The essence is that small medium organizations are those having 20-500 employees. In India, traditionally SMEs are recognized as Small Scale Industry (SSI) and defined in terms of investment limits which categorize SME sector as under:

TABLE: 1

Manufacturing Sector	
Enterprises	**Investment in plant & machinery**
Micro Enterprises	Does not exceed 2.5 million rupees
Small Enterprises	More than 2.5 million rupees but does not exceed 50 million rupees
Medium Enterprises	More than 50 million rupees but does not exceed 100 million rupees
Service Sector	
Enterprises	**Investment in equipments**
Micro Enterprises	Does not exceed 1 million rupees
Small Enterprises	More than 1 million rupees but does not exceed 20 million rupees
Medium Enterprises	More than 20 million rupees but does not exceed 50 million rupees

CONTRIBUTION OF SMES IN INDIAN ECONOMY

In India, SMEs are not confined to a few specific industries. Some of the major industries where SMEs have a significant presence include food processing, agricultural inputs, chemicals and pharmaceuticals, engineering, electrical, electronics, electro medical equipments, textiles and garments, leather and leather goods, meat products, bio-engineering, sports goods, plastic products, computer software, to name a few.

The small and medium enterprises have grown rapidly over the years and have made significant contribution in the growth, development and progress of Indian economy. The success of SMEs can be seen, based on some of the key indicators namely; existence of number of production units, investment made, production, employment generation, contribution in exports and many more. The growth rates during the first decade of twenty first century have been very impressive. The number of small and medium enterprises has increased from 10 million units in the year 2000-01 to over 13 million in the year 2008. The subsequent table presents data to evaluate the role of SMEs on various parameters.

TABLE: 2
SMES PERFORMANCE IN TERMS OF KEY ECONOMIC PARAMETERS

Sl. No.	Year	Total SMEs (Million)	Fixed Investment (In Billion Rs)	Production (Rs. '000)	Employment (In Million)	Export (In Billion Rs.)	SME Production % share to GDP	Growth Rate of SME sector (%)	Overall Industrial Sector Growth Rate (%)
1	2000-01	10.1	1468.45	261.29	23.8	697.97	13.6	NA	NA
2	2001-02	10.5	1543.49	282.27	24.9	712.44	13.5	NA	NA
3	2002-03	11.0	1623.17	314.85	26.4	860.13	13.9	8.68	5.70
4	2003-04	11.4	1702.19	364.55	27.5	976.44	14.4	9.64	6.90
5	2004-05	11.9	1786.99	429.80	28.8	1244.17	14.9	10.88	8.40
6	2005-06	12.3	1881.13	497.88	30.0	1502.42	15.2	12.32	8.10
7	2006-07	12.8	2132.19	585.11	31.3	1776.00	15.5	12.60	11.50
8	2007-08	13.4	2389.75	695.13	32.2	NA	15.9	13.00	8.00

**Source: Annual Report 2008-09, pg. 16, Government of India, Ministry of Micro Small and Medium Enterprises*

The growth rate of SMEs, when compared against the overall industrial growth rate, infuses a lot of confidence in the resilience of the small-scale sector. During the period 2000-2008, the growth in SME sector has over shadowed the overall growth rate achieved by the industrial sector. In fact, the role of SME sector becomes even more important as the output produced by SMEs is not only for final consumption but also a source of capital goods in the form of inputs to heavy industries.
The total production of the SMEs showed a consistent growth all the way through. The production at current prices experienced a growth rate of around 19% against 17.5% in the previous year, thereby raising its share to India's GDP up to15.9% during the year. Economic activities such as export market, growing domestic consumption, conducive policy measures, improving production methods, technology,

development of SME clusters have fuelled production and hence their share to India's GDP. SMEs have maintained an equal growth rate vis-à-vis the overall industrial sector during FY03-08, which grew at a CAGR of around 17%.

SMEs have a significant role in India's export performance. It is estimated that 45%-50% of the Indian Exports is contributed by SME Sector. Direct exports from this sector account for almost 35% of the total exports of the country. In addition to this, the small and medium industrial units contribute around 15% to exports, indirectly. This comes through the efforts of merchant exporters, trading houses and export houses, and may take the form of export orders from large units or the production of parts and components for use for finished exportable goods. It would surprise many to know that non-traditional products account for more than 95% of the SME exports, currently. The exports from SME sector have shown consistent and high growth during this decade. The product groups where the SMEs lead in exports are sports goods, readymade garments, gems and jewellery, woolen garments and knitwear, plastic products, processed food and leather products.

INSTITUTIONAL SUPPORT TO SMES IN INDIA

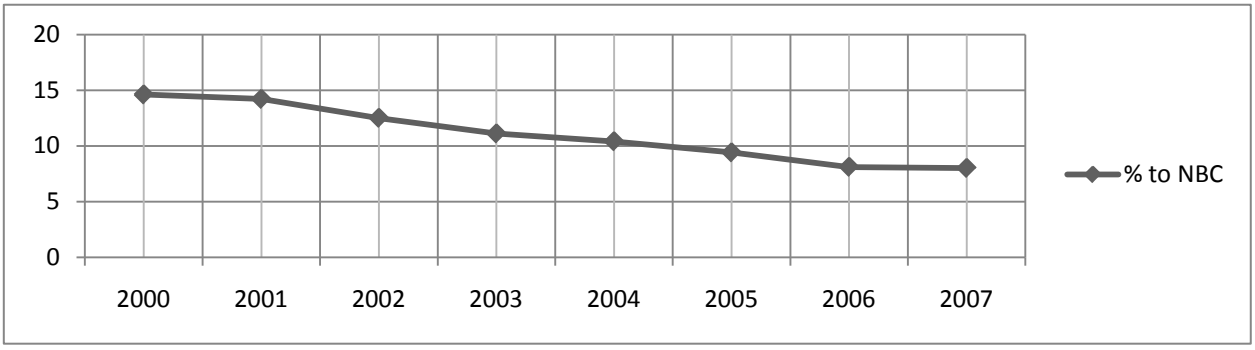
The contribution of SMEs in the industrial development of a country has been outstanding. At the state level, the government has played its part by establishing various institutions to support this sector, which include Small Industries Development Bank of India (SIDBI) as the apex financial institution, Small Industries Development Corporations (SIDCs) and several Centers for Entrepreneurship Development (CEDs). Apart from these state level institutions many more have been set up at the national level to cater to the varying needs of SMEs, prominent among those are National Research Development Corporation (NRDC), and Bureau of Indian Standards (BIS) etc.

TABLE: 3
CREDIT DISBURSEMENT TO SMEs

(In Billion Rs.)

Year	2000	2001	2002	2003	2004	2005	2006	2007
Net Bank Credit	3164.27	3412.91	3969.54	4778.99	5588.49	7187.22	10176.14	13177.05
Credit to MSEs	460.45	484.00	497.43	529.88	58,2.78	676.34	824.92	1047.03
% to NBC	14.6	14.2	12.5	11.1	10.4	9.4	8.1	8

**Source: http://www.laghu-udyog.com/thrustareas/CREDIT.htm (accessesd April 4, 2010)*



OBSTACLES FACED BY INDIAN SMES

Since the early 1990s, Indian SMEs have been exposed to intense competition due to increasing globalization. This has made survival and growth of this sector difficult, coupled with some of the persisting problems such as non-availability of loan finance; outdated and low levels of technology usage; inadequate physical and economic infrastructure and a truncated policy of product reservation.

LACK OF ADEQUATE & TIMELY FINANCE

A majority of small and medium enterprises in India belong to the entrepreneurs with limited resources. They are innovators, challenge-seekers and hard working people but face problems in arranging funding for their ventures. Commercial banks, traditionally, are reluctant to lend to new entrepreneurs in the absence of adequate collateral security. The lack of timely and adequate loan financing from the organized institutional sector is the most dominant constraint facing the small enterprise sector in India today. This is despite clear guidelines from the Reserve Bank of India (the Central Bank of the country) and the Ministry of Finance to encourage flow of funds from commercial banks to small enterprises. For this purpose, one major policy initiative of Reserve Bank of India is fixing lending targets for the 'priority sector', which includes SMEs. The table 3 above presents data compiled by the MSME ministry on banks' lending to the SME sector. The total credit to SMEs from scheduled commercial banks stood at 8 % of NBC as on March 2007 against the RBI's recommendation of 16%, The Net Bank Credit (NBC) to SMEs stood at Rs 1047.03 billion against overall NBC of Rs 13177.05 billion as on March 2007. Though there has been an increase in the quantum of advances to SMEs, there has been a dip in percentage terms. The share of this segment declined to 8% of NBC in 2007 as compared to 8.1% in the previous year.

INFRASTRUCTURE

The quality of infrastructure determines the growth prospects of SMEs to a great extent, especially in a developing country like India where around 62% of the population lives in villages. Many rural areas still suffer due to deplorable state of basic infrastructure like electricity, transport and telecommunication. The integration of rural industries of artisans by way of handicrafts etc with mainstream industries is proving to be difficult for these reasons. This, in fact has been identified as a key deterrent to the growth of SME clusters in rural areas. Thus the need of the hour is to improve the basic infrastructure which apart from access to dependable supply of electricity includes improved roads, railways and port facilities.

TECHNOLOGY

Most of the SMEs, especially in rural areas, undertake production with old and outdated technology. These technologies are neither cost effective nor helpful in providing quality products. Thus, SMEs suffer from lack of technological support for upgrading the product quality on one hand and lack of economies of scale on the other hand. Technology for SMEs should aim at fuelling innovation and business agility. They should be easy to integrate with the existing system and processes, and leverage on communication and information technology developments in the country. Developing home grown technologies by research laboratories and its adaptation by SME entrepreneurs is very critical for the growth of this sector. Since there is a huge unfilled demand fuelled by the rising incomes of the middle class, there is tremendous scope of growth of the SMEs focusing on domestic market. The government on its part can play a role in facilitating technology transfer from developed countries through multilateral trade negotiations under the umbrella of the World Trade Organization.

PRODUCT RESERVATION POLICY

The industrial policy of the government wherein a large number of items, 114 products as on March 2007, have been reserved to be specifically produced by small and medium sector is in fact turning out to be a bottleneck for the growth of SME sector. Frequent changes in the reserved products list, often influenced by political and vested interest groups create uncertainties which are not conducive to growth of the sector.

NEW PRODUCT DEVELOPMENT

The growth of SMEs is hampered due to lack of new product development activity. In India, most SMEs work on the design given to them by domestic or foreign buyers. There is very little innovation on product design and process development. This affects the productivity levels, limits customer base and the profit margins. Lately, some of the SMEs have started realizing this and are now giving due emphasis to product development area.

LACK OF INFORMATION ON MARKETS & SUPPLIERS

One limiting factor in the growth of SMEs is the availability of adequate information. SMEs, due to their limited resources are not able to employ skilled people who can provide them updated information on market trends, buyers & suppliers etc. For the same reason SMEs are not able to attract talented employees in other disciplines such as production, marketing, finance and research & development etc. The absence of CRM system also reduces the competitiveness of the SMEs in rural areas as they fail to get much needed information about prospective customers.

MEASURES TO ENERGISE SMES

Though the SME sector has been doing well and has been playing an important role in the economic development of the country, it still suffers from some major problems as above which hamper its progress. With a view to make SMEs more vibrant and strong a few remedial measures are suggested below.

PROVIDING TIMELY AND ADEQUATE FINANCE

The non-availability of timely and adequate funding is the biggest challenge that SMEs face today. The government and RBI can provide a policy environment friendly to SMEs such that these units can get access to much needed financing and other banking facilities. Soft loans say 200-300 basis points cheaper than normal lending rates, as in the case of exporters might be adopted. This would provide a competitive edge to SMEs and be helpful.

ENHANCING COMPETITIVENESS

Special efforts to enhance the competitiveness of SMEs by way of reducing cost of production, improving product/service quality and targeting niche markets are needed urgently. The government has taken an initiative by in this direction by creating National Manufacturing Competitiveness Council (NMCC), which would identify and focus on certain clusters and firms in certain promising sub-sectors. The interventions would include technology upgradation, design and IPR protection, marketing and sales promotion strategy and skill upgradation etc.

QUALITY AWARENESS AND INNOVATION

Yet another area which needs immediate attention is focus on innovative techniques relating to quality upgradation of products manufactured and produced by SMEs. An overall environment that promotes innovation and focuses on product/service quality is a key to success of this sector. While it is well recognized that product/service quality determines the competitive edge of SMEs, Indian SMEs, with a few exceptions, are yet to gear up to face the challenge. A recent policy measure to address this issue is creation of Technology Bureau for Small Enterprises (TBSE) which would facilitate greater number of SMEs to improve the level of technology.

PARTICIPATION IN GLOBAL MARKETS

With a view to strengthen SMEs more efforts should be made to encourage them to participate in international trade fairs so that SMEs can tap the global market, get international exposure, analyze their deficiencies and work upon it. SMEs should take advantage of Market Development Assistance (MDA) schemes of both the Ministry of Commerce and Ministry of MSME which offer funding support for participation in international fairs, study tours abroad, trade delegations, publicity, etc.

PROMOTING PUBLIC-PRIVATE PARTNERSHIPS

A public-private partnership model where the Government approaches domestic and foreign corporations to provide guidance and assistance to promising SMEs should be developed. Such partnerships can take various forms, including training facilities, technology centers, research and testing labs, scientific hubs, investment funds, incubators to mention a few.

CLUSTER DEVELOPMENT PROGRAMME

It has been the experience globally that the cluster approach to development of SMEs works well due to several reasons. A Cluster Development Programme was launched in India by the UNIDO in 1997, promoting clusters as a strategy to enhance the competitiveness and to participate in the global value chain. Signifying the importance of this programme the 11th Five Year Plan document states that "A cluster approach can help increase viability by providing these units with infrastructure, information, credit and support services of better quality at lower costs, while also promoting their capacity for effective management of their own collectives"

EPILOGUE

SMEs in India face a lot of problems; be it related to infrastructure facilities, financial inadequacies or lack of policy support from government. However, their role and contribution in providing employment and source of livelihood to millions of people is vital. SMEs share the burden of government in employment generation. Also, through their exports SMEs provide precious & scarce foreign exchange to the government. It is high time that serious efforts are done to attend to the problems of this high performing sector, so that they can sustain the pressure of international competitive environment. SME sector has the potential to become the backbone of Indian economy and it should be energized and strengthened at all costs before it is too late.

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ENTREPRENEURSHIP DEVELOPMENT AND ECONOMIC GROWTH IN INDIA (AN ANALYSIS OF A FEW SUCCESS STORIES)

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ABSTRACT

The study of entrepreneurship has relevance today, not only because it helps entrepreneurs better fulfill their personal needs but, also, because of the economic contribution of the new ventures. More than increasing national income by creating new jobs, entrepreneurship acts as a positive force in economic growth by serving as the bridge between innovation and market place. This paper is describing the challenges of entrepreneurship development in India and the economic contributions of entrepreneurial sector with various success stories over a period of time.

Keywords*: National Income, Entrepreneurship, Economic Growth.*

INTRODUCTION

The entire change and transition in the civilization to a large degree is the result of industry, commerce and trade. In this transformation process, the role of human resources and entrepreneurship is very significant and contributive to the national economy at large. In the wake of economic liberalization, the national markets are getting integrated with international markets at an increasing pace. New opportunities are emerging at a fast pace. Old economy is being replaced by new economic order. This calls for not only a more innovative approach to look at the emerging competition but also necessitates change in business processes.

The small-scale industry (SSI) constitutes a very important segment of the Indian economy. The small scale industry sector has emerged as a dynamic and vibrant sector of the economy. This sector has, over the past six decades, acquired a prominent place in the socio-economic development of the country. The sector has witnessed positive growth trends even during the periods when other sectors of the economy experienced either negative or nominal growth. The liberalization and economic reforms have created tremendous opportunities for the growth of SSIs. In this changed environment, the SSI sector needs to integrate itself with the overall domestic economy and global markets by gearing itself to greater interdependence by networking and subcontracting.

Entrepreneurship development today has assumed special significance, since it is a key to economic development. The objectives of industrial development, regional growth, and employment generation depend upon entrepreneurial development. The objective of this paper is to analyze the role of entrepreneurship development in the economic development and few success stories of Indian entrepreneurs.

ENTERPRENEURSHIP AND ECONOMIC DEVELOPMENT

Entrepreneurship is being responsive to the needs of our times. The non-economic motivational underpinnings of entrepreneurial activity revolve around its passion of accomplishing its mission, ability to incorporate innovation, strive to create impact on the society and economy of the country. These are the very basis for entrepreneurship. Over a period of time the various innovations in new management paradigm have come across the new business world, the differences between both i.e. old paradigm and new paradigm are the major reasons for the development in business sector in the current era.

	Old Paradigm	New Paradigm
Key Industries	Oil, mining, steel, vehicles, railways, shipping	Computers and software, biotechnology, personal and financial services
Key Resources	Energy, labor	Information, knowledge, and Talent
Technology	Power trains, machine tools etc.	Information technology
Product Life Cycles	Measured in decades	Measured in years or months
Trade Pattern	International	Global
Working Day	8 hours	24 hours
Communication Media	Letter, telephones, fax	Mobile devices, email, Internet and Intranet
Organization	Centralized, hierarchical, functional	Devolved, flat, flexible
Work Force Characteristics	Mainly male, semi-skilled or unskilled	No gender bias, high proportion of graduates

As per the comparison of old and new management paradigms, it is clear that the today's world is of Information technology, high speed network connectivity, educated professionals and 24 hrs working capacity at a global level trade. Due to these innovative changes in the entrepreneur sector, it has come to play an all important role in the development of Indian economy. Some of the positive contributions of entrepreneurship sector are:

- Entrepreneur provides employment and job training to various segments of society which have many employment disadvantages, such as the long-term unemployed, disabled, homeless, at-risk youth and gender-discriminated women. Some entrepreneurs act as an "intermediate between unemployment and the open labor market"

- All kinds of entrepreneurs whether business or social are innovative by nature. They not only invent new things but also introduce new ways of looking at or using existing things. Creativity for entrepreneurs is a continuous learning process.

- Next to economic capital one of the most important values created by entrepreneurship is the social capital. Social capital is the most important form of capital created by entrepreneurs because economic partnerships require shared values, trust and a culture of cooperation which is all a part of the social capital.

- Limited resources for entrepreneurs do not pose a hindrance to their desired end. They augment scarce resources by exploring options such as adding partners, collaboration and soliciting aid from philanthropists. They develop strategies that promote and enhance their missions or the objectives they seek.

As per the World Bank-IFC Doing Business Reports, India is achieving growth in the development of Entrepreneurial business over a period of time. As per the analysis of 181 countries of the world, India has been ranked at 122 in 2009.

INDIA IMPROVED 16 PLACES OVER FOUR YEARS

Year	Rank
2009	122
2008	120
2007	134
2006	138

Source: World Bank-IFC Doing Business Reports

The above ranking is made on the basis of 10 parameters i.e. Number of start-ups , employing workers, Registering property, getting credit, protecting investors, paying taxes, trading across borders etc. India's economy has been growing at an astonishing pace. Today, our economy ranks higher than those of France, Italy and the United Kingdom. Our GDP is the third largest in Asia. Among emerging nations, it has the second largest economy. The liberalization of the economy in the 1990s has enabled a huge number of people to become entrepreneurs. The scene for Indian entrepreneur is ideal. If he can seize the current opportunity, he can succeed not only in India but globally also.

Su -kam and its founder managing director Kunwar Sachdev is a text book example of what it takes to create not just a business, but an industry. Beginning with nothing more than an idea and Rs.10000 as capital, today Su-Kam is the biggest Indian corporate in the power backup industry. Last year they had revenues of around Rs.600 crores. They have a presence in more than 50 countries, employ 1200 people across 23 offices, have 6000 plus network partners, and aspire to touch 50000 network partners or dealers over the next three years. They have more than 50 percent market share in the organized sector.

In 1997, Kunwar decided to manufacture the inverter after getting fed up with the poor performance of his home invertors. At that time, Kunwar was in the profession of Cable TV and manufacturing the various cable parts. Without any technical background he and his team of Cable TV engineer studied almost all the invertors available in the Indian market. They realized that all invertors had the same ineffective capacitor technology that made them so unreliable. The successful inverter company at that time was only Videocon. But it was more suitable for the stable power conditions of the developed nation than for India. When Kunwar launched his first inverter he knew his current team of cable TV engineers would not be able to innovate further or develop new technology. So he needed to hire other technical people.

Today one of his R&D heads is one of the missile people. His head of production is from the automobile industry. With the help of the professionals, he manufactured a MOSFET inverter in 1998. MOFSET is a Metal Oxide Semiconductor Field-Effect Transistor, device used to amplify or switch electronic signals. With this technology he reduced the size of the inverter to one fourth, thereby reducing cost, improving efficiency and enabling it to use one battery instead of two.

After the MOFSET inverter in 1998, in 2001 kunwer launched first sine wave technology invertor. Sine wave gave a pure form of power that could run sensitive appliances. In 2002, he invented plastic body invertors, which were unique in India. With the help of GE plastic company he was able to produce the invertors, which were sufficient to work at high temperature. In 2003, the next
success for SU-Kam, came when Kunwer decided to integrate two separate power backup devices, the invert and the UPS and made a Home UPS. In 2005, Su-Kam launched the high frequency sine wave inverter, which had further shrunk the size of the inverter and provided a very high quality of pure power.

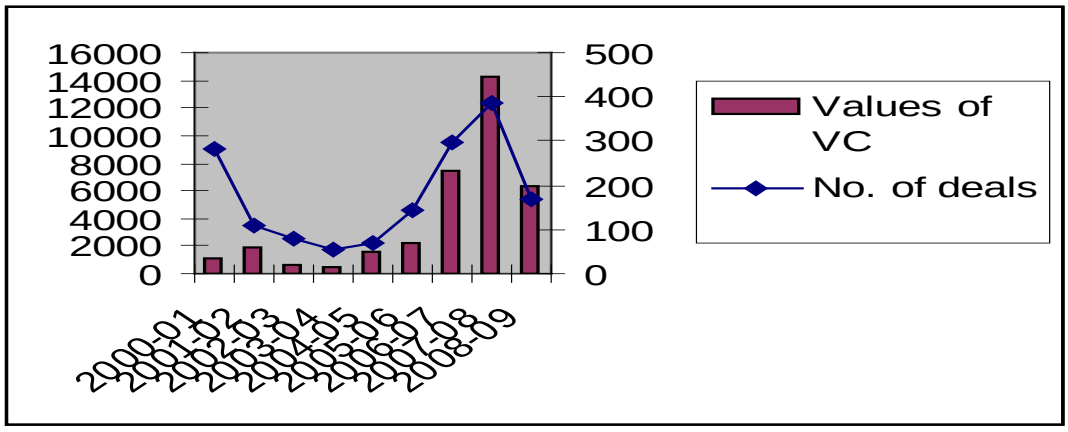
Su-Kam doesn't only produce hardware. It also produces the software to run it.. The first is the PowerDoc Monitoring system, which helps in remote monitoring all the larger KVA products sold by Su-Kam. The second breakthrough innovation is the Recall Software through which a Su-Kam servicing or maintenance man can find out the problems, without having to open the invertor. Today Su-Kam is the first company in India and the second in the world that has boast of a 100-KVA inverter.

Apart from all, these Kunwar also invented various new marketing strategies for the promotion of his product at minimal cost. He managed to put up the banner and hoarding of Su-Kam on the all the Dhabas and Tea Stalls on the road side. In other words, Su-Kam was also the first in the power backup industry in India to start strip advertising in the classified columns to save cost. By these innovative ideas and practices, Su- Kam is one of the world renowned brand of invertors battery. Su-Kam is the only organization in the industry with an R&D unit certified by the Department of Scientific and Industrial Research, Government of India. Similarly in spite of facing various challenges, with his handwork, innovative ideas and practice he became a world renowned inverter manufacturing entrepreneur.

CHALLENGES FOR ENTREPRENEURSHIP DEVELOPMENT IN INDIA

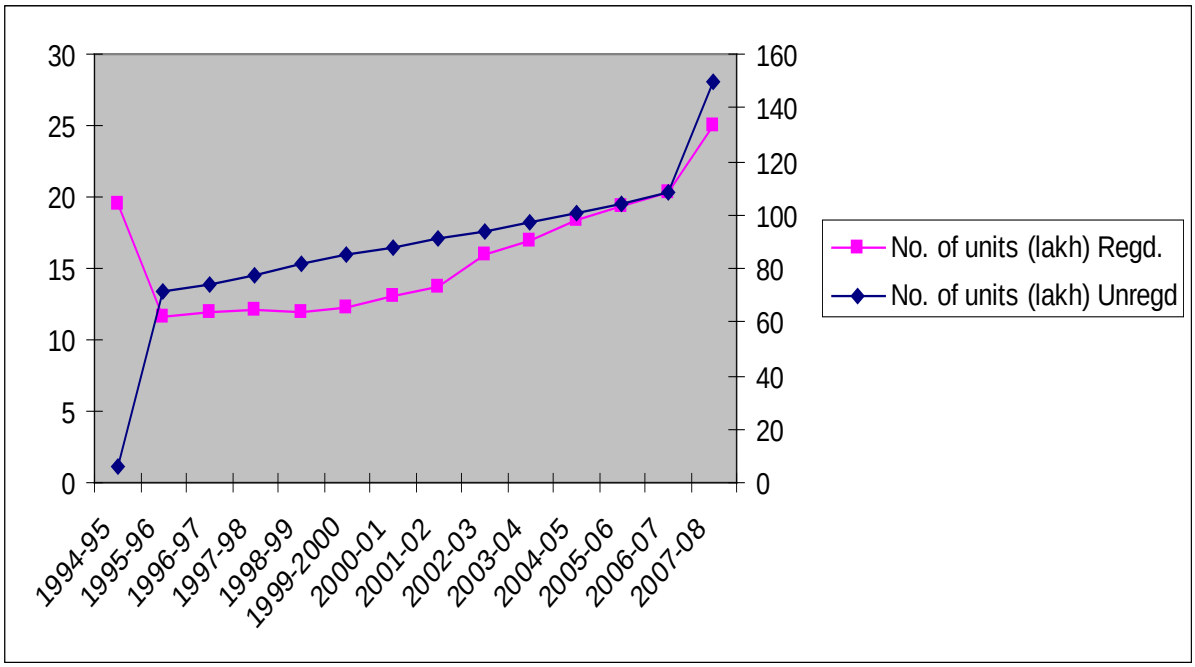
Venture Capital Fund: For a long time, Indian entrepreneurs have had little access to capital. It is true that in the last few years, several Venture Funds have been introduced in the Indian Market. And, while the sector is still in infancy in India, due to the following reason

- The restrictive legal and financial framework
- There are no private pools of capital of finance risk ventures in India.
- No private sector insurance companies and no private banks willing to devote a small portion of their resources to the venture capital projects
- Small companies have no access to share capital or long term debenture capital
- Venture capital financing involves funding of relatively new projects with no proven record in market acceptability.



Lack of controlling authority The number of venture capitalists or angel investors in India is very low. Another factor that has been hindering entrepreneurship in India is the lack of mentors – very few success stories which could inspire youngsters to become entrepreneurs. As per the figure given below, the comparison of registered and un registered units shows great difference between the growth of opening registered govt. and non-registered entrepreneur over a period of time.

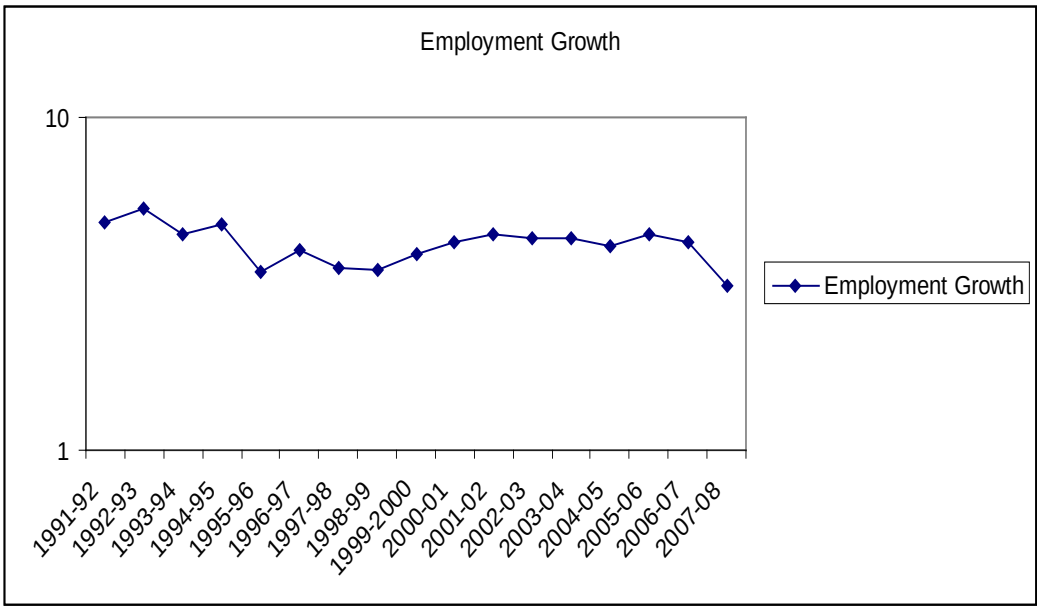
Year	No. of units (lakh)	
	Regd.	Unregd
1994-95	19.44	6.27
1995-96	11.57	71.27
1996-97	11.99	74.22
1997-98	12.04	77.67
1998-99	12	81.36
1999-2000	12.32	84.83
2000-01	13.1	88
2001-02	13.75	91.46
2002-03	15.91	93.58
2003-04	16.97	96.98
2004-05	18.34	100.35
2005-06	19.3	104.12
2006-07	20.32	108.12
2007-08	25	150



People Psychology about the Risk. People normally look for long-term and stable employment, such as government and public sector jobs. There is an urgent need to overhaul the physical infrastructure. Social Attitudes, lack of capital, inadequate physical infrastructure and lack of government support are major factors hindering entrepreneurship in India. It is worth noting that there is greater willingness among people to invest capital in enterprises that are already established than in startups.

Option as a Career: The majority of young people coming out of colleges are inclined towards the IT sector, starving other sectors of critical talent. Most of the talent available in the country is considered to be mediocre and technical talent is scarce. They choose the entrepreneur as an optional due to the non availability of other career options. An entrepreneur's entry into business does not guarantee the survival. Attrition rate for new entrepreneurs

is very high in many countries of the world. While this may be because of their chosen business inappropriateness or a lack of the adequate technical or business expertise, one critical reason is the overall macro and micro environment in which they are forced to operate.



Right Environment for Success: Entrepreneurs should find it easy to start a business. To do so, most Indians would start slow with capital borrowed from family and friends, the CEO playing the role of salesman and strategist, a professional team assembled months or perhaps years after the business was created, and few, if any, external partners. A major challenge for India is to create a handful of areas of excellence- the breeding ground where ideas grow into businesses.

Apart from all the challenges and hindrances in the way of development of entrepreneur business sector, it is clear that entrepreneur business success is based on the will power and self motivation of the individual, who starts it. As in the case of Shantha Biotechnology, this is related to the success of producing Hepatitis B Vaccine first time in India. It was initiated by Varaprasad Reddy with the object of saving Indians from such a chronic disease at an economical price. Therefore, he started his enterprise in the memory of his mother, "Shantha Biotechnology Lab" in 1993. His idea of opening Shantha Biotech was inspired by the incapability of most of the Indians to purchase the costly medicine of Hepatitis B and the shocking death rate of around 3.5 lakh people.

Varaprasad had faced many obstacles on the way of his work progress. In the initial years, he didn't get any help from India except from Bank of Oman as a help of Rs.190 lakh. But with his sheer determination, he took these positively and started for his mission more enthusiastically with the collaboration of medical academician of Osmania University.

Because of his passion, dedication and optimism for success he did not hesitate to present himself voluntarily for the r.DNA vaccine test along with his 18 staff members on Aug 18,1997. This bold gesture of Varaprasad highlighted him as a milestone in the field of Medical Sciences by providing the costly medicine of Rs 520 at Rs 15 in India, even though he was not from medical back ground. So at last, but not the least Indian Medical Association also came forward to support his achievement in this gracious field of Medical Science. Today Shanvac is a vaccine which is being used by the WHO and is also selling in the US.

FUTURE OF ENTREPRENEURSHIP IN INDIA

Both the Central Government and various State Governments are taking increased interest in promoting the growth of entrepreneurship. Individuals are being encouraged to form new businesses and are being provided much government support as tax incentives, buildings, roads, and a communication system to facilitate this creation process. Every State Government should develop its own innovative industrial strategies for fostering entrepreneurial activity and timely development of the technology of the area. The states should have their own state-sponsored venture funds, where a percentage of the funds has to be invested in the ventures in the states.

Society's support of entrepreneurship A major factor in the development of this societal approval is the media. The media should play a powerful and constructive role by reporting on the general entrepreneurial spirit in the country highlighting specific success cases of this spirit in operation.

Some Initiatives by Latest policy for Small Scale Entrepreneurship Development

1. Announcement of a new credit insurance schemes in the Budget for providing adequate security of banks and improving flow of investment credit to SSI units, particularly export oriented and tiny units.
2. To increase the reach of banks to the tiny sector, lending by banks to non-banking financial companies (NBFCs) or other financial intermediaries for purpose of on lending to the tiny .
3. Exemption from excise duty, as given to SSI units, will be extended to goods bearing a brand name of another manufacturer in rural areas.

The study of entrepreneurship has relevance today, not only because it helps entrepreneurs better fulfill their personal needs but, because of the economic contribution of the new ventures. More than increasing national income by creating new jobs, entrepreneurship acts as a positive force in economic growth by serving as the bridge between innovation and market place. There is another story of Successful entrepreneur, who did not only set a milestone in the field of medical science but also contribute hugely in the country development of country in a magnificent way. Arvind Eye Hospital is an internationally recognized institution best suited to make not just a dent, but a grand canyon in the world of blindness. This was the dream of a frail, retired professor of Ophthalmology at Madurai Medical College Dr Goindappa Venkataswamy or Dr V. He started his career as a gynecologist but soon fell ill and was bedridden for two years.

After illness his fingers crippled and he was not in a position to use the heavy instrument required for gynecological surgery. Then he took up Optithamology and went back to medical school. After graduation he joined Government Services. As a professor In 1961 Dr. V started an eye camp, he and his team of doctors traveled hundred of kilometers deep into Rural Tamil Naidu to diagnose the patients and conduct cataract surgeries there. They also went to the villages around Madurai and operated the people who had lost their sight due to cataract.

After retirement in 1976 at the age of fifty six, he started an eye hospital at his hometown with his sister Dr. Natchiar & her husband Dr Nam. In few year Dr. Nam's sister & her husband also joined & the team now comprised of five members. Dr.V's brother G.Srinivasan, an engineer took charge to construct and finance the hospital. Every day's earning was ploughing back to the construction of Arvind hospital. Similarly in 1977 'Arvind' was set up with thirty beds, it was raised to 100 in 1978 and in 1984 it was expanded to 400 beds.

The Social strategy of the Arvind in 1988 at Tirunelveli setup was for 135 paying & 400 free patients. In 1991 this facility in Madurai was expanded to accommodate 280 paying and 1100 free patients. Similarly, the Arvind hospital achieved the tremendous growth in the field of Ophthalmology over a period of time. In 2005 Vision centre was formed to serve 50000 rural people, now the current number of vision centers is 30.In 2007 Arvind started with new state of the art manufacturing facility, inaugurated the manufacturing of intraocular lenses, sutures blades & other products used in eye care and set up an Arvind Managed Eye Care Service Division to manage eye hospital in the other parts of the country.

As in case of Intraocular lens, which were prohibitively expensive i.e. $100 each, Dr. V & his team decided to manufacture the lenses at a lower cost for their patients. The technology was obtained from American Company by paying one time price and now the Arvind has achieved the success to produce around 1.2 million lenses in a year. Now the price of this lens is $4 for Non Profit Organizations and $8 for Profitable organization. In addition to lenses, Aurolab (Associate of Arvind) also manufactures sutures used in cataract and eye surgery. Now, its cost is one fourth the price of imported sutures. Aurolab is manufacturing twenty six types of ophthalmic drops.

Dr. V went to US & encountered Mc Donald's restaurants with their assembly line operations & standardization. He decided to adopt the same techniques of assembly line to make radical differences. An average Ophthalmologist operates on 250 to 400 patients a year. But by using Mc Donald inspired assembly line technique, it operates on 2000 patients a year, such operational growth has been achieved by doing surgery simultaneously at four operation beds in an operation theater with two doctors & four nurses.

Arvind eye hospital is currently doing 286000 surgeries a year. Dr.Arvind talks about scaling this to one million by 2005.Similarly Arvind hospital is committed to provide standardized quality services at the lowest cost. The latest World Bank report states that approximately 350 million people in India currently live below the poverty line. In fact, many people with low spending power simply lack access to basic services due to a variety of reasons ranging from apathy to scarcity of resources. These are the gaps which need to be filled by the entrepreneurs.

CONCLUSION

Apart from all the challenges and hindrances in the way of development of entrepreneurial business sector, it is clear that the entrepreneurial business success is based on the will power, self motivation of the individual, who starts it. In all the above said cases all the heroes of the stories did not have that kind of business background in the field in which they got success. Entrepreneurship must be developed and supported so that there is a proliferation of SMEs in the country. The decision to start an entrepreneurial venture consists of several sequential steps (1) the decision to leave a present career or lifestyle. (2) the decision that an entrepreneurial venture is desirable; and (3) the decision that both external and internal factors make new venture creation possible.

Entrepreneurship is not a panacea because it works within the overall social and economic framework, but as it starts at the grassroots level it is often overlooked and deserves much more attention from academic theorists as well as policy makers. This is especially important in the developing countries and welfare states facing increasing financial stress.

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THE BANKRUPTCY AS AN OPTION FOR RESTRUCTURING: AN ANALYSIS OF THE STRATEGIC RE-ORGANIZATION AND RESTRUCTURING UNDER THE PROTECTION OF THE BANKRUPTCY LAW

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INTRODUCTION INTO BANKRUPTCY

The word bankruptcy comes from medieval times when merchants had their marketplace benches broken if they couldn't make their payments on time (Sarra, 2003). Over the last century there has been a struggle to change the image of "all bankrupts, who were considered defrauders and criminals (Britania, 2009)." Bankruptcy is now an option not an ending. Companies are generally aware that they are in financial trouble so most bankruptcies are volunteered. Thus, restructuring is a more optimistic option for those wanting to remain in business and continue operating successfully.

The government wanted to offer a way to prevent complete liquidation of corporations. The federal government passed the Companies Creditors Arrangement Act (CCAA) to help companies near bankruptcy to restructure their financial affairs and also allow creditors to receive some form of payment for amounts owing to them. Thus, companies must owe over five million dollars to their creditors before they can file under this act. Then, they become protected from creditors under the act for thirty days with the opportunity for extension. Part of this act requires the company to create the Plan of Arrangement, which defines how companies plan to pay back their creditors and when. The final steps are to have the plan approved first by a group of creditors and then by the court (Pricewaterhouse Coopers, 2009). For smaller businesses there is an option to file under the Bankruptcy and Insolvency Act, which requires the amount owing to be over one thousand dollars. Between these two acts some form of government assistance should cover everyone having financial difficulties.

The aviation industry is a prime of example where in order to succeed sometimes companies must first fail. The given background on bankruptcy should make it easier to understand why Air Canada was able to restructure and continue operation and became the leader in the industry and should continue to be in the future.

ANALYSIS OF THE AVIATION INDUSTRY

The external environment of the aviation industry can be analyzed in three different sections. First, we look at the General Environment, followed by the Industry Environment (Porters 5 forces) and finally we will analyze the competitor environment.

THE GENERAL ENVIRONMENT

The general environment is composed of economic, technological, demographic, political, socio-cultural and global factors. Firstly, economy plays a major role in the aviation industry considering the fluctuation in oil prices that has a huge effect on airlines. Additionally, recessions or downturns affect a major decrease in traffic, while the opposite occurs during economic slowdowns. Secondly, the technological development such as online reservations (CRS), instant check-in machines and multimedia equipment onboard aircrafts has major effects on the industry. Thirdly, the changing demographics had a major influence on the aviation industry due to increased number of younger travelers; retiring baby boomers are travelling more than previous generations due to flight availability and destination development. From the political point of view, the events of September 11, 2001 had an irreversible effect on the worldwide aviation industry that forced governments around the world to enact policies and regulations that were to make air travel safe. Fifthly, from the socio-cultural standpoint, with the today's value of corporate social responsibility (CSR) and "green" initiatives, the aviation industry has new challenges to overcome. Lastly, many global issues have had major effects on the aviation industry. More recently, the 1992 start of the war in Iraq; Terrorist

attacks, mainly September 11, 2001 (Masse, 2002) and natural disasters globally such as hurricanes can affect oil prices and therefore jet fuel prices.

INDUSTRY ENVIRONMENT (THE PORTERS FIVE FORCES MODEL)

Threat of New Entrants: entry to the airline industry is not considered easy for various reasons due to the initial investment, massive sunk costs and high fixed costs. The major airlines are in an Alliance, which makes it difficult for a new comer to compete against the power of an alliance along with the government regulations and foreign restrictions making it challenging to enter the market without the proper resources and capacities.

Power of Suppliers: the two main suppliers, Boeing (USA) and Airbus (Europe) both have very competitive products and each offer unique benefits. Discount airliner WestJet uses only Boeing 737 aircraft, while JetBlue decided to go with the Airbus equivalent A-320 that offered more comfort.

Power of Buyers: buyers hold a significant amount of power in the aviation industry. Buyers can choose which airline suits their needs best. There are Discount Airlines such as WestJet and JetBlue, which offer plain and simple services for a cheap fare, or there are Air Canada, Southwest Airlines and KLM that compete in international and domestic markets.

Product Substitutes: the substitutes for flights are driving, taking the bus, ferry or train. For domestic flights there isn't much threat of substitution due to the high costs and inconvenience. For International flights there is virtually no substitution this day and age.

Intensity of Rivalry: there is a very high intensity of rivalry within the aviation industry. Due to high fixed costs, airlines must fill their planes to capacity or risk losing profits (Stark, 2008). Airlines are implementing different Business level strategies in order to try and gain market share.

COMPETITOR ENVIRONMENT

Aviation industry became highly competitive due to increased power of airlines in US, Europe and Asia. Thus, Air Canada must build their competitor intelligence (data) that is gathered in order to better understand the competition. This will allow Air Canada to anticipate the four components of the competitor environment: Objectives, Strategy, Assumptions and Capabilities.

- **Future Objectives:** airlines in direct competition with each other must be aware of their competitions future objectives and goals in order to stay competitive. The airlines should keep track of constantly changing customers' preferences and adjust their operations accordingly.

- **Current Strategy:** airlines need to look at what their competitors are doing currently, and what their level of capacity is. If an airline is not competitive, it should indentify the problem and resolve it. Airlines may need to restructure their Business level strategy in order to stay competitive in a certain market.

- **Assumptions:** these differ from company to company, and can make or break an airline. Airlines that believe the way of the future is mega jumbo jets holding 525 people for overseas flights to hub airports, will invest in the new Airbus A-380. Whereas other airlines who are firm believers of quick long haul flights all over the country/continent to many airports will buy Boeings new 787 Dreamliner.

- **Capabilities:** each airline has its own set of strengths and weaknesses that makes it unique and diverse from its competitors. The airline must determine these capabilities and use them to their full potential to create core competencies and a competitive advantage its competition.

METHODOLOGY

This is a case-based secondary research paper, which is devoted to the examination of the bankruptcy as an option for the strategic re-organization and organizational restructuring of company's operations under the protection of the bankruptcy law. The research paper incorporates an analysis of the industry spesifications fort he purpose of identifing the possibility and effectiveness of using banckruptcy as a successful technique to reorganize a failing operations and meliorate financial performance. This case-based secondary reseacrh paper is aimed to investigate whether the backruptcy can be used by companies as a rescue opportunity.

THE OVERVIEW OF AIR CANADA

Nowadays Air Canada became the largest full-service airline in Canada supplying scheduled and chartered passenger services in the Canadian market as well as in the United States market and international market ("Air Canada", 2009). The company provides cargo services and owns a main Canadian tour operator known as Air Canada Vacations ("Air Canada", 2009). Air Canada and Jazz provincial partner provided services for nearly 33 million passengers to more than 170 destinations on 5 continents using a fleet of 330 aircrafts where 100 of aircrafts are the part of Air Canada Jazz's provincial fleet ("Air Canada", 2009). Air Canada entered and became a member of Star Alliance in 2008, which is the world's first and the largest airline alliance including such airline companies as United Airlines, Lufthansa, Scandinavian Airline System and Thai Airways International ("Air Canada", 2009). Thus, trough the membership with Star Alliance, Air Canada is able to offer services to more 700 destinations in more than 100 countries ("Air Canada", 2009). On the international scope, Air Canada takes a solid 13th position as a largest commercial airline in the world that employs 24,700 employees and its 2008 year-end revenue amounted to 11,082 million Canadian dollars ("Air Canada"). The company recently launched the "Aeroplan" flyer program that has already attracted approximately 6 million members ("Air Canada", 2009).

Air Canada successfully survived the privatization and avoided the industry crises throughout the company's 72-years history ("Air Canada", 2009). However, Air Canada faced a subsequent set of issues in the early 2000s that seriously influenced company's financial position and forced Air Canada to file the bankruptcy protection in April 2003 ("Air Canada", 2009).

Calin Rovinescu, who joined the company in 2000 as an Executive Vice President and held the position of Chief Restructuring Officer during the airline's 2003-2004 restructuring, witnessed all recent success and downturns. In April of 2009, Calin Rovinescu was positioned as a President and Chief Executive Officer of Air Canada ("Air Canada", 2009).

HISTORY OF AIR CANADA

The company originally was found as Trans-Canada Air Lines (TCA) ("Funding Universe", 2009). TCA was established by Canadian government in 1937 as a Crown corporation and until 1959 it had an absolute monopoly over the domestic flights as well as over all the routes to the United States ("Funding Universe", 2009).

Nevertheless, Government assistance could not control the competition that became evident with an appearance of Canadian Pacific Limited (CPL) ("Funding Universe", 2009). But the competition has not become intense because TCA still had a monopoly over most of international routes and intercontinental domestic flights ("Funding Universe", 2009). In 1965 TCA changed its name and became known as Air Canada ("Funding Universe", 2009). At that time, Government issued set of regulations directed to encourage Air Canada and CPL work together to concur on technical and servicing matters and to institute combined fares ("Funding Universe", 2009).

The 1970s became a challenging period for Air Canada's monopoly as well as for Canadian Government. Appearance of larger jets and increased consumers' power increased demanded the lower airfare prices from more competitive airlines ("Funding Universe", 2009).

In 1978, the deregulation process had started in the Canadian aviation industry ("Funding Universe", 2009). The Air Canada Act had been issued that reorganized company's ownership making it a wholly owned subsidiary of the Canadian government ("Funding Universe", 2009). Moreover, in 1980, Air Canada encountered an international routes' competition from American Airlines, British Airways, SwissAir, and Lufthansa ("Funding Universe", 2009).

In 1998, the transport minister, Donald Mazankowski, declared that Air Canada would become private and would be sold to the public along with the issue of up to 45% of the company's shares. This sale became the most ambitious act of privatization that the Canadian government endeavored up to that period ("Funding Universe", 2009). In 1989, Air Canada completed the privatization process by selling 41.1 million shares with all proceeds going to the government and became listed on the stock exchange ("Funding Universe", 2009).

AIR CANADA: ENTERING THE EARLY 1990s

The early 1990s started for Air Canada with the reporting of $218 million and the reduction of the passengers flow by almost 2 million. The company performance has been affected by the economic recession and by the international competition ("Funding Universe", 2009).

In 1990, Jeanniot announced his retirement and afterwards has been replaced by Hollis Harris in 1992 becoming the vice-chairman, president and CEO ("Funding Universe", 2009). With Harris appearance Air Canada entered a restructuring stage aiming at cost reduction ("Funding Universe", 2009). As a result of restructuring, Air Canada became more competitive and profitable. Also, Harris sold "En Route" credit card operations and its Montreal headquarters building in order to relocate its headquarters to Dorval Airport ("Funding Universe", 2009).

In 1994, Air Canada entered Japanese, but the real success came into the company after the signing an agreement between Canada and United States that opened 30 new U.S. routes within the year, which were profitable and demanded ("Funding Universe", 2009). Later, in 1997, the company's networking extended with the creation of the Star Alliance through which Air Canada linked the routes with other international carriers ("Funding Universe", 2009).

In 1996, Lamar Durrett was position as president and CEO of Air Canada. However, Durrett failed to undertake an innovative restructuring making the company less competitive and has been forced to leave the company. Robert Milton has replaced him in July of 1999 ("Funding Universe", 2009). However, immediately after being assigned CEO, Milton faced a takeover fight ("Funding Universe", 2009).

RISING COMPETITION AND THREAT OF BANKRUPTCY

Canadian Airlines encountered serious financial difficulties falling into bankruptcy.

Later on, in 1999, Milton entered into an agreement to take over Canadian Airlines at a price of $61 million formally completing the acquisition in July 2000 ("Funding Universe", 2009). During 2000, the provincial carriers of Air Canada and Canadian Airline were merged into one entity, which has been re-named as Air Canada Jazz ("Funding Universe", 2009). Subsequently, Air Canada developed two separate low-cost airlines: Tango and Zip ("Funding Universe", 2009). However, the business travel decreased due to fluctuations in the global economy along with events of September 11, 2001 and the threat of the U.S. war against Iraq. As a result, Air Canada recorded losses of $1.32 billion in 2001 and $828 million in 2002 ("Funding Universe", 2009).

The Iraq war and respiratory syndrome, which tremendously impacted Air Canada's Asian routes, forced the company to the edge of bankruptcy ($13 billion in debt) with filling for the bankruptcy protection in April 2003 ("Funding Universe", 2009). The company launched a number of restructuring attempts to reduce its annual operation expenses by $2.4 billion ("Funding Universe", 2009). Consequently, the employees' wages cuts followed with possibility of downsizing around 10,000 employees. Moreover, Air Canada was seeking an investment of at least $517 US million in order to continue its operations ("Funding Universe", 2009).

In 2003, two finalists in the bidding for major Air Canada stake were announced. It was supposed to help Air Canada to improve its financial situation ("Funding Universe", 2009). Unfortunately, the bid had been rejected and left Air Canada in uncertain situation along with the challenge about finding an appropriate business model that would allow it successfully compete with West-Jet and other low-cost carriers ("Funding Universe", 2009).

BANCRUPTCY AND SUBSEQUENT RESTRUCTURING

The challenges that Air Canada has faced in early 1990s and in the subsequent years forced company's management to undertake a chain of restructuring in order to improve the financial performance mainly by cost reduction and inflow of additional capital ("Funding Universe", 2009). The cost reduction was achieved primarily through the downsizing restructuring strategy in preceding periods: cost savings in a

short run reached by employees' lay-offs, pension benefit cuts, and elimination of unionized employees and removal of unnecessary management positions ("Funding Universe", 2009).
Additionally, the company launched a series of horizontal takeovers and mergers in order to achieve further cost reduction and increase market share and market power ("Funding Universe", 2009). Providing servicers at competitive and acceptable prices to different economical classes were deemed to help Air Canada to gain competitive advantage over the domestic and international rivals ("Funding Universe", 2009).

The first major acquisition incurred in 1999 under the command of former CEO, Milton ("Funding Universe", 2009). He entered into an agreement to take over Canadian Airlines at a price of $61 million formally completing the acquisition in July 2000. However, this takeover did not appear to be quite successful after discovering larger amount of losses incurring by acquired subsidiary ("Funding Universe", 2009). As a result, Air Canada has undertaken the rapid integration process that helped to stable the negative situation.

The merger between Air Canada and Canadian Airlines allowed Air Canada to become the only Canadian full-service air carrier controlling 80% of national market and 43% of traffic between Canada and U.S. ("Funding Universe", 2009). This strategic move enabled Air Canada to leverage from economies of scale as well as to obtain additional fleets and increase number of qualified personnel; extended control over the international and domestic routes along with the acquisition of Canadian Airline's customers ("Funding Universe", 2009). In 1996 West-Jet Ltd. started its operations bringing to Canada the low-cost and no-luxury airline concept having a significant cost advantage over Air Canada ("Funding Universe", 2009). The company established itself as one of the most profitable airlines in North America. Consequently, Air Canada came up with a strategic response to West-Jet and developed two separate low-cost airlines: Tango and Zip ("Funding Universe", 2009).

The financial health of Air Canada stabilized in September 2004 when it merged from bankruptcy protection due to $850 million financial package offered by Deutsche Bank ("Funding Universe", 2009). This financial inflow allowed the company to cut $200 million of annual ("Funding Universe", 2009). The first restructuring move after Air Canada arose from bankruptcy was the creation of ACE Aviation Holdings that represented the merging of its six minor companies into Air Canada and Air Canada Jazz. This parent company provides commercial airline services and technical support with headquarters in Montreal ("Funding Universe", 2009). As an international entry mode, Air Canada used a membership in Star Alliance, through which it gained excess to a larger number of international routes and obtained further cost benefit and risk sharing with other international providers ("Funding Universe", 2009).

FLEETS' MODERNIZATION

Air Canada has been successfully expanding the capacity of its fleets enabling it to provide a higher frequency of flights and to enlarge its intra-Canada and Canada – USA routes. The aircrafts' diversification increased the number of transborder routes, launched the new international non-stop routes of Toronto-Madrid and Ottawa-Frankfurt providing customers with refurbished fleets and comfort.

RESTRUCTURING RESULTS: UNSTEADY FINANCIAL PERFORMANCE

Despite Air Canada was able to merge from financial crisis due to a number of successful restructuring strategies, the financial health of the company still suffers. During 2008, the company recorded the net revenue of 429 million and incurred an annual loss of 1,025,000 million as a result of the spike in a price fuel, fluctuations in foreign exchange and weakening demand in air travel as a result of the recession ("Air Canada", 2009).

The sound short-term results have been achieved due to disciplined approach to capacity and strict cost controls (often reached by downsizing and pension plan cuts causing litigations). However, from the long-term perspective the undergone restructuring did not significantly firmed Air Canada's financial position and eliminated liquidity problems. On the contrary, the downsizing strategy only allowed for short-term savings ignoring the major liquidity problems. Air Canada did not generate enough cash from operations

and, in 2008, could not cover the deficit of 3.2 billion in deferred pension contributions ("Air Canada", 2009).

The company lacks the steadfast and long-term operational strategy that can lead the successful performance and stable financial position. Thus, Air Canada highlights the following aspects that it will focus on in order to improve the liquidity position ("Air Canada", 2009):

- Further developing its innovative revenue strategy to generate additional revenues
- Continue focusing on costs and sound capacity management
- Further enhancing its product offering through a redesigned network and a renewed fleet
- Leveraging technology for enhanced customer service and cost containment

The restructuring undertaken during 2004 reduced operating costs, strengthened balance sheet, reorganized corporate structure and had a fleet renewal and commercial strategy intended to achieve sustained growth and profitability. Air Canada had fundamentally transformed the airline into a highly connected global network carrier offering affordable prices and comfort travelling. However, in the current situation, Air Canada bears a high level of risk due to unfavorable economic situation in combination with continuing restructuring process where it incurs huge amount of losses.

For successful development the company needs to stabilize its performance, reduce the level of debt, requires infusion of cash and agreement with unions in order to create the trustworthy relationships with employees. To survive Air Canada needs to cut its capacity and undertake the further cost reductions (Marowits, 2009). Reliance on short-term savings cannot recover the huge amount of lose and pension plan deficiency (Marowits, 2009). The goal of the company should strive to strengthen further profitability and assist in resolving their challenging planning to balance their financial performance and avoid filing the bankruptcy protection for the second time.

CONCLUSION AND FINDINGS

Companies should file for bankruptcy in order to get an opportunity to improve their financial performance. Thus, company gets a chance to rescue the valuable asset. It gives an opportunity to review and revise the business model, eliminate inefficiencies and focus on aspects that can benefit the whole company. For instance, Air Canada applied the downsizing strategy and eliminated unnecessary bureaucracy, which enabled the company to reduce costs, improve its financial performance by lowering the debt owed to the government and generate more revenue. Also, when filing for bankruptcy protection companies always receive an extended time period during which they should repay the amount owed of to their creditors helping them to concentrate more on reorganization of their operations. Air Canada used this time to re-develop the company's image and re-built the reputation that helped them to attract more customers domestically and internationally and consequently improved their financial performance eliminating the liquidity problem.

However, the filing for bankruptcy may produce the negative results as well. Thus, the company's brand name becomes tainted reducing the current and potential customers along with investors who are no longer willing to invest into failing company. As an example, when Air Canada filed the bankruptcy protection, its customers flow reduced by 2 million negatively effecting the revenue of the company. In such a situation, company does not attract any additional investors, but, on the contrary, it become potentially risky to invest into. The environmental factors can make the situation even worse by destroying the company's efforts to rebuilt or restructure company in order to emerge from bankruptcy protection. In our case, the recession and Iraq war only pushed Air Canada to the edge of bankruptcy and vanished the company's plans. Thus, the undertaken actions are aimed to achieve the short-term performance improvements that would help to increase revenue by cost reduction. However, from the long-term perspective, improper strategic planning and poor restructuring program may hurt the company more severely.

Additionally, it is extremely risky to rescue a failed company. Government is the only entity that can afford to take risk to support failing company by issuing low interest loans and subsidies. Consequently, the positive outcome is extremely uncertain. This leads to the competitive disadvantage, which only deteriorates the company's poor financial performance. Research and Air Canada's example demonstrates that failed companies are very unlikely to turn to a profitable entity again. Thus the concluding of this paper

is that, although the law of bankruptcy gives the opportunity to rescue valuable assets and ensure a proper liquidation, it is not effective as a mean of turning the company around.

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CUSTOMER RELATIONSHIP MANAGEMENT (CRM) STRATEGY: GAP ANALYSIS OF CUSTOMER AND FIRM PERSPECTIVES

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ABSTRACT

Customer Relationship Management (CRM) is an organizational strategy aimed at establishing successful and mutually beneficial one-to-one relationships with the customers and converting them into customers for life. Some of the goals of the CRM program include attracting new customers, retaining existing ones, garnering the maximum wallet share of the customers, leading to increased market share and profits, by providing memorable customer experience. Most of the Indian telecommunications firms have undertaken expensive CRM projects in sincere attempts to reach out and satisfy the present and future customers. But the results of these programs sometimes are not in tune with the expectations of these firms. The success of CRM depends not only on the CRM practices of the organization, but more importantly on the perception of the customers about the company's CRM practices and the value proposition. This paper is an analysis of the gaps in the customer and firm perceptions of CRM practices in the Indian telecommunications industry. This study found a wide gap on many issues in the perceptions of customers and the telecom service provider organizations. This paper suggests that to reap the benefits of CRM organizations must try and eliminate or reduce these differences as much as possible.

Keywords: *CRM, customer centricity, perceptions, telecommunications industry, wallet share.*

INTRODUCTION

Peter Drucker once said "The true business of the every company is to make and keep customers"(Drucker, 1973). Customers make the difference between success and failure for any business enterprise. But unfortunately in the distant past the supply-demand equation was always in favor of supplier, as the demand for products and services far exceeded supply and as a consequence the customer never got his due. However during past few decades things have started changing in favor of the customer. With the advent of organizations like World trade Organization (WTO), the trade barriers in the world have come down. The Information and Communication Technologies (ICTs), especially the Internet and the World Wide Web (WWW) have transformed the globe into a knowledge society and a market place that never sleeps. Armed with the information these technologies provide the customer has become demanding and assertive.

A study by PriceWaterhouseCoopers (PWC) found a strong correlation between the customer satisfaction and customer retention. The study found that 95% of the customers would come back if they perceive the service as 'Excellent" and this dropped very significantly to 60 % if service level is perceived as 'Good' (Brown, 2000). The key to the success of organizations is their ability to attract and retain the customers and make them customers for life. This is the aim of CRM. The central issue to the success of this philosophy is the perception of the customers. This paper is an analysis of the gap in the percepectives of the customers and telecom service provider organizations about CRM practices of Indian telecommunications industry.

THE PHILOSOPHY OF CRM

Starting from the days of industrial revolution, till a few decades ago businesses relied on and practiced only selling. In the early 1950s this philosophy has undergone a change and gave way to the concept of marketing. The concept of marketing is about satisfying the customers with suitable products and services by understanding the customer needs (Kotler, 2003). Marketing philosophy resulted in customer oriented programs like 'Customer is always right' of 1940s, 'Customer satisfaction' of the 1970s, and 'Delighting the Customer' of 1990s. Though marketing provided a quantum jump over selling, it had a major flaw. Marketing, especially mass marketing, presumed that all customers have the same needs and ignored the individual needs of the customer. The spray and pray philosophy of mass marketing did not produce the desired results (Walters, 2004). This led to segmented marketing which worked well for some time. Many studies proved that individual customers have different needs and retaining an existing customer is much cheaper than acquiring new ones. Organizations have also realized that the key to the organizational success lies in satisfying individual customer needs and developing mutually profitable one-to-one relationships with all the customers. This led to the concept of relationship marketing.

Relationship marketing has its origins in a book published by Regis McKenna (1993) titled 'Relationship Marketing: Successful strategies for the Age of the customer'. Regis argued that by knowing their customers and preferences organizations could increase the chances of retaining them. Around the same time Don Peppers and Martha Rogers (1993) in their book 'One to one marketing' predicted the demise of mass marketing and emphasized the fact that business organizations must stress more on customer relationships and less on products and they argued "you will not be trying to sell a single product to as many customers as possible. Instead you will be trying to sell a single customer as many products as possible –over a long period of time, and across different product lines. To do this you will need to concentrate on building unique relationships with individual customers on 1:1 basis'.

"When customers approach a business for a product or service, they also have an expectation associated with their interest. The completed transaction leaves some kind of experience in the minds of the customers with regard to their expectation" (Greenberg, 2001). If the experience is pleasant the customer will repurchase otherwise he will not.

Burnett (2001) is of the view that it is now time for 'burying' the word 'marketing'. According to him "the pressures on the organization that are forcing the companies to move to CRM are, the glut economy, the new technologies, shorter product life cycles, quality revolution, the accelerating dynamics of market place, alliances , joint ventures and restructuring and different new channels of distribution" (Burnett, 2001). CRM provides the competitive differentiation in near parity environment (Dyche, 2002).

LITERATURE REVIEW

CRM can be defined as a customer centric business strategy. According to a META/IMT strategies survey report (2000), CRM has six different views, often inconsistent and contradictory, on what CRM really is. The first group felt that CRM is the 360 degree view of the customer, the second applying TQM and providing quality customer service, the third Tools and Technology, fourth organizational shift from product or internal focus to customer, the fifth pushing customer data and information delivery and the sixth group saw CRM as a buzz word or old wine in new bottle (Cooper, 2004). Notwithstanding different perceptions, CRM encompasses all the first five views. According to Poison (1999) of IBM, CRM essentially means two things. The first is 'Knowing Your Customer (KYC)' and the second is 'Appearing as one Entity' to the customer. Janjicek (2004) calls CRM as 'two tenets of the customers'. According to him "first tenet is that a customer focused company needs to have a single, unified view of each customer. Conversely customers need to have unified view of business regardless of the business unit or channel with which they are working".

CRM is about creating an overall pleasant experience to the customer. CRM is not only about providing a good product or service alone, but it is also about creating unforgettable customer experience. Hence in CRM after sales customer service becomes a very important factor. According to Trucker, (2002), customer service is "the quality of personal interactions and relationships between your people and your customers. It is intangible but measurable". There are mainly four important factors that made service

crucial to organizational success. The first one is time factor. The second is value addition. In absence of price and product quality differentiation, the only differentiator that adds value is the service. Competitors can imitate other aspects but can not replicate a good quality service because of the human element involved and creating effective teams is a long process. The third aspect is customer service can provide competitive advantage to the organizations. Fourth factor is influencing customer perception. Once the customer develops a favorable perception the organization will always have an edge over competitors Organizations succeed at customer service only when the customers are willing to go through the experience again and tell others about it (Ponsonby, 2002).

One of the objectives of CRM is to develop customer loyalty. Oliver (1997) in his book ' Satisfaction: a behavioral perspective on the customer' defined loyalty as "a deeply held commitment to re-buy or re-patronize a perfect product or service consistently in future despite situational influences and marketing efforts having the potential to cause switching behavior'. Anderson and Jacobsen (2000) say that "organizations must realize that its relationship with its customers must evolve just like a courtship. Mutual loyalty and trust must be built gradually and selectively. On the issue of creating value to customers, Barnes (2002) argues, "It is impossible to create sustained value for a firm's shareholders unless value is being created for its customers. The much more lasting form of value will elicit an emotional response from customers. It is less easily duplicated by the competition and generally contributes to less emphasis on price".

Notwithstanding the efforts of the firms to lock in their customers, according to Griffin and Stein (2001), business organizations loose 20-40% customers every year. Organizations must be able to identify the lost or lapsed 'High value' customers and be able to win them back. One of the biggest benefits that CRM accrues to the company is in winning back the customers.

Hughes (2004) offered a solution for the high churn rates in the cellular telephone services, losing 2.9% of customers each month, or up to 35% per year, through CRM. 1% reduction in churn rate produced many million dollar profit.

Hewlett Packard (2004) study says that there are a number of business drivers that justify CRM deployment initiatives. They are increasing loyalty of profitable customer, improving cost efficiency and effectiveness of marketing campaigns, cross selling and up-selling opportunities, reducing customer attrition/ churn, tailoring prices, offers or product components to specific types of customers and provision of single point contact with a customer. Notwithstanding the number of companies adopting and implementing CRM projects, not all of them are successful. The most important reason for their inability to succeed at CRM is the gap between the perspectives of the customers and the firms about CRM practices of the service provider.

METHODOLOGY

Sample size and selection

With the aim of having a 360 degree view of CRM practices in the Indian telecommunication industry data has been collected from the customers, retailers like Subscriber Trunk Dialing (STD) booths (kiosks), channel partners and the managers of telecommunication companies. A sample of sample of 458 customers of different telecommunication companies, 112 STD booth operators, 72 channel partners and their employees and 40 top and middle level mangers from the telecommunication companies were selected for the study. The selection of the sampling was done through the convenience sampling technique.

Research Instruments and data collection

Research tools consisted of personal interviews, structured questionnaires, and personal observation. 6 senior managers, 6 channel partners, 8 STD booth operators and 10 customers were interviewed for finding out the qualitative information like their opinions, feelings and satisfaction levels. 4 different sets of questionnaires were designed, catering one each for the mangers, channel partners, STD booth operators and the customers. Personal visits were made to a number of channel partner's outlets help desks and

customer support centers to observe the activities and to gain first hand experience of the CRM practices being followed in the Industry.

The data was collected over a period of two months during 2009 using all the tools mentioned above. The response to questionnaires was 30% to 40%. Response from service providers varied from 10% to 12% only. Data analysis was carried out using statistical techniques and analytical software.

LIMITATIONS OF THE STUDY

(a) So far no study has been conducted in the area of CRM in Indian telecommunications industry. No body of knowledge exists in this specific area.
(b) Some telecommunication organizations were very guarded in their approach in cooperating or providing data for the study. Due to the assurance given to the telecom companies the names of the companies can not be disclosed.
(c) The response from many mangers for the questionnaires and interviews from some organizations was not enthusiastic.

FINDINGS OF THE STUDY

1. CRM is perceived as very important aspect by the respondent organizations in the telecommunication industry. Most telecommunication organizations are either planning CRM projects or in the process of implementing CRM projects.

2. According to the data collected from respondents, most telecomm organizations are in a constant customer acquisition mode and not paying the desired attention to customer retention aspect. This is resulting in a very high customer turnover.

3. 66.8 % of customers say that they did not receive any personalized messages or offers from the telecom companies and they come to know about new products or tariffs through general advertisements. Such perception indicates the inability on the part of organization in developing one-to-one relationships.

4. While majority of customers (59.6%) say that they are 'satisfied' with the performance of telephones and the quality, the percentage of people who consider the service as good is very low (13.3 %). Analysis of the collected data suggests that customer shift because of poor quality service.

5. Though most organizations feel that their CRM practices are effective, the customers do not think so. There is a lot of gap in the perceptions of telecom organizations and customers. Only 29.9 % customers feel that their telecom companies have a good CRM.

6. Most of the customers 65%, say that their experience in dealing with telecom companies is satisfactory and only a very small percentage 11.5% categorizes their experiences with the company as 'pleasant'.

7. The analysis of the above data has brought out many areas where the customer views are at variance with the perceptions of the service providers and the channel partners.

8. The first difference is with regard to the issue of large customer turn over (churn) in the telecom industry.

(a) According to the service providers and the channel partners customers are easily swayed by the price discounts offered by the competitors. 36% cited better offers from competitors and felt customers get drawn to these tempting offers. Only 11% feel that poor service is the reason and a miniscule 5% cited poor customer care as the primary reasons. 16% cited fickle minded customers as the primary reason.

(b) The customers on the other hand feel differently about the reasons for the customer churn. 24% of customers identified poor customer service as the primary reason. 12% felt that poor quality of speech is the problem. 8% cited limited facilities offered, 7% incorrect bills, 5% other reasons like better offers from competitors. Only 12% of the customers felt that price is the important factor.

(c) Further when asked if they would shift to the service provider's competitor whose tariffs are lower with marginally inferior service only 28% respondents said that they would, where as 60 % said that they will not shift. This amply proves customers are not only swayed by the price offers alone in the telecom industry.

(e) Similarly the customers are also not willing to shift if better service is offered at higher price. 24% said that they would shift and 63% said that they would not shift. This proves the customer expects value for money proposition from the telecom service provider. The value includes all aspects including quality of service, tariffs, post installation service and customer service.

19. The second difference in the perceptions is about the effectiveness of the company's CRM program.

90% of service providers felt that their CRM programs resulted in achieving long term relationships with customers, but only 22% of the customers felt that the service provider takes care of their interests and **a** majority 76% believed otherwise. This proves that the perception of the telecom service provider organizations in this regard is at variance with what customers feel.

20. The third difference is in the area of 'Appearing as one entity' to the customers.

The service providers believe that they are able to present a single point contact to the customers. 63% of service providers felt that they are providing single point contact to the customers, where as only 42% of the customers believe that single point contact is available

21. The fourth major difference is in the area of satisfaction with company's CRM.

74% of the service providers said that they are 'satisfied' and 13% each said that they are 'very satisfied' and 'neither satisfied nor dissatisfied'. Only 30% of the customers felt that their service provider has a good CRM program.

CONCLUSION

The study clearly brings out that the Indian telecommunications companies have taken CRM seriously. However while they seems to believe that their CRM programs are working very well, customers are not sharing their view. It can be safely concluded that there is a large gap in the perceptions of the customers and service providers. Unless the telecom companies understand this reality, they can not excel at CRM efforts. The organizations can overcome these pit falls by feeling the pulse of customers continuously and by trying to eliminate or reduce this gap in perspectives.

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EFFECTIVENESS OF TOURISM WEBSITES IN PROMOTING TOURISM IN INDIA: INDIA VS MALAYSIA - A COMPARATIVE STUDY

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ABSTRACT

Tourism Industry is flourishing all over the world. The scenario of the world tourism industry is always in a state of flux, ever changing. Although the tourism industry is growing at a very fast pace and becoming a great source of Forex in Indian economy, very less attention has been paid by government, tourism board, academicians and industrialist to promote the tourism in India and to capture the vast opportunities lying ahead. This has increased a concern for promoting tourism in India by government.
The role of internet is crucial these days in positioning the state in the field of tourism. Therefore this research work aims at analyzing the web promotional activities carried out by Indian government to promote Indian tourism website and also to provide a comparative analysis vis a vis Malaysia to assess the effectiveness of tourism websites used by Indian government to promote tourism.
The study is a preliminary study in the field of tourism website comparison on the parameters like,Time taken in attending query from the site visitors, Clarity, User-Focus, Navigation, Appearance, Organized content, Use color and images to your advantage, Title Tag Content and Length, Body Text Keyword Usage, Social Network Popularity Presence, Level of Image Optimization & Readability Level of Web Page. The research design is exploratory in nature, using both primary and secondary data.

Keywords*: Tourism, website effectiveness, Indian tourism, tourism promotion*

INTRODUCTION

Tourism is known as the world's fastest growing industry. There is a remarkable growth in international tourism seen in that region in recent years. Asia and South Eastern Europe are considered to be highest performing large tourism countries (Kauffman P., 2007). It has emerged as an instrument for employment generation, poverty alleviation and sustainable human development. The Travel and Tourism industry holds tremendous potential for India's economy (Narayan B, C. Rajendran, et.al., 2009). It is fast turning into a volume game where an ever-burgeoning number of participants are pushing up revenues of industry players (hotels, tour operators, airlines, shipping lines, etc). Thus Indian Government is focusing more on making extensive use of the internet for promoting tourism (Saxena, 2005).
The role of internet is crucial these days in positioning the state in the field of tourism. (Hanna and Millar, 1997). Consumers not only perceivers of destination image information but actively construct and share their own images via the internet (Dwivedi M., 2008). Consumer perception of service quality offered plays a very important role in destination image formation and internet is the prime tool to access this information. Narayan B, C. Rajendran, et.al. (2009) talked about service quality in tourism comprises of 10 dimensions, namely core-tourism experience, information, hospitality, fairness of price, hygiene, amenities, value for money, logistics, food and security which need to be assessed by the consumers before taking the decision of destination. Websites are serving this purpose by providing service provider as well as consumer perspective.
There is a rapid growth in the numbers of internet 'hosts', destination-marketing organizations (DMOs) respond to the challenges by building the use of the web into their mainstream marketing programmes

(Anckar and Walden, 2001; Buhalis, 2003; Yuan *et al*., 2003; Wang and Fesenmaier, 2006). As DMOs put increasing resources into their websites, the issue of website advertising effectiveness has assumed a much more prominent role in the tourism industry over the past few years. This fact is clearly reflected by the growing, but still very limited, body of published research devoted to this topic (see Schonland and Williams, 1996; Tourism Industries of America, 1997; McLemore and Mitchell, 2000; Tierney, 2000). However, apart from few studies (Chaudhary, 2000; Dwivedi, 2009) hardly any work on India's destination image exists.

Castaneda et al. (2007) studied the influence of the internet on destination satisfaction and postulated a positive relationship between them. Govers and Go (2004) conducted a study of projected online destination image of Dubai and found significant differences

in the online images projected by public and private players. However, in today's competitive marketplace and technology-driven society, just having a Web presence no longer brings visibility and accessibility to the destination. Successful Web marketing requires an articulated and systematic approach in understanding key factors supporting the management and implementation of the website from both business and technical perspectives.

Therefore this research work aims at analyzing the effectiveness of website promoted by government of India to promote tourism by comparing it with comparative Malaysia to assess. The paper is divided into four major parts:

1. Growth of Tourism in Asia: South verses South East countries
2. SWOT Analysis of Indian and Malaysian tourism.
3. Comparative Analysis of website of India and Malaysia.
4. Suggestions and Conclusion.

GROWTH OF TOURISM IN ASIA

Asian Economies have brought tremendous success in the recent years. Economic growth rate in China crossed a two-digit number, while economic growth in India's economy is near to 8 percent. Apart from those two emerging Asian Economic giants, economies such as Philippines, Indonesia and Malaysia are growing at a faster pace. Tourism in Asia is growing faster than anywhere else in the world, driven by the increasing wealth of countries like Taiwan, South Korea and Malaysia, and by the huge populations of China, India and Indonesia -the first second and fourth biggest countries in the works. Despite the significance of the tourism industry in this area it is still under researched.

SOUTH VERSUS SOUTH-EAST ASIAN COUNTRIES

South and South East Asia vary in terms of ethnic origin, size of nations, population and their economic prospects.

South East Asia has relatively higher levels of GDP per capita than South Asia but income disparities are lower in South Asia. Internet penetration rates in South East Asian countries are higher with an average penetration rate of 15.25% due to the substantial contributions of Malaysia and Philippines which pull up the regional average. In contrast, South Asia's average 3% penetration is strikingly low. Literacy is also much higher in the South East Asian countries as compared to South Asian countries, largely because they have smaller population sizes as well as more gender equitable societies.

Thailand and Philippines like other countries in South East Asia i.e. Indonesia, Malaysia and Vietnam, not only share similar population sizes and contemporary cultural backgrounds but they are also witnessing similar labor migration patterns. Populations from these countries migrate amongst each other and to America and Europe frequently.

The average household size is higher in South Asia. India's population itself is twice that of the other 4 countries put together. This indicates that at all levels of growth and development, India will be a more complex but also a more substantial and profitable market to understand, as compared to the other countries. Since India's population is more than double that of all the other 4 countries put together, India is a much more complex and more substantial ecology to understand.

Bangladesh, Pakistan and Sri Lanka uphold three very distinctly representative cultural aspects within the continent. They have a very complex dynamics of internal and external labor migration. They are also evolving from purely agrarian societies to knowledge economies at variable paces. Also these countries

hold a very low ranking on tourism Index so we have selected only India (ranked 62 by T&TCR,2009) as representative from South Asia.
Since Malaysia is ranked at 32 place by Travel and Tourism competitiveness report 2009 (T&TCR, 2009) much higher then other south east Asian countries and so Malaysia is been considered as sample for this study.

INCREDIBLE INDIA!!

India is probably the only country that offers various categories of tourism. These include history tourism, adventure tourism, medical tourism (ayurveda and other forms of Indian medications), spiritual tourism, beach tourism (India has the longest coastline in the East) etc. Tourism in India is not a new phenomenon. Since ancient times, visitors got fascinated for India. According to some authors there is a continuum of spirituality inherent in tourism in India (Sharplay R. and P. Sundram, 2005). India is appreciated for its natural resources, culture, history and art but huge dissatisfaction is expressed for general and tourist infrastructure (Dwivedi M., 2008)
Tourism in India has grown substantially over the last three decades. Foreign tourist arrivals in India recorded an increase of 13.2 per cent during the year 2005 as compared to the year 2004. India's share in the world tourism market during the year 2005 was 0.49 per cent, as against 0.44 per cent in 2004. Foreign exchange earnings during the year 2005 were Rs. 25172 crores as against Rs. 21828 crores in 2004. With Indian economy growing at around 7% per annum and rise in disposable incomes of Indians, an increasing number of people are going on holiday trips within the country and abroad resulting in the tourism industry growing wings. By 2020, Tourism in India could contribute Rs 8,50,000 crores to the GDP. (Source-WTTC,2006)
The Indian tourism sector is seen generating $42.8 billion by 2017, a 42 percent surge from 2007 (Deloitte Touche, 2009). Despite the numerous problems, tourism industry was the second-largest foreign exchange earner for India. Realising the potential in India,
To promote tourism online Ministry of Tourism in India has created a website incradibleindia.org which contains information regarding various types of tourism offered by different states of India, art, culture, heritage, religion, news and events, tour packages, discounts etc.

SWOT Analysis of Indian Tourism Sector

Strengths	**Weaknesses**
• India offers various categories of tourism i.e. history tourism, adventure tourism, medical tourism (ayurveda and other forms of Indian medications), spiritual tourism, beach tourism. •Pleasant weather which is ideal for the tourists to come for the annual summer holiday to escape the scorching heat of the plains. • Scenic beauty of the Himalayas, which draws tourists away from the crowded and polluted towns and cities. • Terrain is ideally suited for various adventure activities. • Some very well known tourist hill- stations that can attract tourists all throughout the year. • Hospitable people	• Inadequacy of transport facilities • Funds constraining the development of regions. • Inadequacy of information channels. • Overcrowding of popular tourist centers. • Some places are inaccessible, especially in winter. • Inadequacy of marketing. • Lack of adequate infrastructural support
Opportunities	**Threats**
• The concept of holidaying is gaining popularity in India among various classes of people. • Increased disposable incomes of the Indian middle class. • Adventure sports and trekking. • Eco- tourism and Medical tourism is gaining popularity. • India contains many unexplored regions.	• Kashmir is being opened up and could divert a large portion of tourists to it. • Various other places in India are providing stiff competition. • Environmental factors also impose a threat. Terrorism is a big threat for various places

SWOT Analysis of Malaysian Tourism Sector

Strengths	**Weaknesses**
• Outstanding nature • Cultural diversity and multi-culture • Good accessibility • Good tourism facilities • Safety •Spa tourism • English widely spoken	• Service quality • Low profit margin • Environmental degradation
Opportunities	**Threats**
• Close proximity to Asian neighbors. • Better access through budget carriers • World Heritage Site branding • Youth travel	• Regional safety • Ignorance and prejudices • Environmental degradation

COMPARATIVE ANALYSIS OF WEBSITES OF INDIA AND MALAYSIA

To understand the consumer perspective of visibility and user friendliness of Indian website a research has been conducted with Indians and foreigners who have visited Indian and Malaysian website at-least once before visiting these places.

RESEARCH METHODOLOGY

Questionnaire and procedure

The questionnaire which was designed to be delivered by e-mail, took respondents fewer than ten minutes to complete. In the covering letter accompanying the questionnaire, the sponsor of the research was identified to the inquirers. In order to encourage the highest response rate possible, both the number and the complexity of the questions were strictly limited. The questionnaire assessed recall of how respondents first became aware of incradibleindia's website and collected information on their likelihood of visiting the different states and tourist places. The questionnaire also included a screening question to confirm that respondents actually had visited the country.

In March 2010, the questionnaire was emailed to the sampled inquirers. After ten days, a follow-up questionnaire and a different covering letter were e-mailed to non-respondents. The same procedure was used in a third e-mailing sent eight days after the second e-mailing. A fourth contact was not made as the response rate for more than three contacts is not significantly higher than for three contacts (Heberlein and Baumgartner, 1978). Therefore, the non-respondents to the third e-mailing serve as the non-respondents of this study.

RESULTS

Response data

An attempt was made to reach all 60 names and e-mail addresses in the sample. Some of the e-mail addresses could not be detected by the server (21 per cent), leaving a sample of 48. Only 38 people from this group participated in the survey. This represents a response rate of 63% per cent (44/ 60), a response rate not uncommon for this type of research (see Hunt and Dalton, 1983; Woodside and Ronkainen, 1984).

STUDY FINDINGS

1. More then 50% visitors visited India more then once while more then 65% visitors visited Malaysia more then once.

2. 64% respondents reported that they visited India for Business trip and 36% respondents came here for visiting tourist places where as for Malaysia, 57% respondents visited for tourist places and 43% visitors went there for business trip.
3. Comparative analysis of website of India and Malaysia

Table-1: Respondents rating for various parameters for the website of India and Malaysia (Average ratings in absolute terms)

S.No	Parameters	India	Malaysia
1	Time taken for attending Customer's Query	4	6
2	Clarity	4	5
3	User-Focus	3	4
4	Navigation	3	5
5	Appearance	6	5
6	Organized content	4	5
7	Use color and images	6	4
8	Title Tag Content and Length	5	5
9	Body Text Keyword Usage	5	4
10	Social Network Popularity Presence	3	5
11	Level of Image Optimization	5	3
12	Readability Level of Web Page.	4	4
	Overall	**4.33**	**4.58**

Malaysian government's official portal, www.malaysia.gov.my
Indian government's Official portal, www.incradibleindia.org

The overall scores show that there is a no much significant difference between the scores of various parameters of Indian and Malaysian website. Still the respondents rated Indian website high on Use of colour and Image and Appearance whereas work very low on User focus, Navigation and Social Network popularity presence. For Malaysian website, respondents rated high on time taken for attending customer's query.

SUGGESTIONS

This has been found during the study that Indian website is more familiar to the foreign tourist visiting India as compared to the Indian tourist living outside India or within the country (though this needs to be verified firmly with a separate study).

Few suggestions for Indian website are:-

1. Updation of latest information focusing more on events.
2. Most of the links don't open properly so proper designing is required
3. More use of pictures slow down the speed so may be presenting more information on home page in text would be more helpful.
4. More information regarding the travel plans.
5. More information regarding the VISA.

6. More affordable packages should be suggested to cater the needs of all classes of visitors.

CONCLUSION

India is now chalking up one of its strongest growth charts in a long time. As the Indian economy continues to open up in an effort to integrate with the world economy, benefits of doing business with and in India are increasing. With the results, hundreds of thousands of jobs are moving to the Indian shores from the West. This brings in its wake transit travelers, business travelers, business meets and holiday seekers.

Some major international events like 9/11, US-led war against terror and SARS hit the tourism industry over the past few years. Cutting down of routes by domestic airlines and increase in airfares last year also led to a fall in the movement of people in the country. The Mumbai terror attacks, targetting two premium hotels, also tarnished the country's reputation, drastically reducing hotel occupancy levels, and affecting year-end travel. The adverse travel advisories by many countries to their citizens too contributed to a significant slowdown in tourism in India.

There were other negatives too. Consider this- Expenses per night of stay for a tourist in India during the SE Asian currency crisis was $100 whereas it was around $35-40 in the SE Asian countries. This hurt Indian tourism. Though this discrepancy has come down, still there is some gap. Some of the reasons for this are high luxury and entertainment taxes and high landing charges applicable in Indian airports.

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EFFICACY OF THE UBIQUITOUS DEMAND CURVE: ARGUMENT FOR ITS REPLACEMENT USING PRODUCT LIFE CYCLE DERIVATION FOR PRICE RELATIONSHIPS

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ABSTRACT

The use and application of economics to social and political issues is widespread in efforts to gauge economic activity and allocate national resources. Unfortunately some of the effort is problematic if not misleading. It is opined that part of the 2008-2009 financial crisis can be ascribed to economic analyses that developed erroneous results and misled financial managers into pursuing questionable strategies. In particular the engagement of the demand curve and creation of supply concepts as avatars of human economic activity is seriously flawed and begs an alternate paradigm.

The paper argues the demand curve is an inappropriate construct and does not represent economic activity of any consequence. It determines that real economic activity is more clearly reflected in a graded two variable paradigm and that the notion of demand is best reflected in the development of prices (not costs) associated with the Product Life Cycle.

INTRODUCTION

Many business and economics professionals have criticized the prominence of complex mathematical models built on micro-economic foundations. It is suggested the economics profession rewards mathematical brilliance above a greater practical investigation of empirical data and like all professions economists often get stuck in defending certain ideologies, seeking to find data to support their own ideology rather than having a greater flexibility to understand when the model gains greater limitations. In part the problem is based on the need to dismiss a number of concepts that have outlived their usefulness. Sidney Weintraub for example, declared thirty years ago that some of the classical elements of Keynesianism should be set aside as was the case for the "cost theory of value, the subsistence theory of wages, the equation of exchange and similar major ideas..."

In consideration of today's economic confusion and the bailout of banks as another example, Paul Krugman observes that "What's so mind-boggling about this is that it commits one of the most basic fallacies in economics — interpreting an accounting identity as a behavioral relationship. The knowledge that S=I doesn't imply the Treasury view — the general understanding that macroeconomics is more than supply and demand plus the quantity equation — somehow got lost in much of the profession."

Economists apply the demand curve to almost all their arguments and deliberations concerning economic activity. This graphic representation of a relationship between the price or cost of a product and the presumed quantity that might be demanded usually is expressed in a downward to the right line; curved or otherwise. If a product has a high price the assumption is that fewer items will be sold. Alternately if the price is lowered there is the expectation the demand will increase and more items will be purchased. It is a simple artifice and one that is widely used to explain the economic movement of products and services, wages, government spending and just about any activity that involves money and the acquisition of goods and services however they may be defined.

However, the use of the demand curve goes beyond the simple explanatory position of demand and the supply of goods. It postulates the existence of an ideal equilibrium point at which place there is a balance, if not harmony to the supply of goods and services at a stable price. An economy is in equilibrium at that point where buyers are presumably content to purchase no more goods and suppliers are willing to produce no more goods since it would only result in lower prices and less profit. So it is that from the setting of corporate pricing to health care administration to great events such as depressions, recessions, wars and the

dynamics of growth, all are interpreted in the light of supply and demand. Schumpeter disagrees arguing that the change brought about by entrepreneurs makes the idea of equilibrium, for example, misleading. The origin of demand curve usage can be traced back to Adam Smith, David Ricardo and even before these saints of the discipline to the thirteenth century writings of Muslim philosopher Ibn Taymiyyah who observed that "if desire for goods increases while its availability decreases, its price rises. On the other hand, if availability of the good increases and the desire for it decreases, the price comes down." Thus for more than seven hundred years this simple observation, which is presumably credited to human behaviour has guided economic thought and as a result influenced the results of history over and again with mixed, and some would say questionable results.

However, the topic is not sufficiently scientific as to establish a solid platform from which one might determine solutions of any merit. David Ricardo and John Maynard Keynes for example were cited on their conflicting views on inflation where Ricardo proposed it was due to the increase in money supply while Keynes argued it was due to an increase in aggregate demand. This example illustrates the opportunity for debate and conflict in the application of the demand curve and in fact the discussion becomes virtually limitless on the number of divergences that exist which suggests the subject might be compared with the findings concerning cold fusion; it is without any solid scientific basis.

PROBLEMATIC ISSUE

The problem with accepting the concept of the demand curve begins with the caveat that qualifies any analysis using the demand curve. The Encyclopaedia Britannica notes that "*This relationship is contingent on certain* ceteris paribus *(other things equal) conditions remaining constant. Such conditions include the number of consumers in the market, consumer tastes or preferences, prices of substitute goods, consumer price expectations, and personal income*. What seems evident is that most if not all scholars, and certainly the lay public followed by the politicians, overlook the important implication of the qualifying statement. Conditions in the market do not remain constant, customers vary in size, number and expectations and the allotted amount of money for acquiring goods and services varies widely. In effect it would appear that any semblance of reality is cast aside in exchange for the acceptance of using a convenient artifice in the creation of forecasts, hypotheses, nostrums and policies.

The effect can be seen in any number of consequences where economic analysis is used to provide information to the public. The issue has risen to some importance and leading thinkers now suggest that without economists tinkering around with the system it would come to adjust itself and sustain growth and prosperity in any event. They point to the continuous outpouring of inaccurate information and misleading reports generated by economists. In a study of the use of economics as a predicting tool for national management Campbell and Murphy found that of 96 national economic forecasts made for the Canadian business community less than 2% were correct.

The effect of demand curve application on the work of economists has prompted Peter Drucker, one of America's seminal business thinkers and consultant in management to wonder if "the economic performance of western countries is inversely proportionate to the number of economists in government service. The more the economists and the more attention paid to them...the worse the economy performs. Certainly Britain and the United States have grown the least in the post-war period. And Japan, which has done by far the best, has few economists in government..." David Saul's Massey lecture is more graphic in its disapproval. Saul makes the observation that if economists were medical doctors they would be mired hip deep in medical malpractice suits.

Finally John Sibley Butler quoting Jane Jacobs observes, "We think of the experiments of particle physics and the space explorers as being extraordinarily expensive, and so they are. But the costs are as nothing compared with the incomprehensively huge resources that banks, industries, governments and international institutions like the World Bank, the International Monetary Fund and the United Nations have poured into tests of macro-economic theory. Never has a science, or a supposed science, been so generously indulged. And never have experiments left in their wakes more wreckage, unpleasant surprise, blasted hopes and confusion to the point that the question seriously arises whether the wreckage is repairable."

At the micro-economic level the use of utility theory to impute economic behaviour suffers the test for reality. Economists continue to use a single, assumed "value' of consumer satisfaction as the arbiter for economic analysis. Typically researchers and authors have applied utility and expectancy theories, probability theory, marginalism and such where, for the most part the result has been essentially a numerical expression derived from cognitive assumptions about rational behaviour that is often constrained

by non-transferable parameters. For all that effort, the results have been less than stellar and often at odds with market behaviour (Harrison et al, 2003).
Lately there has been a shift toward the use of psychological elements, rather than a utility element, in analysis. But this too does not work nor produce realistic, practical resultsand newer models are emerging. It is the use and application of utility theory that is at issue here and the remainder of the paper will propose that this assumptive artifice which is taken to be the representation of human economic behaviour is badly flawed if not totally misleading.

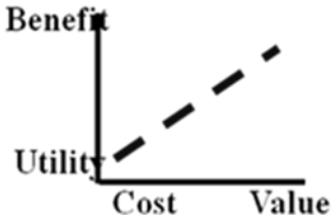
CONSUMER DECISION-MAKING

People do not process information in a purely cognitive manner but also include emotional factors. In fact Hanson (2000) argues that "consumers do not use their cognitive and affective skills independently, rather they affect each other." Contrary to the utilitarian desire for an ordered, rational behaviour, humans simply do not conform to that model and the expectation that economic behaviour is defined by a single postulate is not realistic. It therefore holds that no amount of tinkering or the "testing" of normative economic models will describe the market and individual behaviour in it.An individual is compelled by needs, wants and desires to improve her or his "state of satisfaction", moderated by internal and exogenous variables such as economics, timeliness, involvement level and so on.
Generically the purchasing process is expressed in five steps: (a) problem recognition, (b) search, (c) alternative evaluation, (d) choice and (e) post purchase behaviour. Within this progression Hansen (2003) states that four elements have an effect on the final buying decision. They are: price, quality, involvement and emotion; all of which are consistent with most descriptive models of consumer decision-making. There is a general overlap of personal, social and psychological variables with no clear indication that a single item is accountable as an expression of economic behaviour. Zeithaml (1988) found there was a defining relationship between price, perception and quality that establishes a consistency for buyers.
Having introduced the concepts of perception as to price or value and the expectation of some performance or utility in the buying decision, further research confirms the point. Consumer decision making is centered on two very specific contexts one in which the consumer makes a judgment or is motivated to do so on the basis of a functional, physical dimension and a second comparative dimension that conveys a notion of the value of, or compensation for the first. In the former case the buyer looks for a tangible item, one that induces or is expected to provide satisfaction of a need as in an automobile for transport, cologne for pleasant odour and social acceptance or a fine dining experience that may address both of those needs. The value one ascribes to these experiences is dependent on what must be given up or paid for. If there is a minimal expectation of physical satisfaction or utility, then the value is minimal or reduced to the level of a pure monetary exchange. If the product offers a number of advantages and/or benefits of worth to the purchaser then he or she accepts the consequence of a higher price or value that can go beyond a specific monetary amount or cost.
The decision criteria and motivations in purchasing a product or service are then seen to center on two aspects: a physical characterization that implies a promise of performance and a dimension that addresses the perceived value of the item. In the first issue the consumer has an expectation the product has the ability to function as expected to do. Will it fit comfortably if it is a dress? Will it shape steel if it is a manufacturing tool? On the one hand there is the need for an item to perform a simple *utility* function. On the other hand there may be a desire that the item embodies a number of features and *benefits* that supersede a single, parsimonious function.
The second criterion is the acknowledgement of the investment that has been made in creating the product or service and the acceptance by the buyer of having to compensate for that worth; that is to pay for the product or service. At one extreme one can appreciate the desire to pay as little as possible, the lowest possible *cost* to the buyer for an item. Commensurately there is the realization that an item may embody a *value* that is beyond the cost level. In this there is the anticipation of accommodating needs beyond the physical plain to the more intangible level where *value* is a purely subjective perception, matched by a willingness to pay for that prospect at a level well beyond cost. To conclude then, there is an *expectation* as to a product or service in what it will provide to the buyer even as there is a *perception* as to the worth or value of the transaction.

TESTING THE PARADIGM

Recent empirical research has tested the efficacy of the two variable explanation.The "irrational behaviour' that is noted in Kahneman and Tversky's Prospect Theory is perceived as consumer activity that is inconsistent with their position on economic behaviour. These elements, including cues in decision making, (incomplete knowledge) judgment by heuristics (perceptions, motives, experiences) and framing, (different choices-different circumstances) are regarded as anomalies to what otherwise should be a prescriptive theory of buying behaviour. But rather than being irregularities these items are more consistent with marketing theory and as such are to be included in an accounting of consumer behaviour.
Consequently the hypotheses in the research do in fact include this theme. The first hypothesis posits the final decision criteria in product/service selection, following on the exposures to advertising, promotions, word of mouth and social communications that encourage the use of one product over another settles on two aspects; the expectations an individual has about that product/service and secondly, the perception of worth applied to the acquisition. Thus the first hypothesis tested determined that - *Individual economic behaviour is defined by two variables; one representing the physical aspects of a product/service and one that defines its worth.* The second hypothesis expanded on the variables in the first hypothesis and tested - *The expectation an individual has of a product/service performance is not discrete but rather is comprised of a range from some minimal expectation to a multifaceted expectation of benefits and performance* and secondly that - *The perception an individual has of a product/service worth is not set nor purely numeric but varies from real cost to a discernment of value, however that might be defined.*

Figure 1 The Utility-Value Paradigm



Finally the third hypothesis found there is a relationship between expectations and perceptions inclusive of the gradient within each that confirms the buying behaviour economic paradigm. That is: *An individual's perception of worth, taken as a range from parsimonious to appreciated value for a product/service is directly associated with the expectation of its performance from a purely utilitarian or utility level to one of multiple benefits.*
A short eleven point questionnaire was administered randomly to 79 students and staff and the data was processed using SPSS analysis. K-S testing established the validity of response at the .05 level and lower. When assembled completely the results establish a paradigm, Figure 1, that more realistically explains economic behaviour in contrast to the single, unsubstantiated development of the utility theory demand curve.
The terms in the research were couched more in a consumer behaviour context. Unlike the word **'utility'** used as the abstract concept in economics that indicates how much 'happiness' a person might have from buying and owning a thing, utility in this discussion is a functional term. In addition to or service may be comprised of a number of utility functions in the form of **benefits** that would represent a higher order of performance to the buyer. Thus a product or service can be described as having a single worth or utility or any number of attributes, each of which ostensibly provides an advantage or number of benefits to the buyer.
The concept of value requires some discussion. It suffers a number of uses, not all of them consonant or comparable. The economist looks on value in providing an economic statement as in 'the value of an asset deriving from its ability to generate income.' Schumpeter (1908) states "That it is society as a whole which sets values on things …. It is evidently true, moreover, that form utility, the paper subscribes to the fact that marketing creates and provides further utility (usefulness or performance value) for the consumer. Utility is the attribute in an item that makes it capable of satisfying wants. At the opposite end of the spectrum a product, if value means "exchange-value," it is, of course, not fixed by any single individual, but only by the action of all."

Value is found in the association of benefits and costs. In this paper it is an expression of the investment a buyer makes in time, effort and money in order to obtain a particular bundle of benefits. It is the sum of all expectations an individual has about an item and goes beyond the notion of pure monetary considerations. Thus there are two principal dimensions that summate the motivations to purchase goods and services in the exercise of economic behaviour, a utility – benefits expression and a cost – value expression. These are the consequence of decisions arrived at through, and inclusive of personal, psychological and social issues. They are also the consequence of market influences, perceptions and experiences of the buyer. They constitute a paradigm that identifies consumer choice and forms the basis for a behavioural economic model.

THE ARGUMENT FOR EMBRACING REALITY

Having found there is need to reappraise the concept of a demand curve that more suitably may be vested in human behaviour rather than imputed calculations from subjective estimates of economic activity, it is posed there may be reference in the structure of a product life cycle. This representation is in fact an historical reflection of how a product or service performs in reality in the marketplace. A number of papers have explored the linkage between price levels or demand configuration and the product life cycle and have generally found an association.In an examination of pricing levels and demand configuration in the high tech industry, (computers, chips etc.), Li and Hue found that “the timing of price changes and prices are strongly influenced by the demand diffusion pattern and the change in the price-elasticity of demand over time. Specifically, inter-temporal price-elasticity change causes the prices to decrease over time, and the duration of each price to increase over time.”
Simon’s earlier study based on an “empirical study of 35 products reveals typical changes in price elasticity over the life cycle and gives support to the conclusion that the magnitude of price elasticity decreases over the introduction and growth stage, reaches its minimum at the maturity stage, and again increases during the decline stage.” In an examination of high tech and supermarket goods Melser and Seyid found the behaviour of prices for these goods over their life cycle generally declined with time or the maturation of the product. This was more emphatically the case with high tech items in contrast to more prosaic consumer goods. They were unable to associate whether there was a relationship between price behaviour and extraneous factors such as “declining costs, increased competition, customer segmentation or other reasons. One interesting feature of the results was that in the initial months of a good's introduction they often appear to be discounted. This `pricing lip' is then followed by a more protracted and significant decline in prices.” Their key empirical finding was that the age of a product was directly tied to its price level with a decline over time to final discount at the end of the cycle.
The product life cycle is a response to the socially determined adoption of innovation curve first expressed by Everett Rogers.It establishes a relationship between behaviour of individuals in accepting new products and services which essentially drives the product life cycle and develops a distinctive price pattern. The implication is that the classical determination of a demand curve, which is arguably inadequate as a reflection of human economic behaviour could instead use the platform of the anticipated form a product might well take as it matures and reaches a decline stage. Recently research has begun using varying techniques to establish a demand curve figuration. The author proposes a method for estimating a demand curve using available data sources and statistical methods that can be applied to produce strategies for firms struggling to gain competitive advantages in the market place. The methodology is not based on subjective estimates surrounded by questionable assumption but a technique scans relevant data and uses it for analyses focusing on marketing interests.

CONCLUSION

There is much work to be done in examining the potentiality of using marketing precepts or consumer behaviour factors in establishing a relationship between consumption of goods and services and price levels. For decades the discipline has ignored the potential from such reality. As T. Leonard points out in his review of Schumpeter it is no accident. Schumpeterian subjects – innovation, entrepreneurship, business strategy – form the very heart of business school curricula. And Schumpeterian ideas remain influential, fifty-eight years after his death, in departments of politics, sociology and history to which one would add business and managerial studies. But they are mostly ignored in Economics departments, in large part because they have proven too difficult to formalize – to fit into the maximization *cum* equilibrium method

that still defines academic economics. Perhaps things may change and when faced with reality there may be some shift to embracing the reality of the marketplace and incorporating live data to direct economic thinking.

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THE DYNAMIC IMPACT OF MACROECONOMIC AGGREGATES ON HOUSING PRICES: EVIDENCE FROM CANADA

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ABSTRACT

This paper examines the dynamic effects of key macroeconomic variables on the housing prices in Canada using non-structural VEC technique. The variance decompositions and impulse response analyses demonstrate that the mortgage rate has the highest explanatory power to explain the housing price, which demonstrate that monetary policy can effectively influence housing prices in Canada.

Keywords: *Housing prices, VEC model, Variance Decomposition, Impulse Response Function*

I. INTRODUCTION

From the macroeconomic perspective housing sector is an important sector in an economy. This sector accounts nearly one-third of fixed capital stock and one-fifth of household expenditure in Canada in 2004. Historical data show that real housing prices in Canada increased by about 35% over 1983 to 1989 periods. After that it decreased remarkably and remained stable until the beginning of 2001. It then increased significantly (by about 40% during 2001 to 2007). Given the large proportion of total economic wealth which is held in the form of housing, it has been argued that a change in price of housing relative to other goods and services can have significant effect on consumer expenditures, which contribute nearly 60 percent of Canada's gross domestic product (GDP). Therefore, housing market is expected to have a significant impact on the overall performance of the economy. Given the importance of housing market in the economy, it is of interest to examine factors driving the housing prices in Canada.

A number of studies were conducted (Apergis, 2003; Sutton, 2002; Tsatsaronis and Zhu, 2004; Baffoe-Bonnie, 1998) on different countries to examine how housing price fluctuations are related to macroeconomic variables. Findings of these studies reveal that even though housing prices respond to economic fundamentals but the relationships between housing price and macroeconomic variables are not unique across countries. Unlike EU countries and USA, Canadian economy experienced significant growth with a relatively low inflation for the last one decade. In this respect it is important to examine the nature and magnitude of relationships between housing prices and fundamental macroeconomic variables in Canada. To the best of our knowledge no study so far addressed the dynamics of housing prices on Canada exclusively. Fortin and Leclere (2000) developed a structural model to examine how demographic and non-demographic factors contribute to changes in Canada's real housing prices using annual data up to 1997. However, the study did not demonstrate the dynamics of housing prices in the overall macroeconomic context. Thus the primary focus of this study is to analyze the dynamics of housing prices and their relationship with key macroeconomic variables in Canada using quarterly data. The housing prices are expected to have close interaction with key macroeconomic variables: GDP, interest rate, inflation and population.

II. METHODOLOGY AND DATA

The following vector auto regressive (VAR) model developed by Sims (1982) has been used to identify how each endogenous variable responds over time to a shock in that variable and in all other endogenous variables.

$$Y_t = C + \sum_{i=1}^{k} \Pi i Y_{t-i} + V_t \qquad (1)$$

Where, Y_t and Y_{t-i} are 5x1 vectors of variables. The variables are: real housing price (RHP), per capita GDP (PCGDP), real mortgage rate (RMRT), rate of inflation (P) and population (POP)[2]. The C is 5x1 vector of constant. The Πi is 5x5 matrix of coefficients and V_t is 5x1 vector of random error terms, each of which is serially uncorrelated with constant variance and zero mean. The VAR model presented above assumes that the current innovations (V_t) are unanticipated but become part of information set in the next period. The impact of the unanticipated shock of the macroeconomic variables on housing prices can be analysed by employing the impulse response functions (IRFs) and the variance decompositions (VDCs).

The model is estimated using quarterly data from 1980:Q1 to 2007:Q2. All data except housing price were gathered from Statistics Canada (CANSIM Tables). The national average price of housing was collected from the Canadian Real Estate Association (CREA). The GDP is transformed into per capita GDP (PCGDP), dividing by population. The housing price and per capita GDP were converted into real value by deflating the consumer price index (CPI). Rate of inflation was deducted from the nominal mortgage rate to make mortgage rate into real value (RMRT). In the analysis, RHP, PCGDP, RMRT and POP are in the natural logarithms and denoted as LNRHP, LNPCGDP, LNRMRT and LNPOP.

Certain properties of the variables in the model must be checked in order to determine the appropriate specification for the estimation purposes. First, it is necessary to determine whether the variables are in difference stationary or trend stationary. The unit roots are tested by using the augmented Dickey-Fuller (ADF) test, and the results are reported in Table 1. The results suggest that all variables except P (rate of inflation) are non stationary in the level form but they are stationary in the difference form.

Given the variables are non-stationary, one needs to examine whether there exist cointegration among the variables under study. The presence or absence of cointegration has implication for the choice of the model. If cointegraion does not exist, one can use VAR model; on the other hand if there exists a cointegration among variables, one should use VEC (Vector Error Correction) model. The Johansen and Juselius (1990) maximum likelihood method has been used to see whether variables are cointegrated and the results are reported in Table 2. Both the trace and maximum eigenvalue test statistics indicate the presence of three cointegration vectors. However, only one of them is consistent with economic theory.

Table 1: Results of Unit Root Rest (Augmented Dickey-Fuller Tests)

Variables	Level		First Difference	
	Intercept	Intercept with trend	Intercept	Intercept and trend
LNRHP	-1.081 (4)	-2.612 (4)	-3.266** (3)	-3.386* (3)
LNPCGDP	0.479 (6)	-2.671 (4)	-4.297*** (5)	-4.567*** (5)
LNRMRT	-0.633 (0)	-2.784 (0)	-9.676*** (0)	-9.638*** (0)
P	-10.03*** (0)	-12.694*** (0)	-8.415*** (3)	-8.392*** (3)
LNPOP	-1.154 (6)	-1.465 (6)	-1.885 (5)	-3.248* (9)

Notes: 1. Critical values with intercept are: -3.50 (at 1%), -2.89 (at 5%) and -2.58 (at 10%); with intercept and trend are: -4.06 (at 1%), -3.46 (at 5%) and -3.15 (at 10%)

2. Figures in the brackets denote the number of lags in the augmented term that ensures white-noise residuals. *** denotes significance at 1%; ** denotes significance at 5% and * denotes significance at 10%

[2] The rate of inflation, P = [lnCPI – lnCPI(-1)]*100, where lnCPI is the logarithm of consumer price index (CPI). The conventional mortgage lending rate for 5 year term is used as a proxy of interest rate.

Table 2: Results of Maximum Likelihood Cointegration Tests

Null Hypothesis	Alternative Hypothesis	Value of Test	Critical value $\alpha = .05$
λ trace rank tests		λ trace rank tests	
$r = 0$	$r \geq 1$	96.86447	69.81889
$r \leq 1$	$r \geq 2$	61.06808	47.85613
$r \leq 2$	$r \geq 3$	26.43031	29.79707
$r \leq 3$	$r \geq 4$	8.002897	15.49471
$r \leq 4$	$r \geq 5$	0.067339	3.841466
λ max rank tests		λ max rank tests	
$r \leq 1$	$r = 1$	35.79638	33.87687
$r \leq 1$	$r = 2$	34.63777	27.58434
$r \leq 1$	$r = 3$	18.42741	21.13162
$r \leq 1$	$r = 4$	7.935558	14.26460
$r \leq 1$	$r = 5$	0.067339	3.841466

III. EMPIRICAL RESULTS

The presence of cointegration suggests us to use VEC (Vector Error Correction) rather than VAR methodology. The VEC model consisting of 5 endogenous variables has been estimated. The Schwarz information criterion suggests that the lag length for the VEC is two. The ordering of the variables was made in such a way that variables that are not expected to have predictive value for other variables are put last[3].

Variance Decomposition and Impulse Responses Analysis

The coefficients of the VEC model do not provide us a clear understanding of the dynamic structure of the model. But the variance decomposition (VDC) and impulse response techniques give us information to analyze the dynamic behaviour of housing prices due to a random shock in other variables. The VDC results of housing price of one standard deviation shock to the variables are presented in Table 3 up to 20 quarters.

The VDC results suggest that after four quarters, shocks to both per capita GDP and real mortgage rate accounted for more variation in real housing prices than variation produced by shocks to the inflation and population. Up to eight quarters, mortgage rate and per capita GDP explained 27% and 12% of the variations in the real housing prices respectively. Over a longer period, shock to the mortgager rate is more important than shock to per capita GDP that cause to change housing price. For example, a shock to mortgage rate explained about 43% of the variations in the housing prices over a period of 20 quarters. While a shock to the per capita GDP explained about 11%. Inflation is found to be an important factor to explain housing prices in the very short run.

Table 3: Variance Decomposition of Real Housing Price

Proportion of Variance explained by shock to real housing prices (LNRHP)					
Quarters	LNRMRT	LNPCGDP	P	LNPOP	LNRHP
1	1.74	0.31	20.05	1.03	76.86
4	14.51	10.26	11.78	4.5	58.94
8	26.89	11.63	9.62	2.68	49.16
12	35.98	11.42	7.69	2.06	42.84
16	40.73	11.02	6.83	1.84	39.56
20	42.65	10.80	6.53	1.78	38.22

[3]Although the results of VCD and IRF are expected to be sensitive to the ordering of the variables but in our case different ordering provides support to the robustness of our results.

For example, shock to inflation explained nearly 20% of the variations in the housing prices up to one quarter, about 10% up to eight quarters and only 6.5% up to 20 quarters. On the other hand, shocks to population did not show much explanatory power to explain the variation of the housing prices explaining only 4.5% up to four quarters and gradually declining to 1.8% up to 20 quarters.
The impulse response functions show the dynamic behaviour of a variable due to random shocks in other variables, which is shown in Figure 1. Since the innovations are not necessarily uncorrelated, the residual terms were orthogonalized using a Choleski form in order to isolate the effects of each macroeconomic variable on real housing prices.

Figure 1: Response to Cholesky One S.D. Innovations

Figure 1.a: Response of LNRHP to LNPCGDP

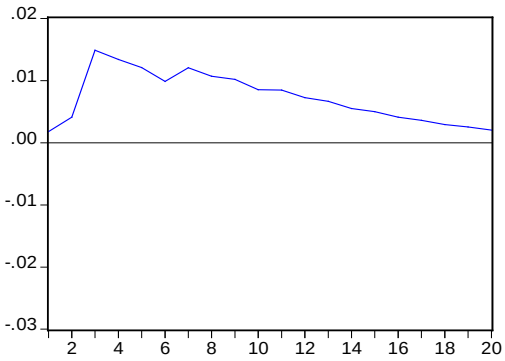


Figure 1.b: Response of LNRHP to P

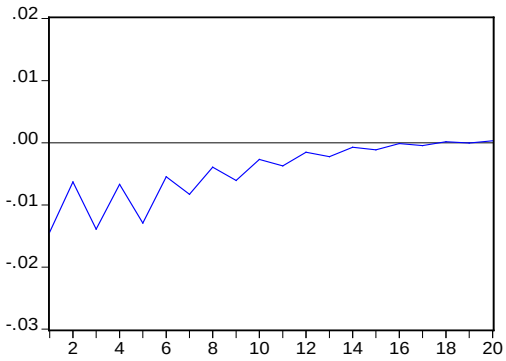


Figure 1.c: Response of LNRHP to LNRMRT

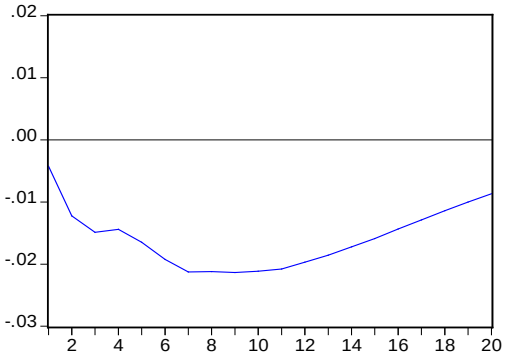
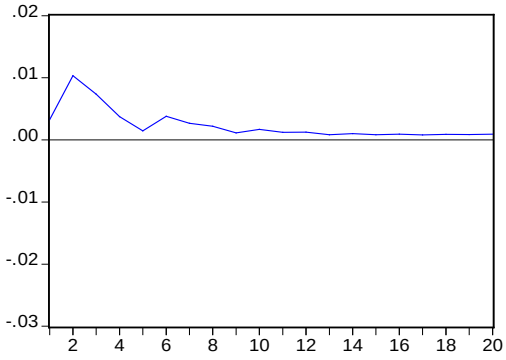


Figure 1.d: Response of LNRHP to LNPOP



A positive shock to per capita GDP leads to higher real housing prices up to four quarters and after that housing prices moved toward steady state level (Figure 1.a). A positive shock to mortgage rate causes to decrease housing price up to seven quarters and then housing price moves towards steady state level (Figure 1.c). Real housing price declined following a positive shock to the rate of inflation (Figure 1.b). Given the specification of the VEC model, inflation is the only nominal variable used in our model. Innovation in inflation might pick up the cost of mortgage financing, which might result in high nominal mortgage rate. This may increase the repayment of mortgage principal; thus dampening the demand for housing. A positive shock to population increases real housing price by a small proportion and this shock quickly disappear (Figure 1.d).

IV. SUMMARY AND CONCLUSIONS

The paper has analyzed the dynamic effects of population and three macroeconomic variables (PCGDP, RMRT, and P) on the average prices of housing in Canada, using the methodology of unit root, cointegration tests, non-structural VEC model followed by variance decomposition and impulse response analysis. The results suggest that hosing prices in Canada do respond to economic fundamentals. More specifically, impulse response functions show that a positive shock to real mortgage rate and inflation decreases housing prices, while a positive shock in per capita GDP, population increases housing price. Finally, the variance decompositions show that mortgage rate is the variable with highest explanatory power in the longer run for the variation of housing prices, followed by per capita GDP. Inflation shows a significant role only in the short run. On the other hand, change in population does not found significant role in changing the housing prices. What we learn from our study is that interest rate can drive housing prices in Canada more significantly compared to other variables. This implies that an expansionary monetary policy can be used to boost housing demand.

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MARGIN-FINANCING TRADING STRATEGIES IN FUTURES MARKETS

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ABSTRACT

This paper introduces the concept of margin-financing trading strategies for futures markets, an idea that expands on self-financing trading strategies introduced in earlier literature. We focus on a special case, that of constant-collateral trading strategies, which we also introduce in this paper. We derive an explicit constraint on the number of futures contracts in the trader's portfolio, as a function of initial wealth and the change in the price of the futures contract. We show how this constraint for constant-collateral trading strategies is related to the stock margin constraint introduced in earlier literature. These constraints are conditional on the trader not having received a margin call before the present. Our results highlight the link (which arises as a result of the margin constraint and daily marking-to-market) between the investor's net wealth and demand for futures contracts. Our results also shed light on the effects on markets of one type of irrationality, exhibited by "momentum investors" who underestimate the probability of a margin call. Their behavior manifests in pyramiding and depyramiding in the market, a phenomenon that increases the severity of market busts.

INTRODUCTION

In this paper, we generalize the concept of self-financing trading strategies to introduce the concept of margin-financing trading strategies. We also study the link between investors' net wealth and their demand for futures contracts, which exists because of the margin constraint and daily marking-to-market of the investor's portfolio. We derive explicit expressions for initial and maintenance margin constraints for futures trading and show that these constraints are a generalization of the simple margin constraint introduced in earlier literature.

Much of the literature on the impact of momentum traders assumes that such traders are irrational. In particular, the pyramiding–depyramiding hypothesis assumes the existence of irrational traders who take advantage of margin regulations to engage in excessively aggressive trading. This paper suggests one mechanism that would explain the irrational behavior of such traders: Unsophisticated futures traders who underestimate the probability that they will receive a margin call may be drawn to aggressive momentum strategies.

The remainder of the paper is organized as follows. A brief review of U.S. futures margin regulations is presented in the next section, providing background for the material that follows. This is followed by the description of the pyramiding–depyramiding hypothesis and an overview of related empirical work, as well as a discussion of the optimal portfolio choice problem for futures traders and the reason why it is difficult to find an analytical solution to this problem when margin regulations such as marking-to-market are taken into account. Then we set up a model of dynamic futures portfolio choice and derive results for certain special cases. The final section provides concluding remarks.

MARGIN REGULATIONS IN THE UNITED STATES

In general, an initial margin requirement is the collateral that a trader must deposit on the day a stock or futures transaction is opened, and a maintenance margin requirement is the collateral that must be maintained every day thereafter. The maintenance margin is a fraction of the initial margin.

In the United States, the margin requirement for stocks is set by the Federal Reserve Board (FRB). In contrast, the futures clearinghouses govern the required margins for most futures contracts, rather than the Commodity Futures Trading Commission (CFTC) of the FRB; however, all futures clearinghouse margining systems are subject to CFTC regulatory oversight. Other safeguards used by clearing organizations are marking of positions to market, membership standards, and capital standards.

The futures clearing organization is the counter party to all trades, guaranteeing that trades between clearing members are carried out. Futures margin deposits are good-faith security deposits used by the futures clearinghouse to ensure that traders meet their contractual obligations when they lose money as a result of trading in futures—they guarantee that all losses can be paid and thus protect the clearinghouse against trader defaults.

Some differences exist between margin requirements for stocks and for futures contracts. When investors buy stocks, they deposit the margin money and obtain the rest of the value of the stocks to be purchased in the form of a margin loan from the broker. In contrast, futures traders do not borrow the difference between their equity and the value of their contract purchases; they need only deposit the margin amount. Thus, unlike stock investors, futures investors trading on margin do not pay interest on margin loans. Because stock margin requirements are set with respect to the "loan value" of the position and in the futures markets the requirements are designed to guarantee that market participants will be able to fulfill their contractual obligations, the initial margin requirement for stocks is expressed in terms of a percentage of the current stock price, whereas the futures margin requirement is set as a fixed dollar amount per contract. Furthermore, unlike initial requirements for stock margins, futures margin requirements do not automatically change when the value of the asset changes, though regulators sometimes change futures initial margin requirements in response to volatility, increasing the requirement to reduce volatility.

At the end of each trading day, the account of each futures market participant is marked-to-market. Each trader incurs a gain or loss of the difference between the day's closing futures market price and the previous day's closing price, multiplied by the number of futures contracts in his or her portfolio.

When the marked-to-market losses are debited to an investor's account, the investor's account equity may fall below the level prescribed by the maintenance margin amount. When this happens, the investor receives a margin call. The futures trader must then meet the margin call by increasing account equity, up to the level prescribed by the initial margin requirement. This can be done either by depositing cash to increase account equity or by selling futures contracts.

THE PYRAMIDING–DEPYRAMIDING HYPOTHESIS

When purchases and sales are allowed to be made on margin, this introduces a potential for wider fluctuations in the prices of risky assets. Requirements for margins were originally introduced to lessen the extent of such fluctuations; the requirements set minimums that were higher than many brokers imposed when they made margin loans. To support the argument for more stringent margin requirements, U.S. federal regulators postulated a "pyramiding–depyramiding " model (Garbade, 1982). As applied to the stock market, this model states that as the price of the risky security increases, the possibility of buying on margin allows speculators to purchase more stocks (because the increased value of existing holdings can be used as collateral for new purchases), and this increase in purchasing drives the price to even higher levels, away from the risky security's fundamental value. When a downward market correction begins, margin calls force leveraged investors to liquidate positions, beginning a depyramiding or cascading deleveraging process that can lead to overshooting of equilibrium positions on the downside. In this model, smaller margin requirements tend to amplify market volatility, leading regulators who wish to control volatility, and who use the model, to support higher margin requirements.

It is also true that low margin levels may help to increase the leverage of speculators who want to buy stocks they believe are underpriced after a price decline, which would help to stabilize stock prices rather than destabilize them. One study (Hardouvelis and Theodossiou, 2002) advises keeping margin requirements high except in sharply declining markets, when lowering margin levels can improve liquidity

and circumvent depyramiding. It is also important to note, when discussing the pyramiding–depyramiding hypothesis, that sales of securities resulting from margin calls would exacerbate price declines only to the degree that speculators are forced to sell securities that they would not have chosen to sell anyway in order to limit their losses.

A number of studies examine the implications of the pyramiding–depyramiding hypothesis in the context of futures markets. Some studies have documented that increased margins empirically coincide with reduced trading activity (Fishe and Goldberg, 1986; Fishe, et al., 1990; Frohlich, et al., 1993). The effect of margin collateral requirements on futures market efficiency and price volatility has been difficult to resolve. Futures exchanges usually change margin requirements in anticipation of changes in market volatility. It is difficult to confirm that margins influence volatility, because a change in volatility that is correctly forecasted by the margin authorities may obscure the true relationship. For example, margins might be raised in response to an anticipated increase in volatility, and the volatility might therefore decline from what it would have been otherwise, but still increase from the level before the change in margin requirements and therefore show that higher margins apparently *increase* volatility. Authors of empirical studies have been unable to reach a consensus. For example, one study (Day and Lewis, 1997) concluded that there is no relationship between crude oil margin changes and return volatility, but another study (Hardouvelis and Kim, 1995) found a positive relationship between changes in eight metals margins and return volatility, while yet another study (Frohlich et al., 1993) found a strongly negative impact of silver margin changes on volatility.

THE OPTIMAL FUTURES PORTFOLIO

The results of conventional dynamic portfolio optimization do not provide useful insights into the optimal structure of a futures portfolio. There are many reasons for this, mostly related to the nature of the problem. The futures margin deposit is not a usual portfolio asset because it is a good-faith deposit to guarantee performance by the parties to the contract. The futures investor may satisfy margin requirements using riskless securities such as T-bills; thus, the usual distinction between riskless and risky assets made in traditional portfolio theory does not fit well in the futures markets. The futures positions are taken without "investment" in the customary sense, given that ownership of the riskless asset being used as collateral is not surrendered—the riskless asset continues to be owned by the investor, at the same time that the futures position increases through use of the riskless asset as collateral. In addition, the margin requirement is positive for both long and short futures positions. This implies that unlike the usual approach, which assigns negative weights to short positions, all portfolio weights must be positive. In contrast to stock margin regulations, the futures margins are given as a fixed dollar amount per contract, so that optimization theory that applies to stock portfolios does not transfer directly to futures portfolios. Finally, futures portfolios are subject to daily marking-to-market that allows futures investors to reinvest their profits without having to first liquidate their position to realize those profits.

The financial economics literature regards margin requirements as constraints, but that is relative—futures margin regulations do allow investors a considerable amount of leverage, with that amount depending on the levels of margin requirements, but the margin requirement poses an upper limit on the number of contracts that can be purchased. The practice of daily marking-to-market in futures markets allows speculators to use their trading gains as collateral to purchase new contracts. Many regulators have raised concerns that futures speculators exploit these regulations and trade in a manner that would contribute to market instability, as described in the pyramiding–depyramiding hypothesis. Although that hypothesis was developed with the stock market in mind, because of the structure of futures margin requirements, it may apply even more to futures markets.

Earlier empirical studies tested the *implications* of the pyramiding–depyramiding hypothesis, rather than the hypothesis itself. The authors of these studies examined the relationship between different levels of futures margin requirements and the subsequent return volatility. This study develops a methodology that could eventually lead to testing of the pyramiding–depyramiding hypothesis itself. To test the hypothesis, it would be useful to find the optimal futures portfolio choice as a function of traders' beliefs about the probability of a margin call that corresponds to a given trading strategy. This problem is highly path-dependent, and as a result it is difficult to solve. In this paper, we take a first step toward testing the

pyramiding–depyramiding hypothesis by deriving the constraints on the pyramiding trading strategy. We limit our analysis to the case of constant-collateral trading strategies. Moreover, the results we report in this paper apply only to the time between the start of trading and the first margin call. Thus, derivation of an optimal futures portfolio choice remains for future work, but the current paper is a step toward that goal.

Much work has been done toward solving for optimal stock portfolios, and some of it will apply to futures portfolios. One study (Grossman and Vila, 1992) solved for the optimal dynamic stock trading strategy for an investor who faces leverage constraints. Two other studies (Vila and Zariphopoulou, 1997; Zariphopoulou, 1994) found optimal consumption and stock portfolio trading rules for investors subject to leverage constraints. Another study (Broadie, Cvitanic, and Soner, 1998) considered optimal hedging of stock and bond options when there are portfolio constraints. The authors of a recent study (Willen and Kubler, 2006) examined the effects of collateralized borrowing in a life-cycle portfolio choice problem, and they demonstrated that standard models with unlimited borrowing at the riskless rate dramatically overstate the gains to holding equity when compared with collateral-constrained models. None of these studies, however, allows for constraints that are consistent with initial and maintenance futures margin requirements. The practice of daily marking-to-market makes the portfolio problem path-dependent, and in general it is impossible to find closed-form solutions for path-dependent problems using traditional optimization strategies.

The following section sets up a model of dynamic futures portfolio choice subject to realistic margin constraints.

THE MODEL

We consider the problem of a rational, utility-maximizing, investor. The investor is assumed to be small compared to the futures market and therefore a price-taker. The futures speculator starts with an endowment, deposited into a futures broker account at time 0. Assume the investor has no other assets. The investor can invest in futures contracts for only one commodity, with the contracts all expiring at time T^*. Here, we assume that this investor chooses not to trade in the stock market; this may be because the futures market has relatively lower trading and information costs, more attractive taxation rules, and less restrictive balance sheet constraints. Denote the futures price at time t by P_t. Let $N(P_t)$ stand for the investor's trading strategy, that is, the number of futures contracts in the investor's portfolio at time t, and let $W(P_t)$ stand for the investor's wealth at time t. The futures investor starts trading at time 0 and ends trading at time T, where T is some fixed time horizon such that $T \leq T^*$. For simplicity, we assume that trading occurs continuously in a frictionless liquid market with no transaction cost cost and that the number of futures contracts held by the investor at any given time need not be a whole number. We abstract from complications that arise when assets are diverted to be used for consumption during the trading period and assume that the futures investor needs to find a trading strategy that will maximize a utility (or bequest) function defined in terms of the terminal wealth, $U(W(P_T))$.

For simplicity, we assume real-time, continuous marking-to-market. In reality, however, futures portfolios are marked-to-market at the end of each trading day. An investor trading in a manner that assumes real-time, continuous marking-to-market will always be able to meet the margin requirements at the end of each trading day when his or her account is marked-to-market.

Let the initial margin requirement be M dollars per futures contract, and let the maintenance margin requirement be gM dollars per futures contract, where $0 < g < 1$. Assume these margin requirements are exogenous and constant during the time interval $[0, T]$.

Two groundbreaking studies (Merton, 1969, 1971) used the concept of a "self-financing trading strategy." Essentially, such a strategy does not allow borrowing (including trading on margin) or consumption until the terminal date, T. We now expand Merton's notion of a self-financing trading strategy to look at what we call a *margin-financing trading strategy*. As in Merton's original definition, we look only at investing a single lump sum $W(P_0)$ and managing this investment, over time, so as to maximize utility of consumption on terminal date T. As in the conventional notion, following Merton, the trader does not have labor income (which could be used to replenish the futures account), does not make periodic withdrawals, and cannot

borrow. We do allow something akin to borrowing by allowing the trader to finance purchases of additional contracts using profits from the currently held portfolio. When the portfolio is marked-to-market, any profits can be used as collateral to meet margin requirements for purchases of new contracts. Unlike Merton's approach, therefore, this approach allows a study of optimal trading strategies that involve trading on margin in the futures markets.

A strategy $N(P_t)$ is said to be margin-financing if the futures initial margin constraint is not violated when the portfolio is rebalanced. In other words, the investor can buy new futures contracts only if, after the trade, there is at least amount M acting as collateral for every futures contract, so that

$$W(P_t) \geq MN(P_t) \quad (1)$$

The initial margin constraint in condition (1) provides an upper bound on the number of contracts a futures investor can enter for a given wealth $W(P_t)$ and initial margin requirement M.

So as not to violate the maintenance margin constraint, the investor must have at least amount gM acting as collateral for every contract at the end of each trading day (with gM as the maintenance margin per contract, where $0 < g < 1$), when the trading account is marked-to-market. Thus, the futures maintenance margin regulations imply that

$$W(P_t) \geq gMN(P_t) \quad (2)$$

When the maintenance margin constraint in condition (2) is violated, the investor receives a margin call.

We introduce the concept of a constant-collateral trading strategy in this paper. Constant-collateral trading strategies are a special class of trading strategies, for which the investor reinvests the profits (obtained when the portfolio is marked-to-market) in such a way as to maintain a constant amount $\frac{M}{\alpha}$ (where α is constant, and $0 < |\alpha| \leq 1$) of collateral backing every futures contract. For simplicity, we assume that the trader is constrained to use such a trading strategy.

Consider the time interval $[0, t]$, $t < T$. Define $P^{m,t}$ as the maximum price in this time interval. Formally,

$$P^{m,t} \equiv \max\{P_s \mid s \in [0,t]\} \quad (3)$$

Furthermore, define the first time the maximum stock price occurs as

$$t^{m,t} \equiv \min\{s \in [0,t] \mid P_s = P^{m,t}\} \quad (4)$$

The maintenance margin constraint becomes relevant when P falls below the level $P^{m,t}$ and the investor chooses not to decrease the number of futures contracts in the portfolio. Define t^c as the first time at which the margin call occurs (and $P^{c,t}$ as the price of a contract at that time):

$$t^c \equiv \min\ s \notin [0,t] \mid W(P_s) < gMN(P_s)\} \quad (5)$$

Define $Q(P_t)$ as the number of contracts in the portfolio of an investor who follows a trading strategy $N(P_t)$, in the time interval $[0, t]$, before the portfolio is subject to a margin call for the first time. Also assume that the trader liquidates his or her entire portfolio if there is a margin call. Formally,

$$Q(P_t) \equiv \begin{cases} N(P^{m,t}), & 0 \leq t < t^c \\ 0, & t \geq t^c \end{cases} \quad (6)$$

Let $W^{m,t}$ denote the investor's wealth, and $Q^{m,t}$ the number of futures contracts held by the investor, at time $t^{m,t}$. Under the assumption that the trader employs a constant-collateral trading strategy, the maximum number of contracts that the trader can enter is given by

$$Q^{m,t} = \frac{\alpha W^{m,t}}{M} \quad (7)$$

At time 0, the investor purchases one futures contract for every amount $\frac{M}{\alpha}$ in the futures trading account. Thus, since the number of contracts purchased need not be an integer,

$$Q(P_0) = \frac{\alpha W(P_0)}{M} \quad (8)$$

We now derive the futures margin constraints, and other constraints implied by the futures margin regulations, for constant-collateral trading strategies. The investor who owns $Q(P_t)$ futures contracts could buy one additional (full) contract only after his or her wealth increases by at least amount $\frac{M}{\alpha}$. (Throughout this paper, analogous arguments hold for selling, rather than buying, contracts.) This will happen when the market price increases by amount $\frac{M}{\alpha Q_t}$ for each of the $Q(P_t)$ contracts currently held. Thus

$$\frac{\Delta P_t}{\Delta Q^{m,t}} = \frac{M}{\alpha Q^{m,t}}$$

or

$$\frac{\Delta Q^{m,t}}{Q^{m,t}} = \frac{\alpha \Delta P_t}{M}$$

If $Q^{m,t}$ is sufficiently large, we can approximate and write

$$\int_{Q(P_0)}^{Q^{m,t}} \frac{dQ^{m,t}}{Q^{m,t}} = \int_{P_0}^{P^{m,t}} \frac{\alpha}{M} dP_t$$

$$\ln\left[\frac{Q^{m,t}}{Q(P_0)}\right] = \frac{\alpha}{M}(P^{m,t} - P_0)$$

$$\frac{Q^{m,t}}{Q(P_0)} = \exp\left[\frac{\alpha}{M}(P^{m,t} - P_0)\right]$$

Solving for $Q^{m,t}$ and substituting the expression for $Q(P_0)$ from equation (8), we obtain

$$Q^{m,t} = \frac{\alpha W(P_0)}{M}\exp\left[\frac{\alpha}{M}(P^{m,t} - P_0)\right] \quad (9)$$

Equations (7) and (9) imply that

$$W^{m,t} = W(P_0)\exp\left[\frac{\alpha}{M}(P^{m,t} - P_0)\right] \quad (10)$$

EXAMPLE

Naïve speculators may find pyramiding to be an attractive strategy. Suppose a speculator ignores the possibility of getting a margin call, and further expects the price to increase by 24% (i.e., $P^{m,T} = 1.24P_0$).

Let M be 8% of P_0. Let g be 0.75. Also assume that the initial number of futures contracts is large enough to make the approximation $\int_{Q(P_0)}^{Q^{m,t}} \frac{dQ^{m,t}}{Q^{m,t}} = \int_{P_0}^{P^{m,t}} \frac{\alpha}{M}\, dP_t$ valid. Conditional on there being no margin call, the speculator expects the return of the most aggressive pyramiding strategy (i.e., $\alpha = 1$) to be $\frac{W^{m,T}}{W(P_0)} - 1 = \exp\left[\left(\frac{1}{0.08}\right)(1.24-1)\right] \approx 20 - 1 = 1{,}900\%$.

We now find an explicit expression for the futures margin constraint. Let $X(P_t)$ denote the value of the futures portfolio at time *t*. If there is no margin call on or before time *t*, then, by definition,

$$X(P_t) \equiv P_t\, Q^{m,t} \tag{11}$$

If the investor follows the constant-collateral trading strategy, we can multiply both sides of equation (7) by P_t and use equation (11) to express the futures initial margin constraint as

$$X(P_t) = W^{m,t}\left(\frac{\alpha P_t}{M}\right) \tag{12}$$

Conditional on there being no margin call on or before time *t*, we can rewrite condition (2) as $W(P_t) \geq gM\, Q^{m,t}$, solve this for $Q^{m,t}$, and multiply both sides by P_t to obtain the futures maintenance margin constraint

$$X(P_t) \leq W(P_t)\left(\frac{P_t}{gM}\right) \tag{13}$$

For the constant-collateral class of trading strategies, we can express the margin-financing constraint as

$$0 < |\alpha| \leq 1 \tag{14}$$

Dividing both sides of equation (10) by $W(P_0)$ and taking the logarithm gives

$$\ln\left[\frac{W^{m,t}}{W(P_0)}\right] = \frac{\alpha}{M}(P^{m,t} - P_0).$$

Employing the definition of $P^{m,t}$, given in equation (3), leads to

$$\frac{\alpha P_t}{M} \leq \frac{\alpha P^{m,t}}{M} = \ln\left[\frac{W^{m,t}}{W(P_0)}\right] + \frac{\alpha P_0}{M}. \tag{15}$$

Using equation (15), we can now rewrite equation (12) as

$$X(P_t) \leq W^{m,t}\left\{\ln\left[\frac{W^{m,t}}{W(P_0)}\right] + \frac{\alpha P_0}{M}\right\}. \tag{16}$$

Grossman and Vila (1992) considered stock market margin regulations. Their margin constraint was of the form

$$X_t \leq k[W(P_t) + L], \tag{17}$$

where k is a constant and L stands for the investor's credit line. The special case of $L = 0$ corresponds to the case of an investor trading stocks on margin. Equation (16) shows that k is not a constant in situations with futures market regulations where the constant-collateral trading strategy is used. Futures market regulations as modeled in this paper therefore impose a richer structure on the margin constraint than was shown in the model studied by Grossman and Vila. According to equations (12) and (13), in the futures margins context, for the constant-collateral trading strategies and along price paths satisfying equation (6), the expression for k in condition (17) becomes

$$k = \frac{\alpha P_t}{M} \le \ln\left[\frac{W^{m,t}}{W(P_0)}\right] + \frac{\alpha P_0}{M} \tag{18}$$

The investor employing a constant-collateral trading strategy will get a margin call when the price declines a certain amount from the maximum price, $P^{m,t}$. If this amount of retracement is denoted by R_t^c, then by definition

$$R_t^c \equiv P^{m,t} - P^{c,t}, t \le t^c. \tag{19}$$

To learn how low the price must fall (that is, how large a retracement must occur) for there to be a margin call, we need to calculate the wealth after a retracement of an arbitrary size R_t. Note that each contract will contribute amount R_t to the overall loss:

$$W(P_t) = W^{m,t} - Q^{m,t}R_t = W(P_0)\exp\left[\frac{\alpha}{M}(P^{m,t} - P_0)\right] - Q^{m,t}R_t.$$

If the trader's portfolio contains $Q^{m,t}$ futures contracts, equation (2) implies that to avoid a margin call,

$$W(P_0)\exp\left[\frac{\alpha}{M}(P^{m,t} - P_0)\right] - Q^{m,t}R_t \ge gM\,Q^{m,t}.$$

Dividing both sides by $Q^{m,t}$ and using equation (9) gives

$$\frac{M}{\alpha} - R_t \ge gM$$

$$R_t \le M\left(\frac{1}{\alpha} - g\right) \tag{20}$$

Condition (20), which states the retracements that can occur without triggering a margin call, holds for all price paths as long as $t < t^c$. Condition (20) implies that the maximum retracement that does not result in a margin call is given by

$$R^* = M\left(\frac{1}{\alpha} - g\right). \tag{21}$$

Thus, for the constant-collateral class of trading strategies, the maximum retracement that does not result in a margin call is constant. Equations (10) and (21) lead to the result that as the investor adopts more aggressive strategies (as α gets closer to 1), the final wealth (given that there were no margin calls) will be higher, but the probability that there is at least one margin call during the trading time interval will be higher as well.

Even if the investor believes that the probability that $P_T > P_0$ is 1, the optimal trading strategy will not be the trivial "buy as many contracts as possible" (corresponding to setting $\alpha = 1$). The optimal trading strategy will take into account the effect of the trading strategy characterized by parameter α on the

frequency of margin calls, and will therefore take into account its effect on the expected utility $E(U(W(P_T)))$.

For the case in example worked through above, R^* = [(0.08) P_0](1 – 0.75) = (0.02)P_0. This implies that the probability that the speculator would achieve a return of 1,900% is equal to the probability that the future price path of the futures contract is such that $P^{m,T} = 1.24P_0$ and no retracement during the time interval [0, T] exceeds R^*. Put another way, if the futures price rises by 24% from the time trading begins and there is no retracement that exceeds 2% of the initial price, the investor employing the most aggressive pyramiding strategy possible will receive a return of 1,900%.

It is difficult to estimate the probability that in a given time frame, the price will rise by a certain percentage before there is a retracement exceeding another fixed percentage. Unsophisticated investors might well be irrationally optimistic and overestimate this probability. Alternatively, momentum investors may irrationally believe that the probability that there will be a price retracement exceeding a given amount *h* during their trading horizon is 0. This could give rise to destabilizing pyramiding behavior.

Suppose the momentum investor irrationally believes that between time 0 and time *T*, the price will keep going in the same direction and that there is a zero probability that the largest price retracement during that time interval will exceed amount *h*. Recall that we showed that for constant-collateral trading strategies, the maximum retracement that does not result in a margin call depends on parameters *M*, α, and *g* in the following manner: $R^* = M[(1/\alpha) - g]$. The trader with these beliefs therefore can solve for the α that would provide the most growth of the wealth in the portfolio, while being immune to the possibility of a margin call. The trader will choose α in such a way that *h* will be less than *R**, as follows.

$$h \le M\left(\frac{1}{\alpha} - g\right)$$

Thus

$$\frac{M}{h + gM} \ge \alpha \,. \qquad (22)$$

The expressions for $Q^{m,t}$, $W^{m,t}$, and $X(P_t)$ given above (in equations (9), (10), and (16), respectively) are conditional on there being no margin call in the interval [0, *t*]. This allows us to reduce the impact of path dependency on this complicated problem. Every time there is a margin call, the investor needs to sell a sufficient number of contracts so that the remaining contracts satisfy the initial margin constraint. Recall that the futures margins regulations stipulate that every time there is a margin call (when there is less than amount *gM* of collateral for each futures contract), the trader must increase the equity in the account to ensure that there is at least amount *M* of collateral backing each remaining futures contract held in the portfolio. In effect, the portfolio is treated as a new purchase, so that the initial margin requirement must be met. In general, it is difficult to use analysis to derive unconditional expressions for $Q^{m,t}$, $W^{m,t}$, and $X(P_t)$.

CONCLUSION

This paper is concerned with the problem of a futures trader who wants to take advantage of the leverage made possible by the regulations in the futures market regarding marking-to-market and buying contracts on margin. We introduce the concept of constant-collateral trading strategies as a special case of margin-financing trading strategies, which in turn are a new extension of the notion of self-financing trading strategies. Assuming that the trader is constrained to using a constant-collateral strategy, we derive the constraint on the number of contracts in the trader's portfolio, the futures margin constraint, and the formula for the maximum retracement that does not result in a margin call. We show that for the constant-collateral trading strategies, the maximum retracement that does not result in a margin call is constant. We also show how the futures margin constraint is related to the stock margin constraint.

Our results can be used to explain the behavior of momentum investors. In particular, it is possible to analyze the factors influencing the optimal future portfolio strategy, given a momentum investor's preferences, as expressed in the utility function $U(W(P_T))$, and the investor's (possibly irrational) beliefs about the relationship between the likelihood of receiving a margin call and the level of aggressiveness of

one's pyramiding strategy. The model we present implies that conditional on the investor receiving no margin calls, adopting a more aggressive strategy (using a higher percentage of wealth as collateral for futures contracts**)** results in higher final wealth. Adopting a more aggressive strategy, however, increases the likelihood that one will get at least one margin call. Thus, the solution to this complicated path-dependent portfolio choice problem is nontrivial. Moreover, it seems likely that this solution would be a function of the parameters that represent the initial and maintenance margin requirements in the futures market.

The current results have application to practical problems. Being able to solve the dynamic portfolio choice problem of the futures momentum trader would help to facilitate testing of the pyramiding–depyramiding hypothesis. Knowing the extent to which irrational momentum traders would be willing to take advantage of the regulations in the futures market (marking-to-market and the margin regulations) in order to pyramid futures contracts would help market regulators in setting the margin requirements. In future work, we intend to relax the unrealistic assumptions made in this paper, and to use numerical methods to find more general results for the portfolio choice problem of a futures speculator who takes margin regulations, including marking-to-market, into account. The ultimate goal is to derive an optimal futures portfolio choice model that takes into account the correct probability of having a margin call.

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A NEW INDEX TO MEASURE GROUP INEQUALITIES IN HUMAN DEVELOPMENT FOR SUSTAINABILITY

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ABSTRACT

Different types of inequality exist among different groups in a society. Inequality in terms of capabilities, or end goals of life, may lead to unrest, and is against the spirit of sustainability. When sustainability goal is to optimize resource-allocation between generations, it cannot ignore the rights of the deprived people on resources within the current generation. This paper proposes a new equity index that measures group inequality in terms of human development or end goals of life. The proposed index meets the Pigou-Dalton condition of transfer and is consistent with Rawlsian justice. This paper shows how the equity index can be used to compute gender inequality and regional disparity. A non-positive change in the value of the equity index over time is desirable for national integrity and social sustainability. This index can be used to evaluate the effectiveness of any affirmative action or equity program.

Keywords*: Equity Index, Inequality, Disparity, Human Development, Sustainability*

INTRODUCTION

Disparities and inequalities among groups, regions and between genders are undesirable, and may have serious consequences for national integrity and social sustainability. However, the fact is that many such inequalities and disparities cannot be eliminated easily. It may take decades of efforts to eliminate or significantly reduce such disparities. Therefore, appropriate management of the factors that reduce income, wealth, capabilities and opportunities for any group, gender or region is important for national integrity and social sustainability. A first step for sustainable management of the factors causing inequality is to measure the relevant inequality.

This paper uses Human Development Index (HDI) as a measuring rod for inequality, because that is a weighted average of income, health and education indices. Section 2 gives a brief overview of some popular inequality indices. Section 3 proposes a new index to measure inequality and provides an equity condition for sustainable human development. Section 4 shows how gender inequality and regional disparity can be measured with the proposed index. It also shows how the proposed index differs from the Gender-Related Development Index (GDI) and how that can serve as an early warning system for regional unrest. Section 5 presents some final observations.

LITERATURE REVIEW

Acknowledging the rights of future generations on resources, sustainability seeks intergenerational equity. Such an objective is implausible, and morally and ethically questionable, when the sustainability goals do not also include achievement of intra-generational equity. Therefore, monitoring present inequality is an essential first step for sake of sustainability. Different measures of dispersion are used to compare inequality between groups and individuals in terms of income and opportunities. Any equity index should meet the Pigou-Dalton condition of transfer, which indicates that *ceteris paribus* any transfer from a relatively poor to a relatively rich person must increase the degree of inequality.

Gini coefficient, which is represented by twice the area between the cumulative income share curve (Lorenz curve) and the line of equal income share, is the most commonly used indicator for income inequality. Atkinson's (1970) measure of income inequality is another popular index. By definition,

$$I_{Atkinson} = 1 - \left[\sum_{i=1}^{n} \left(Y_i / \hat{Y} \right)^{1-\varepsilon} f_i \right]^{\frac{1}{1-\varepsilon}} \text{ for } \varepsilon \neq 1$$

$$= 1 - \exp\left[\sum_{1=i}^{n} f_i \log_e \left(Y_i / \hat{Y} \right) \right] \text{ for } \varepsilon = 1$$

where Y_i = income of the people in i-th income range,

$\hat{Y}$ = mean income,

f_i = proportion of the people in i-th income range,

ε = inequality aversion parameter.

Rawls' (1971) contractual theory of justice assesses inequality in terms of the condition of the least advantaged members of society. There are a host of poverty indices that reflect the number of poor people and/or their relative incomes in a society. Two well-known composite poverty measures are the Sen Index (1976) and the P (α) measure of poverty (Foster, *et al.*, 1984). A combination of headcount index, poverty gap, and Gini coefficient are used to compute these indices.

Besides these income-based poverty measures, in 1997 with the help of Sen, *et al.* the UNDP introduced a new poverty measure, called the Human Poverty Index (HPI). It uses human development information from the "deprivational perspective." By definition,

$$HPI = \left[\left(P_1^3 + P_2^3 + P_3^3 \right) / 3 \right]^{\frac{1}{3}},$$

where P_1 = % of people not expected to survive to age 40,

P_2 = % of adults who are illiterate,

$P_3 = \left[\left(P_{31} + P_{32} + P_{33} \right) / 3 \right]$,

P_{31} = % of people without access to safe water,

P_{32} = % of people without access to health services and

P_{33} = % of moderately and severely underweight children under 5.

Gender-Related Development Index (GDI) and Gender Empowerment Index (GEM) are two gender-related development indices, but are often mistaken by many as gender-related inequality indices (UNDP, 2009).

Each of the inequality and poverty indices has its merits in measuring certain types of inequality and poverty. However, none of them is used as a universal sustainability indicator. The following section proposes an equity index that measures inequality in terms of human development. Along with other indicators of sustainable development a non-positive change in the equity index can ensure economic and social sustainability (Dewan, 2009).

THE EQUITY INDEX

Individual inequalities are certainly not something to ignore, but unless people can identify themselves with a group the failure can be attributed to personal incapability. Inequality among individuals may, or probably shall, never be eliminated. Moreover, for variables such as life expectancy at birth only group inequality matters (Sen, 1993). The existence of group inequality indicates that somehow there exists, or may have existed, some factors generally preventing different groups from being equal in terms of their achievements of certain goals.

"Groups" can be defined in various ways depending on needs and purposes. For example, to analyze material well-being, Slesnick (1991) divided US households into 23 demographic groups based on family size, age of household head, region of residence, race, type of residence, and sex of household head. In a plural society, inequality can arise from racial, ethnic or religious differences. For instance, the UNDP (1993) report showed that considered alone Caucasian Americans outranked any other nations in the world, while African Americans ranked 31st and Latino Americans ranked 35th in HDI ranking of all countries.

Women's human development is lower than that of men's in all nations. The latest UNDP (2009) report shows that in Australia GDI = 0.966 (rank 1st) and in Niger GDI = 0.308 (rank 155th), when GDI = 1 is representative of perfect gender equality.

Inequality due to racial, ethnic or religious reasons may cause serious social tension and unrest. Another form of inequality, which can be a potential source of unrest in a country and has been studied extensively in regional economics, is regional disparities. Social programs in any country are, in general, tailored to groups, rather than individuals. Group inequalities need to be reduced for the sake of a congruent society. If national integrity is somehow threatened due to inequality, that must have a significant impact on sustainable development. A properly defined equity index that measures group inequality can help guide the social planners to device appropriate policies to address equity issues. Such an index can also be used to evaluate the effectiveness of any policy.

The Equity Index (E), defined below, is a measure of the deprivation of different groups in relation to the highest achiever group of human development. Groups are to be defined based on national characteristics. For country comparisons, groups can be defined based on some common criteria, e.g., gender, race and ethnicity, religion, and geographical region. Therefore, a group can be "Caucasian Christian Female from California," or "African-American Muslim Male from New York," and so on.

In light of the above discussions, an Equity Index (E) to measure group inequality is defined as:

$$E = \left[\sum_{i=1}^{n} (H_{\max} - H_i)^{\gamma} \left(P_i / P \right) \right]^{\frac{1}{\gamma}},$$

where $H_{\max}$ = Group with highest achievement in human development,

H_i = Human development index of the i-th group,

$\left(P_i / P \right)$ = Relative population in the i-th group and

γ = Inequality aversion parameter ($\gamma \geq 1$).

Since life expectancy for women is greater than that for men, necessary adjustments have to be made while computing gender inequality with this index. Although regional disparities in terms of longevity and educational attainment are not desirable, uneven growth in income in different regions is not inconsistent with the "Growth Pole Theory" of economic development. Therefore, some may suggest that rather than regional GDP, regional GNP or personal income can be a more appropriate indicator to compute E. Alternatively, E can be computed from regional longevity and educational attainment data only. This methodology, however, implicitly assumes that income disparity has the same distribution as that of longevity and educational attainment. The third option is to use regional GDP, when E will reflect geographical income disparity.

Comparative Statics of E

By definition, the equity index is a weighted average of order γ of group inequality in human development. If a society is more concerned about group inequality or disparity, it can assume that $\gamma > 1$. That will put more weight on larger disparities. When $\gamma = \infty$, a society is unwilling to accept any group inequality in human development. More affirmative action programs from the social planners can be expected when $\gamma > 1$. For country comparisons, $\gamma = 1$ can be assumed.

The following partial derivatives provide good insights about the comparative statics of E:

(i) $\left. \delta E / \delta P_i \right|_{P \text{ fixed}} = (H_{\max} - H_i) > 0.$ That means if relative population in a deprived group i increases, E will increase.

(ii) $\left. \delta E / \delta H_i \right|_{H_{\max} \text{ fixed}} = \left(P_i / P \right)(-1) < 0.$ That means everything else equal, if the human development of group i increases, E will decline at a rate (P_i/P).

(iii) $\delta E / \delta H_{\max}\Big|_{H_i \text{ fixed}} = \left(\sum P_i / P \right) > 0.$ That means if H_{max} increases relative to all H_i, E will increase.

(i) and (ii) above indicate that E fulfills the Monotonicity Axiom, which implies that E will not decrease unless relative human development of group i improves, or the population in group i decreases. The policy implication of (iii) above is that increasing the well-being of the highest achiever group relative to other groups is not consistent with equity objectives.

The proposed index has the following properties. Proofs of the properties are beyond the scope of this short paper.

Property I: *E is homogeneous of degree one in H_{max} and H_i, and also in P_i and P.*

Property II: *E meets the Pigou-Dalton condition of transfer for all $\gamma > 1$.*

The Pigou-Dalton condition indicates that everything else remaining the same, any transfer from a relatively poor to a relatively rich person must increase the degree of inequality. This is similar to Sen's (1976) weak transfer axiom which indicates that "a transfer of income from one poor household to another poor household where the later is relatively 'richer' than the former" causes an "increase in the poverty measure" (Blackwood and Lynch, 1994). Since E measures group inequity, the Pigou-Dalton condition is defined here in terms of groups rather than individuals.

Property III: *E is consistent with Rawlsian justice.*

Rawlsian justice implies that the fastest way to decrease E is to increase human development of the most deprived group, when H_{max} does not decline.

Property IV: *The elasticity of substitution between L_i and Q_j, $\sigma_{Li,Qj} \neq 0$.*

Q_j = Quality of life = $\frac{1}{3}(ED_i + Y_i)$, where ED_j = educational attainment of the j-th group and Y_j= income of the j-th group. If there is a trade-off between the improvements of the quality of life for group j and the increase in life expectancy (L) for group i, it is expected that one would prefer the increase in L_i, when i is the deprived group. Since there is perfect substitutability between the components of the Human Development Index, the rate of substitution between L_i and Q_j in the equity index is not infinite. In other words, $\sigma_{Li,Qj} \neq 0$.

<u>Equity Condition for Sustainability</u>

Meeting the basic needs of the present generation without compromising the ability of future generations to meet their needs is considered sustainable development (Brundtland, 1987). A non-positive change in the equity index is a necessary, but not a sufficient condition for sustainability. It is a necessary condition particularly when the basic needs are defined in terms of end goals of life or the human development index (Dewan, 2009). Even if only per capita income or consumption is used to measure sustainability (sustainable economic growth), as preferred by most mainstream economists, this equity index remains relevant. For, there is a high correlation between income or consumption and the human development index. Following is the desirable equity condition for a society:

$$\frac{dE_t}{dt} = \frac{d}{dt}\left[\sum_{i=1}^{n}\left(H_{\max,t} - H_{it}\right)^{\gamma}\left(P_{it}/P_t\right)\right]^{\frac{1}{\gamma}} \leq 0, \text{ where } t = \text{time}.$$

APPLICATIONS

The equity index can be used to measure any type of group inequality in human development. The following two sub-sections show the relevance of the proposed index as one of the sustainability conditions by measuring gender inequality and regional disparity.

1. GENDER INEQUALITY

Women constitute on average about half of the population in a country, but in terms of human development, rights or participation in national decision-making they lag behind men in almost every country on the planet. The UNDP has been computing the Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM) for different countries every year since 1995. Not in a single country have women been able to surpass the achievement of human development by men. Women's role in national decision-making and their participation in professional and technical jobs widely vary from country to country. GDI and GEM together capture such gender differences. However, they are not inequality indices. Based on the definition of equity index in section 3, gender inequality can be computed as

$$E = \left[\left(H_{male} - H_{female}\right)^{\gamma} \left(P_{female} \big/ P \right) \right]^{\frac{1}{\gamma}}, \text{where } \gamma \geq 1.$$

A comparative study between GDI and E ranking for 33 countries from a randomly selected 1992 Human Development Report shows that the correlation coefficient, r ($Rank_{GDI}$, $Rank_E$), is 0.424. The following table shows GDI and E ranking of 10 selected countries:

Table 1: GDI and E Ranks of 10 Countries

Country	E Rank	GDI Rank	GDI Rank - E Rank
Sweden	1	1	0
Finland	2	3	1
Norway	3	2	-1
Paraguay	4	28	24
France	5	4	-1
Denmark	6	5	-1
Myanmar	7	32	25
Czechoslovakia	8	14	6
Australia	9	6	-3
New Zealand	10	7	-3

It is, therefore, evident that the ranking is sensitive to the indicator used. It is shown in section 3 that the proposed index has all the required properties of a good inequality index. A negative change in the equity index is indicative of lower gender gap, which is desirable for sustainability.

2. REGIONAL DISPARITY

Based on the definition of equity index in section 3, an index for regional disparity can be calculated as

$$E = \left[\sum_{i=1}^{n} \left(H_{\max} - H_i\right)^{\gamma} \left(P_i \big/ P \right) \right]^{\frac{1}{\gamma}},$$ where i represents a region.

Inequality in terms of regional human development may have significant implications for sustainability. Regional inequality in human development in a country can often be interpreted by the concerned groups as “injustice” and be a source of unrest. That may even lead to the disintegration of a nation. As “country” is usually used as a unit of analysis, all sustainability conditions will likely change, if a country disintegrates. Since the human development index uses income, health and educational information, regional inequality in human development must be monitored for sake of economic and social sustainability in a nation. Changes in the de-composed regional inequality index can serve as an early warning system for potential sources of unrest.

While other forms of inequality are unjustifiable, regional disparities are sometimes justified by the primate city model or the growth pole theory. According to Higgins (1978), the growth pole concept has meaning in a stage of development where industrialization takes place on the basis of exploitation of natural resources.

Zero regional disparity in a pure geographic sense is not feasible. In fact, in many developing countries, poverty areas exist within each region in a very asymmetrical manner (for examples from India, see Mathur, 1978). Most developing nations have the "syndrome of collective poverty" (Friedmann, 1978). Therefore, it can be argued that these nations cannot afford to slow down growth rates in relatively high-income regions for accelerating growths in relatively low-income regions. "Growth rates, of income or of jobs, are customary indicators of regional economic differences" (Malecki, 1991). However, the choice of different income measures may substantially change the ranking of different regions in a nation (Hansen, 1995). Therefore, it is important to use the appropriate income measure in the equity index, which depends on the purpose of computing the index.

For intra-generational equity, it must be ensured that the region of origin of a person in a country does not become a deciding factor in attaining human development. People from all regions should have access to the same "opportunity set" in realizing their potentials and attaining equal quality of life. In a country, a person can find the best opportunities in life in a place other than his or her birthplace. Therefore, regional GNP rather than regional GDP is a more appropriate income measure to use for the purpose of computing the equity index. Educational attainment and life expectancy, then, must be computed for each group of people born in a particular region, rather than for those living temporarily in a region. If the equity index is defined in such a way, it will not reflect regional disparity in human development in pure geographic sense. Rather, it will measure if geographical origin is a source of difference in attaining human development.

From Western European survey data, Hansen (1992) concludes that: "…..even though the strongest geographic attachment of most people is to their own locality or region, there is nonetheless a pronounced willingness to be taxed to support regional development policies for economically lagging regions." Therefore, the people in resource-rich regions may approve resource-transfer, at least to some extent, from their regions to resource-poor regions in a nation, when the people in resource-rich regions are economically advanced. However, if the people in a resource-rich region lag behind in attaining end goals of life, that can be a problem for national integrity. The break-up of Bangladesh from Pakistan in 1971 could be a good example.

Proposition: *A significant disparity in human development and other developmental and socio-cultural indicators may lead a deprived region to threaten to break away. The threat is "credible" if the region's resource-base is strong.*

Assuming a constant-sum bargaining game between a country and a resource-rich region in the country, it can be shown that breaking away from the country is a dominant strategy for the region. This is particularly true if the quality of life in the region is not according to local expectations relative to that in the rest of the country. On the other hand, for a relatively resource-poor region staying together is the optimum strategy. Even if the region is a low achiever in human development or a large receptor of pollutants, its threat to break away may not be "credible" from economic considerations. Therefore, a national policy of lesser access to opportunities in a resource-poor region may be consistent with Summer's (1992) infamous policy prescription of exporting pollution to underdeveloped regions. However, the equity index would suggest that such a policy is not coherent with sustainability objectives.

The above proposition implies that sustained low human development regions are probably relatively resource-poor. Any effort to improve human development in those regions will likely require resource-transfer from high human development regions, which is consistent with social justice. E can be defined both for understanding disparity among geographic regions and for measuring inequity among people due to regional origin. Change in E over time is a good indicator to assess if the country is moving towards convergence or divergence in terms of regional opportunities.

CONCLUSION

For sustainability and national integrity, equal opportunity and an environment for flourishing human potential has to be assured for everyone in every nation. Any form of discrimination based on skin colour, race, ethnicity, religion, gender or region that decreases human potential is inconsistent with sustainability objectives. The proposed equity index can be used as an evaluation tool for equity programs. It can help identify appropriate indicators of inequality, and thus help manage group inequalities.

The proposed index is sensitive to the number of groups used to compute the index. Therefore, one has to be cautious about interpreting the value of the index. It should also be noted that in a pluralistic society, sources of unrest and threat to central governance could originate from other issues not directly related to economic growth or achievement in human development. The equity index, as defined, will not capture such socio-cultural disparities. Therefore, a complete set of sustainability indicators must include socio-cultural and other indicators along with the equity index. The equity index measures only one dimension of sustainability. It's universality to measure any form of group inequality is its strength.

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THE IMPACT OF GLOBAL ECONOMIC CRISIS ON THE NAMIBIAN ECONOMY: ISSUES AND CHALLENGES

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ABSTRACT

Theoretically, a financial crisis is a period of declining economic activity, due to reduced aggregate demand, leading to job losses, low productivity, etc. The current global economic crisis triggered by a liquidity shortfall in the United States (US) banking system, due to high demand for credit in the sub-prime housing market towards the end of 2007(Wikipedia,2007).[4] *The global economic crisis has tested the strength and reliance of many economies around the globe, resulting in the collapse of large financial institutions, the "bail out" of banks by national governments and downturns in stock markets around the world. Some of the negative impacts of the crisis include failure of key businesses, declines in consumer wealth estimated in the trillions of U.S. dollars, substantial financial commitments incurred by governments, and a significant decline in economic activity. Many causes have been proposed, with varying weight assigned by experts. Economic theory suggests that a strong exporting country has a greater potential to grow and diversify its sectors, which has been demonstrated by a number of emerging economies like China and India. The Namibian GDP has shown a strong and statistically significant relationship with total exports, implying that a good performing export sector has the potential to grow the economy but it has many challenges in this journey. The paper deals with the global economic crisis and its consequences. It sheds a light on the impact of the global economic crisis (if any) on the Namibian economy. It provides some policy implications for the Namibian economic development.*

Keywords: *Global economic crisis, Economic Theory, Great economic depression, Recession, Namibia, Export sector.*

JEL Codes: *D53; E24; E31; E44*

INTRODUCTION

The economic recession[5] is a buzz word which gained increasing importance in the global economy. Advanced economies are either in recession or in a deep recession and the emerging markets is facing a sharp economic slowdown. Overall, global economic growth predictions have been revised downwards (World Bank, 2009a). The current global financial crisis began in the United States of America (USA) in late 2007. It began in the US banks when they reported losses due to bad loans. The banks in the USA were lending out loans to the public on sub-prime rates and the borrowers could not pay back the loans resulting

4 Available at http://en.wikipedia.org/wiki/Financial_crisis_of_2007%E2%80%932010 retrieved on 20 January 2010.

[5] Economic Recession is a financial meltdown, which can last for a period of few months to couple of years and can affect regional or world economy, leading to financial crisis, market crash, unemployment and economic depression. A long lasting impact of economic recession can lead to economic depression. This section provides articles and news on subprime mortgage crisis, credit crunch, current economic crisis, stock market crash, and financial bailout, major causes of economic recession, signs of economic depression, US economic recession history, and recession cycle (see http://www.buzzle.com/articles/economic-recession).

in most houses getting foreclosed and banks making loses. The crisis quickly spread to the other financial sectors such as insurance and eventually spread to the all the sectors of economy. The crisis has since spread to the other developed countries and thus become a global problem. As a result, the global financial crisis has clearly become a leading foreign policy priority of the American Government.

In 2008, the world entered into a period of slow economic growth, triggered by food, fuel and financial crises. Countries across the world suffered from increased international food and fuel prices and high inflation during the first half of 2008, while in the second half of 2008, they were hit by an economic meltdown triggered by a global financial crisis. It is expected that the world will enter an era of slower expansion; world economic growth is expected to fall from 3.2% in 2008 to -1.3% in 2009, while growth in developing countries is expected to slow down from 6.1% in 2008 to 1.6% in 2009 (IMF, 2009).

It has been often felt by many economists that the current global financial crisis, undoubtedly the worst financial crisis since the 1930s, has tested the strength and resilience of many economies around the globe (Allen, 2000). The financial crisis, which began in 2007 as an isolated and sector specific problem in the US sub-prime residential markets, has now spread into a global financial disaster. It has adversely influence not only the developed countries like Japan, Germany, France, Australia but also developing and emerging countries India and China.

Banks and other international corporate finance institutions involved in the business of giving credit facilities aim to have a cash flow that will increase their credit portfolio and profit margins through proper control procedures. At the same time, consumers aim to have disposable incomes either for business expansion or for consumption, available at all times (Goodhart, 2008).

The net effect is that this consumption stimulates economic growth and creates the cycle of economic activities, therefore keeping the economy running. The credit crunch has managed to take the life out of developed economies; while developing economies are yet to experience its full impact. The bleak reality is that developing countries must prepare for a drop in trade, capital flows, remittances, domestic investment, as well as a slowdown in growth (Rena, 2006).

During periods of economic turmoil, especially with credit, there will be an economic recession, characterized by low consumption leading to low unit sales and low business profits, which could then lead to the redundancy and unemployment. Because of the current credit crunch there is massive level of global unemployment (Kenen, 1994). Unemployment, results in reduced household incomes that will in effect affect household spending. The poor in the society will end up unable to cope and it is this low-income population suffers the most (Rena,2010).

The low-income populations in most developed economies are economic migrants, remitting their hard earned foreign currency back home. Family members in developing economies use remittances primarily to finance consumption, including food; shelter, health care and necessities. Remittances from developed to developing countries reached a record $251 billion in 2007 (World Bank, 2009b).

These remittances are more broadly distributed over developing countries than private financial flows, by surpassing other financial sources, such as official development assistance, bank lending and private investment into developing countries. These inward remittances to developing economies will suffer because of the credit crunch and will have a multiplier effect on levels of unemployment, mortgage foreclosure and banking crisis developing economies as well (World Bank, 2009b).

The economic downturn in developed countries may also have significant impact on developing countries through other channels that include financial contagion and spillovers for stock markets in emerging markets. For example, according to the OECD Global report (2008) The Russian stock market had to stop trading twice, while the India stock market dropped by 8% in one day at the same time as stock markets in the USA and Brazil plunged.

The crises also hit indirectly or directly the developing countries in Africa. Therefore, the global financial crisis is on everyone's lips. The recent reports reveal that there is a job loss of 25 per cent people in Southern Africa region especially the mining sector and other industries, houses foreclosures and citizens

living on credit cards debt, the impact of the crisis on the individual worker in the developed world is clear(Rena,2010). In South African Development Community (SADC) region, there have been threats of closures and retrenchment in Zambia copper mines and the Botswana's diamond mines and this include the land of brave, Namibia.

The current global financial crisis has on adverse impact on the international trade which increased the commodity imports and pushed up the demand for oil, copper, and other natural resources, which has led to greater exports and higher prices. The oil prices steadily increasing and thus become a threat to the global economy. Slowdown in global growth will have knock-on effects on Namibia's exports. Similarly, the Foreign Direct Investment (FDI) inflows have come under pressure. While Namibia enjoyed record increase in FDI over the years 2008-2009 especially in the mining (uranium) industry, this is coming under pressure. A number of projects in the mining sector are being put on hold due to decline or collapse in mineral prices and also difficulties in finding cheaper funding due to the credit crunch. The implication is that some mining companies are closing and retrench workers, resulting in loss of income for many Namibians.

Commercial banks have become cautious in advancing credit due to high risks emanating from economic contraction and may not be able to lend as much as they have done in the past. The Namibian economy is very much dependent on circulation of credit and slowdown in advancement of loans to the economy puts breaks to economic activities especially in sensitive sectors such as retail and property market (Mwinga, 2008). Foreign aid budgets are under pressure because of debt problems and weak fiscal positions in advanced economies such as the US, the UK and other European countries and therefore funding for projects in Namibia is reduced (Rena,2010).

GLOBAL CRISIS AND ITS IMPACT ON THE WORLD ECONOMY

The global credit crunch, economic slowdown in developed economies and rising inflation will reduce the rapid growth in developing economies in the coming years. Significantly, the credit crunch will have a far greater impact on developing countries such as Namibia. The credit crunch problems are wide-ranging, with a knock on effect that goes beyond the non-availability of credit. The root cause of this crisis is that credit drives an economy and has been a useful tool in economic growth and expansion.

According to Maurice R. Greenberg, chairman and CEO of the American International Group, (2009), the current global financial crisis is among the greatest challenges to the world economy since the end of the World War-II in 1945. Unlike past financial crisis, which were confined to particular regions, the current financial contagion is quickly spreading across continents including Asia and Africa. Unless action is taken in the next few months to shore up faltering countries and restore confidence in the global economy, the world will face a deep and prolonged recession.

The global financial crisis is set to depress oil producing economies. As the crisis is already pushing down oil prices and again pushing up (for the last few months), a firm response to the crisis from governments and Central Banks is expected. Oil prices have tumbled more than 70% since July 2007 peak and there are fears they could continue their plunge because of diminishing demand cause by the current financial meltdown. This crisis is made worse by the risk of high price-induced food and fuel crisis. As a result, many countries are faced with the challenge of managing worsening balance of payments positions (Brana and Lahet, 2009).

Even though the general belief exists that Namibia will not suffer such a devastating fate resulting from this crisis, we should not think we are entirely isolated from this. The impact on the international arena will undoubtedly affect Namibian economy. Furthermore, the slowdown in the region, specifically South Africa being a major trading partner, will also have a significant impact on Namibia.

In the first few months of the financial crisis, there was a general view that the impact on African countries would be minimal because of their low integration into the global economy. Furthermore, the African countries tend to have very small inter-bank markets and several countries have restrictions on new financial products as well as market entry which should shield them from the direct effects of the global

financial crisis. Recent developments have however shown that the negative contagion effects of the crisis are already evident in the Africa continent.

For example, available evidence indicates that in 2009 the crisis will reduce economic growth in Africa by between 2 to 4 percentage points depending on assumptions made about the availability of external finance to the region as well as the effectiveness of measures taken by the advanced countries to boost global demand. Given the heterogeneity of African countries, the crisis is certainly going to affect some countries much more than the others.

It is also interesting to note that the crisis is affecting all categories of countries in the region: those considered to have good economic policies and governance; those with poor macroeconomic-economic record; fragile states; small and large economies; oil and nonoil exporting countries. A key implication of this fact is that the real effects of the crisis in the region are not simply due to the nature of macroeconomic policies and governance. Consequently, there is a need to provide technical assistance to countries in the Africa to enable them whether the global slowdown and protect vulnerable groups.

FINANCIAL CRISIS AND NAMIBIAN ECONOMY

The economy is heavily dependent on the extraction and processing of minerals for export. Mining accounts for 8% of GDP, but provides more than 50% of foreign exchange earnings. Rich alluvial diamond deposits make Namibia a primary source for gem-quality diamonds. Namibia is the fourth-largest exporter of nonfuel minerals in Africa, the world's fifth-largest producer of uranium, and the producer of large quantities of lead, zinc, tin, silver, and tungsten. The mining sector employs only about 3% of the population while about half of the population depends on subsistence agriculture for its livelihood. Namibia normally imports about 50% of its cereal requirements; in drought years food shortages are a major problem in rural areas. A high per capita GDP, relative to the region, hides one of the world's most unequal income distributions. The Namibian economy is closely linked to South Africa with the Namibian dollar pegged one-to-one to the South African rand. Namibia draws 40% of its budget revenues from the Southern African Customs Union (SACU). Increased payments from SACU put Namibia's budget into surplus in 2007 for the first time since independence, but SACU's receipts delined in 2009 due to the global economic crisis. Increased fish production and mining of zinc, copper, uranium, and silver spurred growth in 2003-08, but growth in recent years was undercut by poor fish catches, higher costs of producing metals, and the global recession (CIA World Fact-book, 2010 and Wikipedia, 2010).

GDP (purchasing power parity):
$13.53 billion (2009 est.)
$13.44 billion (2008 est.)
$13.06 billion (2007 est.)
note: data are in 2009 US dollars

GDP (official exchange rate):
$9.039 billion (2009 est.)

GDP - real growth rate:
0.7% (2009 est.)
2.9% (2008 est.)
5.5% (2007 est.)

GDP - per capita (PPP):
$6,400 (2009 est.)
$6,400 (2008 est.)
$6,300 (2007 est.)
note: data are in 2009 US dollars

GDP - composition by sector:
agriculture: 9.2%
industry: 34.8%
services: 56% (2009 est.)

Labor force:
716,000 (2009 est.)
Labor force - by occupation:
agriculture: 47%
industry: 20%
services: 33% (1999 est.)
Unemployment rate: 51.2 (2008 est.)

The international financial crisis is already causing havoc on Namibia's job scene with the ministry of Mines and Energy estimated that 4000 jobs could be lost in the mining firms in 2010. The tourism sector which contributes almost 20% of its GDP is now under threat. It means the tourists arriving in the country are expected to be lower than in the previous years. The Namibian decision makers are in business or politics, need to watch closely and learning fast about how to minimize the damage to the country's economy.

There was a financial contagion and spill over for stock markets in emerging markets. The Namibian and Johannesburg stock exchange dropped by more than 40 per cent since the beginning of 2009. While many Namibians may not hold shares directly on the stock exchange, all those who belong to a pension fund, or hold an insurance policy are exposed to these losses.

With the exception of the Government Institutions Pension Fund (GIPF), which are a defined benefit pension; and the benefits are guaranteed by employer; most employees in Namibia belong to a defined contribution pension fund, where the risks of losses are borne by the employees. For example, if an employee retires or resigns from his/her job now, his/her pension payout will be reduced by more than 40 per cent compared to what he/she would have received in the beginning of 2009 (Mwinga, 2008).

A number of projects in the mining sector are being put on hold due to decline or collapse in mineral prices and also difficulties in finding cheaper funding due to the credit crunch. Some mining companies were already closed. The implication is that some more mining companies will be closed and retrench workers, resulting in loss of income for many Namibians. According to the recent Namibian Labour Force Survey Report (2008), the unemployment rate is 51.2% which means for every 2 persons 1 is unemployed. This situation is dangerous for the country's economic development (Rena, 2010). The commercial banks such as, First National Bank (FNB); Standard Bank; Ned Bank etc have become cautious in advancing credit due to high risks emanating from economic contraction and may not be able to lend as much as they have done in the past. The Namibian economy is very much dependent on circulation of credit and slowdown in advancement of loans to the economy puts breaks to economic activities especially in sensitive sectors such as retail and property market (Mwinga, 2008).

RESULTS AND DISCUSSION

The current problem is the investigation of the impact of the current global financial crisis on the availability of foreign direct investment (FDI) to Namibia. The current study seeks to investigate the impact in the wake of ongoing global crisis on the FDIs to Namibia. Namibia currently struggles with the problem of high unemployment rates and the current financial crisis is likely to worsen the situation. Thus given the importance of the FDI, any analysis of the phenomenon at hand is vital and potential mitigating measures are important to the Namibia's development ambitions as enunciated in the Vision 2030.

The Namibian economy is inextricably connected to the global economy through trade and investment. Deteriorating global demand for Namibian products would drastically hurt its mining industry resulting in the closure of mines, the scaling back of operations and loss of jobs.

Compared to other countries in the region, Namibia has been performing relatively better in terms of investment inflows. However, the level of FDIs and domestic investment remain to be lower. The number of jobs and level of economic growth also remain low. Namibia welcomes the new investment and expansion by local companies in the construction, retail, property development, and uranium and tourism sectors. For example, surging oil prices and the impact of the world financial crisis on the global economy reduced growth estimates for Namibia to 3.4 per cent, much lower than forecast in last year's African Economic Outlook. This is expected to dip to 2.7 per cent, below rates for 2009. If the world economy recovers, Namibia's economic growth could rebound to 3.1 per cent in 2010.The southern African country continues to face major challenges such as poverty, inequality and high unemployment (The AfDB/OECD, 2009: 608).

Uranium mining has grown in response to global demand for nuclear power.6 New deposits are developed while existing mines are being expanded. Namibia is ranked among the top producers of uranium behind Canada, Kazakhstan and Australia, with output of 4,366 tonnes of uranium oxide -- representing 10 percent of the world's production. Uranium spot prices peaked at USD 135 per pound in July 2007 but dropped to USD 44 per pound in October 2008.Towards the end of 2008, they went up slightly to USD 53. Long – term contracts have protected Namibian producers from such drastic price swings. The global demand for uranium remains favourable. Forty nuclear reactors are currently under construction throughout the world.

Despite the diverse effects on the mining sector, particularly the diamond industry, a report by Investment House Namibia, paints an optimistic picture of the uranium sector to be panacea of the mining sector led economic growth in Namibia. According to the report Uranium growth in exports and value added terms are envisaged to be markedly positive with multibillion dollars projects in the pipeline expected to drive Namibia's growth over the five years (Namibia Review, 2009:32).

The livestock industry has also moved beyond the traditional export of deboned beef to include other value added products it is encouraging to see continuing investor confidence and interest in Namibia. Government of Namibia has been seized with seeking ways to effectively deal with negative impact of global financial crisis on Namibia's economy. Consequently the Government introduced VAT exemption on certain essential basic food items like bread and *mahangu*.

The Bank of Namibia has responded to the crisis by keeping the interest rates unchanged, while the government has reduced the income tax threshold for different wage categories. The tax threshold has also been raised from N$ 36,000to N$40,000.[7]

The current economic situation in developing countries show that the global financial crisis seems to have spilled over in to the economic sphere of the world with a significant negative impact particular in Africa. Therefore, it is no doubt that the crisis has implications on the macroeconomic fundamentals of the economy with regard to the dimension of growth, trade, investments and development concerns. While the impact of the crisis is noteworthy, there is an optimistic realization that Namibia could be withering the storm where others have taken the plunge.

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[6] Namibian President Hifikepunye Pohamba signed five accords with Indian premier Manmohan Singh by end of August 2009. India has signed a pact with Namibia that could open the way to investment in the African country's uranium and diamond industries. The countries noted many opportunities for investment available in Namibia in the uranium, diamond, agriculture, energy and mining sectors... and resolved to encourage Indian investment in these areas. India would face competition in Namibia from Chinese, Russian and Western companies, who are also interested in the country's rich deposits. However, the Namibian Government made an agreement with the Indian Government on the nuclear programme which is expected to be launched in 2018 in Namibia.

[7] Rena, Ravinder (2009) Public Finance and Taxation, Windhoek, Polytechnic of Namibia and also see *Namibia Review* Vol. 17, No.3 May/June 2009 pp.12-13.

PERSPECTIVES ON GLOBAL FINANCIAL CRISES

The crisis can be defined as the worst global economic downturn since the Great Depression in the 1930s. Advanced economies are either in recession or in a deep recession and the emerging markets is facing a sharp economic slowdown. The economic data, including unemployment figures from developed economies, are not interesting to read; the US in particular has record levels of unemployment (more than 6 million people are unemployed only in 2009). In Australia over 2 million people and in China over 28 million people are unemployed during the same year i.e. 2009. Clearly, the global economy is in a crisis. "The stark reality is that developing countries must prepare for a drop in trade, capital flows, remittances, domestic investment, as well as a slowdown in growth," says Robert Zoellick, World Bank Group president.

Trade shocks characterized by fluctuating trade prices due to the high food prices and declining commodity prices. Growth in China and India has increased imports and pushed up the demand for copper, oil and other natural resources, which has led to greater exports and higher prices, including from African countries (Rena, 2008). These high prices had spurred growth and increased the cost of living in most of developing countries that heavily depend on primary sectors such as mining and oil production. The current credit crunch has suddenly killed off demand and with it the high commodity prices, resulting in a number of mining prospects to be on hold and some closing operations altogether. Thus, these slow down knock-on-effects have and will continue to drastically affect poorer countries (Hill, 2005).

According to the World Bank, while 2007 was a record year for FDI to developing economies, the credit crunch will greatly impede this progress as FDI and equity investment are come under pressure. The impact of the crisis on developing countries will affect different types of international resource flows: private capital flows such as FDI, portfolio investment flows and international lending; official flows such as development finance institutions; and capital and current transfers such as official development assistance and remittances (World Bank, 2009b).

FDI is normally one of the most stable external resources for developing countries, reached a record $500 billion in 2007. However, there are signs of significant decrease. FDI to Turkey has fallen 40% over the last year and FDI to India dropped by 40% in the first six months of 2008. FDI to China was $6.6 billion in September 2008, 20% down from the monthly average in year 2008 so far, and mining expansion plans in South Africa have been placed on hold. Previous downturns in world growth in the range of 2% have led to falls in FDI to developing countries of around 25%. A similar drop in activity would imply a fall in FDI of $150 billion by 2009. Aid may decline to these developing economies but now is the time for increased aid to poor countries. Economic growth in Africa will barely keep pace with population growth next year, for example. More aid will be required to manage economic shocks and provide safety nets, but maintaining aid budgets in the face of the impact of the crisis in donor countries will be a challenge. Increased aid would lead to increased exports and hence assisting the Donor country's economic growth (Hill, 2005).

The global financial and economic crisis presents significant challenges for African countries. It has also exposed weaknesses in the functioning of the global economy and led to calls for the reform of the international financial architecture. Although the crisis was triggered by events in the US housing market, it has spread to all regions of the world with dire consequences for global trade, investment and growth. The crisis represents a serious setback for Africa because it is taking place at a time when the region is making progress in economic performance and management. Since 2000 the Africa region has had an average growth rate of real output above 5 percent and inflation has declined to single digits (Africa Development Bank, 2009).

There have also been significant improvements in governance and a reduction in armed conflicts which have made the region more conducive to the attraction of private capital flows. Net private capital flows to Africa increased from US$17.1 billion dollars in 2002 to US$81 billion dollars in 2007 (IMF, 2008). The global financial and economic crisis threatens to reverse these gains in economic performance and management.

The current crisis is also taking place at a time when the region is slowly recovering from the negative effects of the fuel and food crisis. Against this background, the key challenge facing African countries is

how to manage the current crisis to ensure that it does not reverse progress made since the beginning of the new Millennium and reduce prospects for achieving the Millennium Development Goals (MDGs).

The global financial crisis slowed national economic activities, which in turn affect public revenue. While each country in the assessment was negatively affected by the economic slowdown, the impacts were varied depending on existing national economic structure, connections to the global economy, pre-crisis macroeconomic and fiscal conditions, geographical and economic regions, etc. Some economies took a hard hit, while other countries were able to better absorb the external shock.

Overall, countries have been forced to lower their expectations on revenue collection, which is determined by transmission channels of the impact within national economic structures. While not all countries face decreased revenues, the government ordinary (tax) revenues in general are reduced as a result of slowed economies and decreased household incomes.

FDI MOVEMENT (TREND) POLICIES AND PROSPECTS

The current financial crisis has reanimated the debate on the importance of Foreign Direct investments (FDI) for economic growth and poverty reduction in developing countries. Many financial economists agree that the crisis may have stronger negative effects on economic growth in Africa because of the potential reduction in foreign capital flows. The main literature studies the causal link and relationship between FDI and economic growth with the basic assumption that economic growth is a good proxy for welfare, which is not always true. Moreover, fewer of these papers have been devoted to Africa and its regional disparities on attracting foreign investments.

The fact is that the Global FDI flows have been severely affected worldwide by the economic and financial crisis. Inflows are expected to fall from $1.7 trillion to below $1.2 trillion in 2009, with a slow recovery in 2010 (to a level up to $1.4 trillion) and gaining momentum in 2011 (approaching $1.8 trillion). The crisis has changed the FDI landscape: investments to developing and transition economies surged, increasing their share in global FDI flows to 43% in 2008. This was partly due to a concurrent large decline in FDI flows to developed countries (29%). In Africa, inflows rose to a record level, with the fastest increase in West Africa (a 63% rise over 2007); inflows to South, East and South-East Asia witnessed a 17% expansion to hit a new high; FDI to West Asia continued to rise for the sixth consecutive year; inflows to Latin America and the Caribbean rose by 13%; and the expansion of FDI inflows to South-East Europe and the Commonwealth Independent States (CIS) rose for the eighth year running. However, in 2009 FDI flows to all regions will suffer from a decline (UNCTAD, 2009).

The agriculture and extractive industries have weathered the crisis relatively well, compared with business-cycle-sensitive industries such as metal manufacturing. In addition, there is a better outlook for FDI in industries such as agribusiness, many services and pharmaceuticals. With regard to the mode of investment, Greenfield investments were initially more resilient to the crisis in 2008, but were hit badly in 2009. There was a marked downturn in FDI by private equity funds as access to easy financing dried up. Endowed with sizeable assets, sovereign wealth funds attained a record FDI high in 2008, though they too faced challenges caused by falling export earnings in their home countries (UNCTAD, 2009). Overall policy trends during the crisis have so far been mostly favourable to FDI, both nationally and internationally. However, in some countries a more restrictive FDI approach has emerged. There is also growing evidence of "covert" protectionism.

EFFECTS OF THE GLOBAL FINANCIAL CRISIS ON NAMIBIA

The global financial crisis became prominently visible in September 2008 with the failure, merger, or curatorship of several large financial institutions in the United States. The crisis rapidly evolved into a global credit emergency leaving deflation and sharp reductions in the market value of equities and commodities worldwide as an aftermath. Considering the far-reaching effects of the global financial crisis it is imperative to take a closer look at the Namibian economy.

Namibia’s banking system does not seem to be directly exposed to the sub-prime market or any of the so-called toxic assets that helped spread what started as a problem in the US housing market into a full-blown

world economic crisis. The Namibian banking sector appears to be in good shape generally and the monetary policy transmission mechanism enabled by its banking system remains intact. Banks are well capitalized, have no liquidity or bad debt issues and are well regulated according to the current international best practice, including compliance to Basel 2 requirements by 2010.

Table -1 Real GDP Growth Trends in Namibia during 1991-2009

Year	Gross domestic product, constant prices	Percent Change
1991	5.343	
1992	9.27	73.50 %
1993	-1.62	-117.48 %
1994	5.133	-416.85 %
1995	3.226	-37.15 %
1996	2.304	-28.58 %
1997	4.691	103.60 %
1998	3.994	-14.86 %
1999	2.681	-32.87 %
2000	4.08	52.18 %
2001	1.171	-71.30 %
2002	4.792	309.22 %
2003	4.255	-11.21 %
2004	12.267	188.30 %
2005	2.492	-79.69 %
2006	7.075	183.91 %
2007	5.479	-22.56 %
2008	2.926	-46.60 %
2009	-0.739	-125.26 %

Source: International Monetary Fund - 2009 World Economic Outlook.

MAJOR CHALLENGES FOR NAMIBIAN ECONOMY

Namibia has remained a fundamentally unequal society. Namibia holds the infamous record of being the country with the highest levels of inequality in the world (UNDP 2009).In the mid-90s, Namibia was regarded as the country with the highest levels of inequality and a gini co-efficient of 0.70, followed by Brazil and South Africa (Hastings 1998). These high levels of inequality were confirmed by a government report released in 2008, but based on data obtained in 2004. It still rates Namibia as the most unequal country in the world, although with a slightly reduced gini co-efficient of 0,63.

The recent government report points to gender, race, regional, ethnic, educational and class dimensions of inequality. Other studies, like the United Nations Human Development Report of 2009, calculated a Namibian gini co-efficient of 0.743, ahead of Comoros (0.643), Botswana (0.61), Haiti (0.595), Angola (0.586), Colombia (0.585), Bolivia (0.582) and South Africa (0.578) (UNDP 2009).

Unemployment

More than 60 per cent of Namibians between the ages of 15 to 34 can't find work. In the group for 15 and 19 years, more than 83 per cent are unemployed. More than 67 per cent of Namibians between 20 and 24 years are stranded without employment. For those between the ages of 25 to 29, more than 53 per cent are jobless, while 46 per cent of people between 30 and 34 years share the same predicament. For Namibians of 50 years and older, the broad unemployment rate is 35 per cent (Duddy, 2010).

Region wise Omusati has the highest unemployment rate at 78.6 per cent in the country, followed by Ohangwena with 76.4 per cent. Unemployment in the other regions stands at 70 per cent in Kavango, 68.6 per cent in Oshikoto, 65.6 per cent in Caprivi, 50.4 per cent in Kunene, 48.8 per cent in Oshana, 48.2 per cent in Omaheke, 43.8 per cent in Otjozondjupa, 38.6 per cent in Hardap, 33.5 per cent in Khomas and 32.6 per cent in Erongo.

Nearly 65 per cent of those living in rural areas are jobless, while more than 36 per cent in towns are stuck without work. The report further shows that more than 72 per cent of jobless people have been unemployed for two years or more. Subsistence farming are the only hope for many, as the majority of households, more than 72 per cent, have no secondary source of income. The survey also gives the latest figures for unemployment in Namibia according to the strict definition. The strict definition of unemployment looks only at people who take active steps to find work.

According to the Namibia Labour Force Survey 2008, the strict unemployment rate in the country has climbed steadily since 2000, when it was 20,2 per cent. In 2004 it reached 21.9 per cent, only to spiral to 29.3 per cent in 2008. In other words, the current unemployment rate is 51.2%

Poverty, inequality, HIV and AIDS

High HIV prevalence and AIDS death rates come at a time of economic dislocation, mass poverty and high income disparities (Global Fund Secretariat, 2002: 2). In addition to the high HIV infection rates, Namibia also has the world's second highest tuberculosis (TB) rates, with 765 cases per 100 000 people. Increasingly, the country is also experiencing multi-drug resistant (MDR) and extensive drug resistant (XDR) TB. The TB-HIV co-infection rates stand at 59 percent (Sibeene 2008).

The broader structural economic features that undermine health and provide conditions for rapid HIV spread are reflected in some of Namibia's key economic indicators, like the Gini coefficient and the Human Development Index (National Planning Commission 2008; United Nations 2004). Although Namibia is classified as a lower middle-income country, average per capita income masks the high levels of income inequalities.

Caprivi and Ohangwena are Namibia's poorest regions in the country, and they also have the lowest level of per capita consumptioni, the highest level of AIDS deaths and therefore high orphan populations (Ruiz-Casares, 2007; Weidlich, 2006). In fact the Ibis-Lironga Eparu-The Rainbow Project (2007) found that 64 percent of the people living with HIV and AIDS (PLWA) were unemployed, and 50%, mostly women, earned below N$ 500 per month.

HIV and AIDS can lead to a rapid transition from relative wealth to relative poverty Barnett & Whiteside (2006). The linkages between poverty and AIDS are most acute in the subsistence farming areas from where 57, 8 percent of the Namibian population derive their main source of income (Republic of Namibia-NPC-NHIES 2003/2004). Research in southern Africa has shown that agricultural-based economies are less able to cope with the impact of HIV and AIDS. The United Nations has classified the combination of AIDS, food insecurity and lack of capacity as the Triple Threat to stability and as Namibia's impending humanitarian crisis (United Nations, 2004).

It is positive to note that most indicators suggest Namibian economy is slowing down rather than plunging full-scale into negative growth. Namibia currently finds itself in a rather unusual, yet optimistic situation in which: a) Government has managed to reverse the growth in public debt; b) There is a considerable quantity of local contractual savings looking for good investments; c) Interest rates are on the way down; d) There are numerous large, high quality investment projects looking for money and e) Namibia has a State Owned Enterprise sector that is desperate for investment money.

The global financial crisis, brewing for a while, really started to show its effects in the middle of 2007 and into 2008. Around the world stock markets have fallen, large financial institutions have collapsed or been bought out, and governments in even the wealthiest nations have had to come up with rescue packages to bail out their financial systems (Africa Development Bank, 2009). On the one hand many people are concerned that those responsible for the financial problems are the ones being bailed out, while on the other

hand, a global financial meltdown will affect the livelihoods of almost everyone in an increasingly inter-connected world. The problem could have been avoided, if ideologues supporting the current economics models weren't so vocal, influential and inconsiderate of others' viewpoints and concerns.

LESSONS FROM THE CRISIS

> According to the Dominique Strauss-Kahn, IMF Managing Director "threats to macro-financial stability may develop beneath a seemingly tranquil surface of stable prices, small output gaps, and healthy public finances. We have also learned that financial regulation can have a major macroeconomic impact. Regulatory weaknesses, including in the perimeter of regulation and supervision, allowed significant risks to build up, and enabled the bursting of the U.S. housing bubble to turn into a major global crisis. Once the crisis started, rules aimed at guaranteeing the soundness of individual institutions worked against the stability of the system. For instance, mark-to-market rules, coupled with constant regulatory capital ratios, forced financial institutions into fire sales and deleveraging. So, while many tenets of the pre-crisis consensus—notably low inflation and fiscal discipline—remain valid, others may need to be reconsidered. The crisis has also demonstrated that macroeconomic policy must have many targets and reminded us that we have many instruments to reach these targets." [8]

As IMF Managing Director Mr. Dominique Strauss-Kahn rightly suggested that in the post-crisis era, international policy cooperation will be more important to secure stable, strong, and balanced economic growth. In the years leading up to the crisis, significant imbalances in countries' current account positions posed significant risks of unraveling in a destabilizing way. And while imbalances have declined somewhat since the crisis, they are likely to widen again unless policies are adopted to support the emergence of new sources of growth.

The G-20's Mutual Assessment Process is an important initiative towards addressing this issue. Through this framework, the world's largest economies are accountable to each other—at the highest political level—for the global consistency of their budget, monetary and structural policies. Greater international cooperation is also needed to secure serious and lasting reform in the financial sector.

At the country level, the priorities for reform include widening the regulatory perimeter, beefing up supervision, and strengthening crisis resolution mechanisms. In addition, financial institutions should hold more and better quality capital, and improve their liquidity management and buffers.

Another major challenge is how to handle the large complex financial institutions that dominate global finance. Recent proposals for "special resolution authority" and "living wills" to handle the failure of such institutions at the parent level are very important. But the reach of these mechanisms does not always extend beyond the national borders. For this reason, I recently called for the creation of a European Resolution Authority. But a solution is also needed on a much broader international scale. Then there is the question of whether to tax the financial sector. Here too an international approach can help find solutions that prevent the emergence of major inconsistencies across countries.

THE WAY FORWARD

Thirty (30) African countries have taken important steps at the national level to mitigate the impact of the financial crisis on their economies. However, finance constraints limit the range of policy measures that

[8] Dominique Strauss-Kahn(2010) Economic Policy Challenges in the Post-Crisis Period available at http://www.africanexecutive.com/modules/magazine/articles.php?article=5146&magazine=278 retrieved on 15 April 2010.

countries in the region could adopt in response to the crisis. In this regard, the international community needs to provide appropriate assistance to the region to prevent the financial crisis from turning into a regional humanitarian crisis.

Indeed, the current global financial crisis is threatening the growth of the Namibian economy. If such a trend continues, Namibia is likely to enter into a recession so far which it has managed to stay clear of. The projected growth rate of the Namibian economy has been fixed at 1% in terms of GDP.

The Government's response to the financial crisis

The Namibian government has been very proactive in managing the impact of the global financial crisis and eventually minimizing its negative effect on the economy. Petrol and diesel are major inputs in the production process, and carries a high weight in the consumption basket of Namibian consumers. When oil price skyrocketed to more than US$100 per barrel justifying substantial increase in fuel prices, the Government used its energy fund reserves to subsidise the price of both petrol and diesel and therefore ensuring that fuel prices remain affordable to many Namibian consumers and companies. In addition, the Government was also quickly responded in reducing fuel prices in line with the decline in world oil prices, and by actively managing fluctuations in oil prices; the Namibian government minimized the full negative impact of the global financial crisis (Mwinga, 2008).

Inflation and interest rate management:

Realizing the magnitude of the global financial crisis, the Namibian government used both fiscal and monetary policies to ensure that the shocks from the crisis that could have damaged the economy severely was absorbed and neutralised quickly. The Bank of Namibia deviated from a monetary policy rule dictated by currency union and kept interest unchanged while the anchor currency country South Africa kept on raising interest rate. By keeping interest rate unchanged the cost of servicing mortgages and other loans were kept low. In addition, the Government scrapped value-added tax on essentials items (Mwinga, 2008).

Accessibility to credit/loans:

The major problem facing the global economy is the inability of banks to extend credit/loans. The Government of Namibia decided in 2009 to close the funding gap so that those Namibians who cannot borrow can now have access to funding. Effective from 2009, the Government introduced legislation that enforces both pension and insurance companies to invest at least 5 percent of their total assets in unlisted companies, starting with a minimum of 2 percent 2009 and increasing to 5 percent in 2010. With the introduction of this legislation, billions of funds will be available for on-lending and the biggest pension fund in the country, GIPF, has already put out a tender for interested institutions to manage these funds for them. The funding will include financing micro-enterprises and individuals who are unable to acquire funding from conventional financial enterprises, equity funding for start-ups and expansions and entrepreneurial and business training. Namibia with its strong internal drivers for growth, may escape the worst consequences of the global financial crisis. Amendments to regulation 28 will ensure that more funds are available to the local economy, while the introduction of the Millennium Challenge Account (MCA) that will release N$3 billion on the local economy will serve as a major boost to the economy (Mwinga, 2008).

CONCLUSION

The problems, caused by the sub-prime crises in the US, have led to a widespread downturn in the global economy the crisis is already causing a considerable slowdown in most developed countries. Governments around the world are trying to contain the crisis, but many suggest the worst is not yet over. Stock markets are down more than 40% from their recent highs (Bank for International settlements, 2009). Investment banks have collapsed, bailouts drawn up involving more than a trillion US dollars, and interest rate cut around the world, all in a synchronized manner. Leading indicators of global economic activity, such as commodity prices are declining at alarming rates.

Within this research, we want to analyze the impact of the financial crisis and assess the extent it has affected the availability of FDI to Namibia. The research therefore aims to understand the dynamics of the problem caused by the global financial crisis in order to proffer recommendations at the end of the study as

to how the problem can be resolved. It also examines recent policy measures taken by Namibia government and regional organizations to cushion the effect of the crisis on economies in the region. Finally, the research discusses policy measures and actions to be taken at the international level to ensure that the current crisis does not develop into a humanitarian crisis in developing countries particularly in Africa.

The rational for this study is based on that in-depth analysis has been conducted specifically focusing on impact of the financial crisis. An analysis of this phenomenon is particularly important because of the importance of the FDI to the growth of the Namibian economy. As stated earlier, Namibia currently battling with the problem of high unemployment rates (51.2%) and the current financial crisis is also worsening the situation. Thus given the importance of the FDI, any analysis of the phenomenon at hand is vital and potential mitigating measures are important to the Namibia's development programs in this study. To that extent, an in-depth analysis of the problem at hand is leading to the discovery of the impact of the crisis and the findings are intended to assist both policy makers in the National Planning Commission (NPC) and the Central Government to effectively deal with the problem.

The global economic crisis has created doubt and anxiety and raised numerous questions about the state of the planet, our systems of governance and the implications of our actions, and about us as human beings. When will the crisis end? Do we have the means to 'reinvent' the world? What role will the emerging powers play? What position will Africa occupy tomorrow?

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BUSINESS LOCATION DECISONS IN A KNOWLEDGE-BASED ECONOMY: ARE COMPETING FIRMS MORE LIKELY TO CLUSTER?

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ABSTRACT

The location decisions of competing firms are examined to determine if information and knowledge externalities resultant from close proximity provide a competitive advantage and subsequently affect location decisions. The paper presents a theoretical model, grounded in new economic geography, to analyse the clustering behaviour of competing firms in the knowledge-based economy incorporating a new determinant representing knowledge creation as positive location specific external economies of scale. Simulation results suggest that some firms in a knowledge-based economy gain a competitive advantage by clustering with competitors.

INTRODUCTION

The significance of the location decision is evidenced by the substantial expenditures firms devote to locating and re-locating their businesses (Indarti, 2004). The objective of a location decision is frequently to maximize profit by providing the firm with a competitive advantage through location (Porter, 2002; Laulajainen and Stafford, 1995). Classical location theory emphasizes the role of direct cost factors, positing the superior location to be one with the cheapest transportation links between raw materials and the markets (Blakely and Bradshaw, 2002). However, in more recent decades intangible and qualitative factors (such as commuting distances, unionization, cultural attributes, and local and regional government attitudes), many of which indirectly affect costs, have gained prominence as explanatory factors of business location decisions (Karakya and Canel, 1988).

The objective of this paper is to analyze business location decisions of firms in the knowledge-based economy and to determine if competing firms are more likely to locate in close proximity to each other to benefit from information and knowledge externalities. The analysis consists of simulations in a General Equilibrium model in contrast to earlier papers on location decisions and externalities which typically consist of empirical studies (Rathelot and Sillard, 2008; Crozet, Mayer, and Mucchielli, 2004; Chavda, 2004; Karakaya and Canel, 1998; Schmenner, 1994). There are two streams of literature on the topic, one suggests that clustering is more prevalent in a knowledge-based economy as the generation and dissemination of knowledge is more conducive to co-located firms. The second stream contends that location has become less important as information technology has enabled effective communication at a distance.

On the first stream of literature, knowledge has come to play an increasingly prominent role whereby firms can more easily obtain and implement knowledge, thus altering their strategic capacities (Petit, 2002). For instance, network externalities are especially strong in the knowledge-based economy necessitating cooperation among competing firms seeking to establish standards and create a single network of compatible users, such as in industries for cellular phones, fax machines, and automated teller machines (ATMs), to name a few. The importance of technology and innovation implies that firms must be strategic by focusing on both their competitors and their collaborators (Shapiro and Varian, 1999), as evidenced in the term ‘coopetition’ which captures the tension between cooperation and competition prevalent in firms with strong network externalities.

The co-location of competing firms in some cases leads to spatial clustering. The spread of knowledge among co-located firms has notably contributed to clustering throughout time (Jacobs, 1969, Lucas, 1988),

but it appears to play a more substantial role for firms whom rely more heavily on information and knowledge in the knowledge-based economy (Bekar and Lipsey, 2002; Audetsch and Feldman, 1996). Some empirical evidence suggests that such firms may be more likely to cluster (Henderson, Kuncoro and Turner. 1995). The literature (Wolfe and Gertler, 2004; Bathelt, Malmberg and Maskell, 2002; Maskell, 2001) generally argues that the production and transfer of new knowledge is best achieved by firms co-located with other firms in the same industry and with universities and research institutions specializing in their areas of business.

In the paper, the term "local atmosphere" is used to describe the horizontal spreading of knowledge among competitor firms located in close spatial proximity. Local atmosphere is a producer-based externality that results from unintended and intended learning processes occurring as an outcome of frequent contact among competing firms. While all the competing firms share a stock of common knowledge, each possesses a stock of unique knowledge potentially valuable to their competitors. As the spatial concentration of competing firms increases, interactions become more frequent and the potential for knowledge exchange is enhanced. (Wolfe and Gertler, 2004; Bathelt et al, 2002; Rosenfeld, 2002; Maskell, 2001).

On the second stream of literature, clustering may be less prevalent in the knowledge-based economy as information and communications technology (ICT) has made it possible for firms to effectively communicate, and thus create and pass on knowledge over distances (Kolko, 2002). This alternative view, the 'forty acres and a modem view' (Kotkin, 1998) argues that firms have a tendency not to cluster in the knowledge-based economy. This view envisages a firm on a farm, a yacht or a mountain top using ICT to communicate with suppliers, competitors and clients located elsewhere (Kolko, 2002). This concept also applies to the more common decisions of firms to locate in residential districts rather than industrial districts and the decision of firms to locate in small cities away from industrial clusters. For these firms, ICT makes it possible to locate far from clusters to benefit from cheaper land and a preferred lifestyle. Supporters of this view do not argue against the need for collaboration and cooperative arrangements among firms in the knowledge-based economy, they merely suggest that efficient electronic communication renders co-location unnecessary.
The framework developed in this section forms the basis for a microeconomic model of clustering behaviour of competing firms in the knowledge-based economy, to which we now turn in section 2.

A MICROECONOMIC MODEL

The model presented here is grounded in Krugman's (1991) core-periphery model, widely used for geographical economic analysis. Van Marrewijk (2005) extended the model by incorporating the effect of congestion costs on a firm's location decision. This model builds on van Marrewijk's model by incorporating the benefits of information and knowledge transfer through local atmosphere when competing firms are co-located in clusters. The net effect of the combination of local atmosphere and congestion is conveyed in the production function and subsequently affects the location decisions of competing firms. This model integrates Krugman's (1991) traditional determinants of clustering which include transportation costs, economies of scale and share of manufacturing in expenditures with congestion effect and the local atmosphere effect, both of which are captured in the production function.
Consider 2 regions (r =1,2) both producing sector *A* goods, consisting of numerous varieties, and sector *B* a homogeneous agricultural good, which serves as numeráire. The production of sector *A* goods is characterized by increasing returns to scale, footloose production, and imperfect competition.
The demand side is modeled with a Cobb-Douglas utility function with constant elasticity of substitution (CES) where the consumption of all varieties of sector *A* goods is symmetrical,

$$U = C_A^{\delta} C_B^{1-\delta}, \quad 0<\delta<1$$

, where C_A is the consumption of the sector *A* goods, C_B is the consumption of the sector *B* agricultural good, and δ is the share of income spent on sector *A* goods.

On the supply side of the model, there are two factors of production, sector *A* manufacturing workers and sector *B* agricultural workers. Agricultural workers only produce agricultural goods and manufacturing workers only produce sector A manufactured goods. The spatial distribution of agricultural workers is fixed in each region. Sector *A* manufacturing workers are mobile and locate in the region offering the highest

real wage while sector *B* workers are immobile and the sector *B* agricultural industry is perfectly competitive.

Sector *A* production is characterized by internal economies of scale, thus each variety is produced by a single firm since the firm with the largest scale will always outbid a potential competitor. The market structure is one of monopolistic competition with each firm having some monopoly power. The variables, local atmosphere and congestion are modeled in the cost function.

As is standard in most new economic geography models and for reasons of analytical tractability transport costs for sector A firms take the "iceberg" form, in which only a fraction of a shipped good arrives. The wage rate of sector *A* workers in region 1 will differ from the wage rate paid to sector *A* workers in region 2. In short run equilibrium, it is assumed that the sector A labour force is not mobile in the short run and that labour markets clear.

The short-run equilibrium is calculated with three equations, the price index in each region:

$$I_r = \frac{\beta}{\rho}\left(\frac{\gamma L}{\alpha\sigma}\right)^{\frac{1-\sigma(\tau+\upsilon)}{1-\sigma}}\left[\sum_{r=1}^{2}\lambda_r^{1-\sigma(\tau+\upsilon)} w_r^{1-\sigma} T_{rs}^{1-\sigma}\right]^{\frac{1}{1-\sigma}}$$

, income generated in each region:

$$Y_r = \phi_r(1-\gamma)L + \lambda_r \gamma L w_r$$

and the nominal wage rate in each region:

$$w_r = \rho\beta^{-\rho}\left(\frac{\delta}{(\sigma-1)\alpha}\right)^{1/\sigma}\left(\frac{\gamma L}{\alpha\sigma}\right)^{-(\tau+\upsilon)} \lambda_r^{-(t+\upsilon)}\left[\sum_{r=1}^{2} Y_s I_s^{1-\sigma} T_{sr}^{\sigma-1}\right]^{1/\sigma}.$$

The nominal wage, w_r, represents the cost of producing in region r. The right-hand side of the equation represents the demand for all varieties of sector A goods produced in region *r* which is a function of the price indices, the other region's income and the cost of transporting goods between the two regions. For a given distribution of the workforce, λ_r, the number of varieties in each region, N_r, can be calculated. Since prices are determined by wages and transportation costs, the three equations can be solved simultaneously for income, wages, and prices indices in both regions. Following Krugman (1991) and van Marrewijk (2005), numerical simulations are used to investigate outcomes of the model as values of key variables are varied.

SIMULATIONS

Simulations are performed to clarify the structure of the model by observing how short run equilibrium values for income, Y_r, price index, I_r, and nominal wage, w_r, change for a range of exogenously set values of λ_1, initial distributions of the sector *A* labour force. λ_1 is varied between 0 and 1, to perform 59 separate simulations in which the value of λ_1 increases from 0.0169 to 0.9971.
When real wages in both regions are not identical, sector A workers move from the region with low real wages to the region with high real wages. A long-run equilibrium is reached when real wages are equal in both regions, $\omega_1/\omega_2 = 1$. The real wage ratio (ω_1/ω_2) varies as the initial share of the sector *A* labour force in region 1, λ_1, varies.

First, simulations are performed to analyse the effects of local atmosphere, modeled in the parameter υ, on the clustering behaviour of competing firms. Simulations are performed to observe real wage ratios as values of local atmosphere, υ, vary to reflect that manufacturing firms in the knowledge-based economy benefit from local atmosphere in varying degrees. Figure 1 illustrates the real wage ratios, ω_1/ω_2, as a function of the fraction of the sector *A* labour force in region 1, λ_1, as values of local atmosphere vary between 0 and -.07. With no local atmosphere effect (υ = 0) firms spread evenly between the two regions. At higher levels of local atmosphere (-.04 > υ.> -.07), firms tend to cluster in the region with the higher labour force concentration, as evidenced by the unstable long run equilibria (unstable equilibria are illustrated in figure1 by the short-run equilibria curves crossing the real wage parity line from the bottom).

Additional simulations on other key parameters are performed. The second set of simulations investigates the effect of varying transportation costs. The simulation results suggest that competing firms which benefit from local atmosphere tend to locate in the region with the higher labour force concentration regardless of the transport costs. Varying elasticity of substitution, σ, has virtually no effect on the clustering behaviour of firms. Varying shares of income spent on sector *A* goods and the shares of labour force in sector *A* both have no appreciable impact as firms who benefit from local atmosphere favour clustering by locating in the region with the larger labour force population.

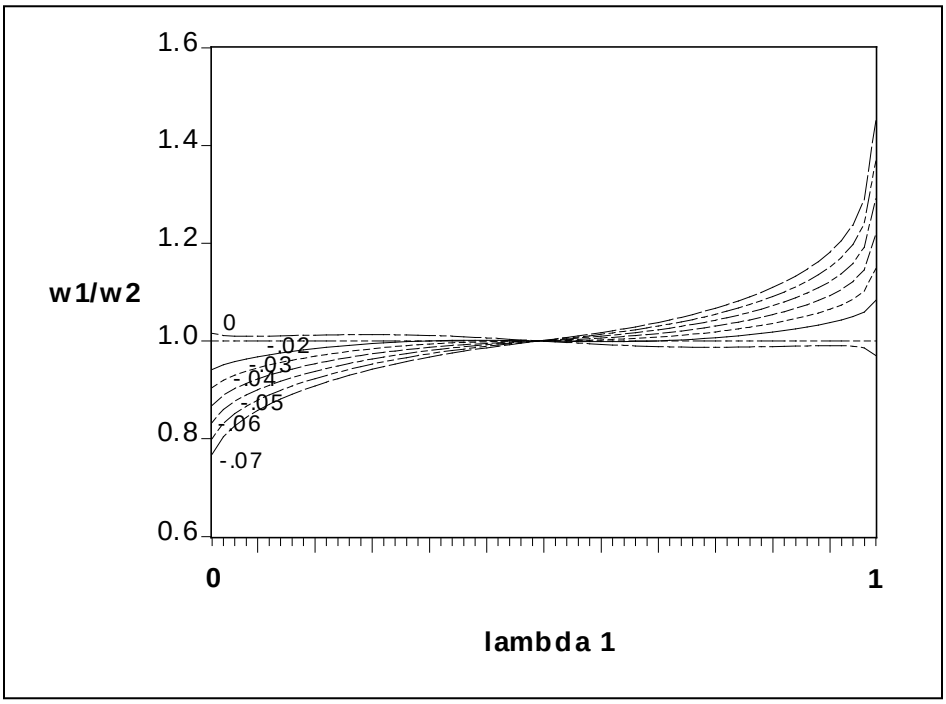

Figure 1 Equilibria with varying levels of local atmosphere

DISCUSSION

The determinants of clustering appear to be different for competing firms in the knowledge-based economy with a greater emphasis placed on the creation and management of knowledge. The inclusion of a new determinant, the creation of knowledge through local atmosphere provides positive feedbacks strengthening the clustering effect for firms who benefit from local atmosphere through lower production costs. Simulation results lend support to the view that clustering among competing firms is more prevalent in the knowledge-based economy due to the value of knowledge transfer and creation resultant from local atmosphere.

Many of the simulations exhibit total clustering of firms in one region which is contrary to real world observations. As discussed earlier, clustering is expected to be beneficial for many but not all competing firms in the knowledge-based economy. The decision of some firms not to locate in a cluster may be explained by a greater dependence on knowledge transferred and created through distance communications rather than local atmosphere. It may also be that congestion effects outweigh knowledge creation effects for some firms in some locations.

In sum, the simulation results provide insight into the location decision of competing firms in the knowledge-based economy. Knowledge creation and transfer has become an important variable in the decision making process thereby increasing the tendency for many competing firms in the knowledge-based economy to locate in clusters in order to reap the benefits from local atmosphere.

IMPLICATIONS FOR BUSINESS LOCATION DECISIONS

On the surface the location decision with its objective of creating competitive advantage and maximizing profit may be conceived as relatively straightforward, however, upon further investigation the complexity begins to reveal itself. A perfect location decision requires perfect information, something that can only be achieved in theory with several strong assumptions. In the real world the decision is made in the face of uncertainty about critical factors such as future markets, behaviour of suppliers, behaviour of competitors, local government policy, and general economic conditions, to name a few (Rathelot and Sillard, 2008; Laulajainen and Stafford, 1995). While co-locating with competitors in horizontally integrated clusters may address concerns about the behaviour of competitors, it is not likely to resolve the issue of monitoring the behaviour of suppliers or customers, which would require locating in vertically integrated clusters or close to markets.

The literature cited in section 1 suggests that the location decision may have evolved in the knowledge-based economy. The model and simulation results provide insight into the location decision of competing firms in the knowledge-based economy which may provide additional knowledge for business executives charged with the task of such decisions. The model illustrates that a decline in production costs associated with the creation of local atmosphere resultant from co-location benefits those that rely more heavily on the creation and transfer of information and knowledge. While it is acknowledged that firms can also acquire information and knowledge through distant communications as per the forty acre and a modem view, it is suggested that a combination of co-location and global pipelines is optimal. The literature cited in the introduction and simulation results together suggest some firms in some industries will benefit more from location atmosphere and thus from clustering more than others.

The three sources of the reduced production costs may provide useful information for firms. Firstly, firms for which research and development (R&D) expenditures make up a large proportion of total expenditures may benefit more by locating in horizontally integrated clusters. Secondly, firms with specific labour requirements are more likely to benefit from specialized labour pools located in horizontally integrated clusters. And thirdly, firms for which the transaction costs of acquiring knowledge, particularly search costs, are relatively high are more likely to benefit from knowledge externalities in horizontally integrated clusters.

APPENDIX A: DEFAULT SIMULATION VALUES

Unless otherwise specified the parameters for the simulations are as follows:

$\delta = 0.4$	$\alpha = 0.08$	$\varphi_1 = \varphi_2 = 0.5$
$T = 1.7$	$\beta = 0.80$	
$\sigma = 5$	$\gamma = 0.4$	
$\tau = 0.01$	$L = 1$	

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DOES GROWTH - FOCUSED FISCAL DECENTRALIZATION POLICY INCREASE INEQUALITY? EVIDENCE FROM VIETNAM

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ABSTRACT

Fiscal decentralization policy may encourage economic growth, it could also increase inequality among subnational governments, and potentially resulting in a l trade-off between economic growth and equity in the distribution of fiscal resources. This paper investigates the effects of fiscal decentralization policy on economic growth and regional inequality in the distribution of fiscal resources using a theoretical model in which the national economic growth and equity in the distribution of fiscal resources are the main policy objectives of the Vietnam government.

Finding show that fiscal decentralization significantly affected economic growth and inequality in the geographical distribution of fiscal resources. Also, fiscal decentralization increased inequality of financial distribution between provinces. From the estimated growth and equity equations, it is observed that growth and inequality in the distribution of fiscal resources are positively related and reinforce each other.

INTRODUCTION

Fiscal decentralization evolved as a major tool of macroeconomic reforms in many economies and involves the reassignment of expenditure functions and devolving revenue sources to subnational governments (de Mello, 2000). Like many reform programs, fiscal policy in support of greater fiscal decentralization is not without varying opinions on the merits and costs associated with it. Proponents of fiscal decentralization contend that subnational governments are better at discerning the preferences and needs of their local constituencies and therefore better placed to efficiently channel expenditure policies to meet those needs. The argument is that with local knowledge and expertise to deliver public services that match local priority needs and preferences, subnational governments can be more efficient in allocating fiscal resources in a manner conducive to faster local and national economic growth. The outcome can be welfare enhancing. Critics however, argue that unchecked fiscal decentralization can lead to concentration of resources in a few geographic locations and potentially increase inequality between regions in a country.

Since the introduction of decentralization program, significant competencies and tax raising powers have been transferred to regional and local levels of government. Also, during the period, Vietnam experienced significant economic growth and rise in poverty gap among the various levels of sub national governments (World Bank, 2003**).** The purpose of this study therefore is to examine within the context of fiscal decentralization, a possible trade-off between the two policy objectives of achieving national economic growth and equitable distribution of fiscal resources. The study draws on recent study by Qiao B. et al, (2007) in China, which examined a trade off between growth and equity in the distribution of national resources. Econometric model is used to test data generated from 1992 to 2004 on model prediction of fiscal decentralization in Vietnam.

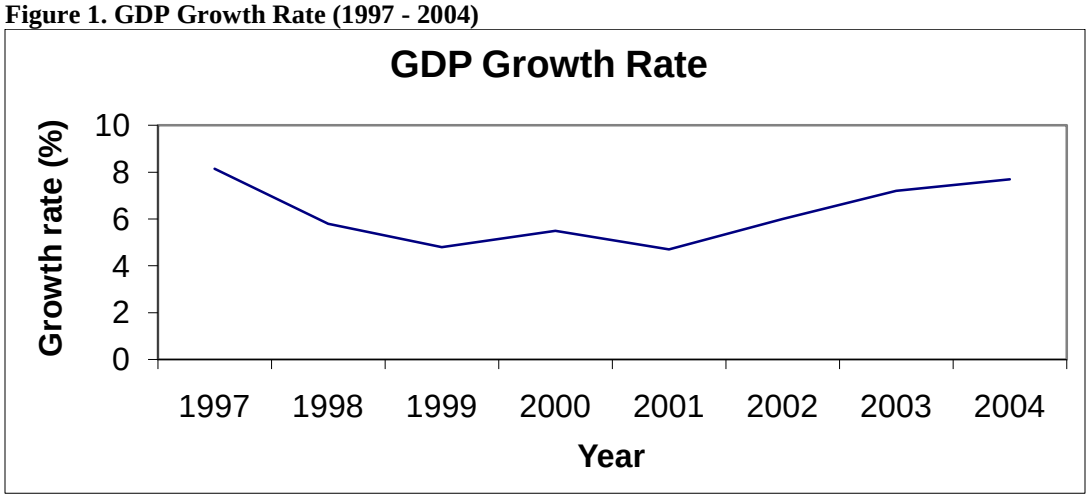
As in most communist regimes, maintaining control of the economy is interwoven with Vietnam's national security. Economic growth policies were often undermined by excessive regulatory regimes. Infrastructure for fiscal discipline was lacking. Fiscal power was concentrated at the central government and there was no formal state budget prior to 1992. The introduction of the *Doi Moi* market based reform program envisioned a decentralization of the concentration of resources and responsibilities at the central government and the redirection of policies toward economic growth and development. However, as the

reform gained ground, followed by economic growth, widening disparities in economic growth and resources between provinces began to emerge. The emerging trend seems comparable to China where fiscal reform was earlier introduced.

FISCAL STRUCTURE AND DECENTRALIZATION IN VIETNAM

Analysis of economic growth since the introduction of fiscal reform reveals that between 1992 and 1997, Vietnam's GDP increased at an annual average rate of 9 percent but declined to 4.8 percent in 1999. Agriculture remains the main thrust of Vietnam's GDP performance over the years. The manufacturing and service sectors were weak through the 1999 period due to the Asian financial crisis and natural disasters. Despite weak growth rate, Vietnam's growth performance compared favourably with the 2.9 percent regional average growth rate for Southeast Asia countries.

Figure 1. GDP Growth Rate (1997 - 2004)



.**Source: Author's calculation with data from Ministry of finance, Vietnam.**

While the market reform program had huge positive impact in fostering economic growth and integration of Vietnam into the world economy, it nonetheless exacerbated regional inequalities. Widening poverty gaps are prevalent among rural-urban households and between ethnic minorities and the majority Kinh people. Recent studies indicate that the ratio of income gap between 5 percent of households having the highest incomes and the 5 percent having lowest income was 20:1 in 2002, compared with 15:1 in 1996. The Gini Coefficient also increased significantly. Inequality indicators for 1993 and 1998 increased over the period, with the Gini coefficient rising from 0.33 in the period 1992-1993 to 0.35 in 1997-1998. While disparities in growth rates between regions were also a contributory factor, about 96 percent of the increase in inequality from 1993 to1998 period is linked to increase in inequality between rural and urban areas.

Also, analysis per capita expenditures reveal regional inequality in the expenditure levels in Vietnam. Evident is the high per capita expenditures in high-income provinces compared to those of middle and low-income provinces. In the three high income provinces, namely Hanoi, Ho Chi Minh city and Baria-Vung Tau, per capita aggregate expenditure was twice that of the national average and much higher than that of middle and low-income provinces. In part this reflects the population-based system of allocating funds to provinces.

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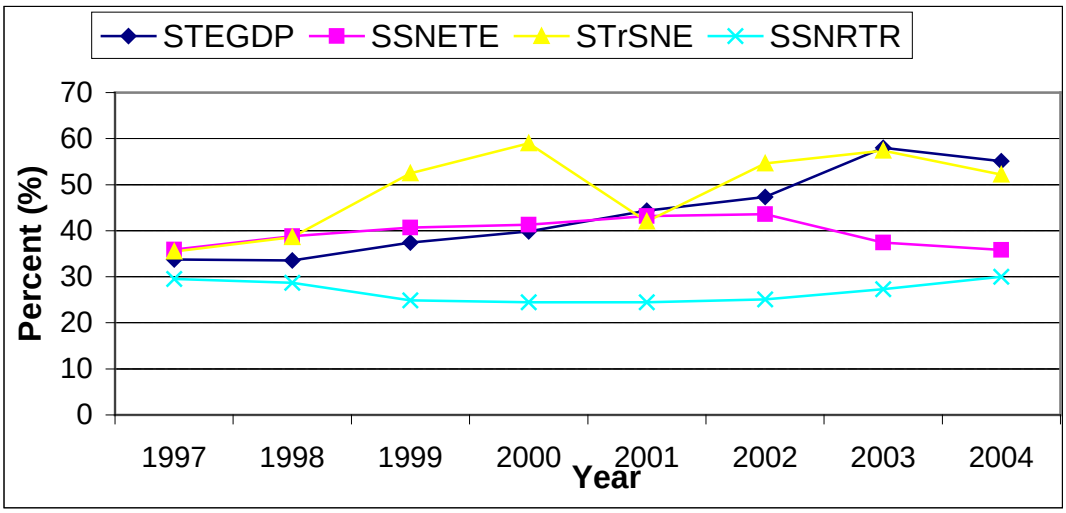
Figure 2: Share of Total Expenditure to GDP (STEGDP), Share of Sub National Expenditure to Total Expenditure (SSNETE), Share of Transfer to Sub National Government Expenditure (STrSNE) and Share of Sub National Revenue to Total Revenue (SSNRTR)



Source: Author's calculation with data from Ministry of finance, Vietnam

1. Revenue Assignments

During the pre-reform era, transfers from state enterprises which accounted for over two thirds of total revenue or almost 8 percent of GDP constituted a major source of revenue to the state budget. The transfers comprised of the following: a turn over tax allowable contribution to various enterprises funds; and the remittance of depreciation allowance designed to recoup government capital investment in the state enterprises. Other sources of budgetary revenue comprise of taxes on agriculture produce, trade, (non-agricultural) cooperatives, and private enterprises. These sources accounted for about one-fifth of total revenue or about 2 percent of GDP.

The revenue assignment in the 2002 State Budget Law identified three sources of revenue: taxes assigned 100 percent at the central level, taxes assigned 100 percent at the local level and shared taxes between the central and subnational governments. The sharing rate is determined by a formula based on norms that estimate the gap between expenditure needs (estimated on the basis of norms) and revenue capacity (estimated on the basis of past revenue).

The 2002 Law included special consumption, gasoline and oil taxes. The inclusion had a remarkable impact by increasing the number of surplus provinces from five to fifteen. Though revenue sharing system in Vietnam differs from international practices, it nonetheless achieves equalization through a system of equalization grants. The advantage of Vietnam's approach is that it allows for lower sharing rates for those jurisdictions with higher revenue potential. Also, allowing local authorities to retain excess taxes serves as incentive toward generating more revenues by local authority. For Hanoi and HCM Cities, the retention rate is 100 percent and 30 percent for rest of the provinces.

2. Expenditure Assignments and Deficit Financing

Vietnam's pre-reform monetary and fiscal policies were not only subservient to the socialist central planning, but also was conducted passively to accommodate the needs of the state sector. Expenditure component of the state budget during the period comprised of four main categories: wages to government workers, various forms of subsidies to consumers, state enterprises and exporters, and capital and maintenance expenditure. Also included is a substantial unclassified expenditure mostly on defence and national security needs. During the pre-reform period, over 30 percent of total current expenditures were allocated to subsidies, averaging about 4 percent of GDP.

Capital and maintenance expenditure averaged about 6 percent of GDP, which however could not be sustained due to limited funding resources. Furthermore, rising wage and subsidy outlays steadily eroded capital expenditure in real terms, resulting in decline relative to GDP growth. Security and military related spending classified as "unidentified" in the expenditure listing accounted for more than a third of total budget, or an average of 4 percent of GDP.

Over half of the state budget deficit was financed through the domestic banking sector with the rest funded almost by foreign financing. Bank credit to the state budget and state enterprises averaged 300 percent. The bulk of foreign financing came in form of productive inputs (capital, equipment and raw materials) mostly from former Soviet Union, and channeled through the state budget under bilateral trade protocols. Expenditure decentralization increased over the last decade partly due to more comprehensive coverage of local expenditures.

The 2002 State Law mandated provinces to assign expenditure responsibilities to lower jurisdictions. However, unfunded expenditure mandates are prohibited. Furthermore, Article 34 of the 2002 Budget Law specified core domain of municipal responsibilities comprising construction of public schools, lighting, water supply, urban traffic, sewage and other public infrastructure. In doing so, the Law strengthened decentralization by entrusting significant level of responsibilities and decision-making powers to lower jurisdictions.

Comparative analysis of planned budget with actual provincial expenditure presented in Table 2 shows for example, in 1998, except the Hanoi-Haiphong region, actual expenditures were much higher than the budget figures, varying from 20 percent in Red River Delta to 43 percent in Ho Chi Minh City area. An observable trend in the fiscal arrangement is the rise in deficit financing. Though the provision of overspending facility in the system provided leverage for additional resource mobilization, particularly for local governments, it is evident that rich provinces made greater use of it, thereby creating serious equity implications in terms of accessibility and usage of resources between rich and poor provinces.

Table 1: Outcomes of State Budget Revenue and Expenditure Decentralization in Vietnam (billion VND)

	1997	1998	1999	2000	Average 1996-2000	2001	2002	2003	2004
1. Revenue	65,352	70,612	78,489	90,749	73,518	103,773	121,716	141,930	149,320
Of which local budget revenue	19,264	20,280	19,571	22,269	19,827	25,463	30,545	38,643	44,743
Share in total state budget revenue	29.5	28.7	24.9	24.5	27.1	24.5	25.1	27.3	30
Growth rate (previous year = 100%)									
State budget revenue	4.8	8	11.2	15.6	10.2	14.4	17.3	16.6	5.2
Local budget revenue	8.5	5.3	-3.5	13.8	8.3	14.3	20	26.6	15.7
2. Expenditure	70,749	74,761	84,817	103,151	80,804	119,403	135,490	177,150	187,670
Of which local expenditure	28,039	31,808	39,040	45,082	33,503	56,043	64,573	66,254	67,184
Share in total expenditure	39.9	42.5	46.0	43.7	41.5	46.9	47.7	37.4	35.8
Including capital	7,499	9,424	14,129	14,557	10,345	20,112	24,147	20,786	20,708
Plus recurrent	20,540	22,203	24,806	30,346	25,065	36,070	39,627	45,468	43,981
Growth rate (previous year = 100%)									
State budget expenditure	10.7	5.0	17.0	13.5	10.9	19.1	14.2	19.5	5.9
Local expenditure	19.1	13.4	22.7	15.5	17.1	24.3	15.2	2.6	1.4
3. Ratio between local capital expenditure and local recurrent expenditure	93.8	91.3	78.9	73.4	89.2	70.6	77.1	85.1	101.7
4. Supplementary transfer from central budget	9.964	12.29	20.510	26.601	15.345	23.553	35.278	38.040	35.048
Growth rate	35.4	23.3	66.9	29.7	31.9	-11.5	49.8	7.8	-7.9
Share in total expenditure	35.5	38.6	52.5	59.0	42.1	42.0	54.6	57.4	52.2

Source: Governmental et al. (2005).

Table 2: Budget Deficit at Provincial level of Government

Provinces	Budget Deficit (%)			Per Capita in Budget Deficit (Thousand of VND)		
	1996	1998	2002	1996	1998	2002
Hanoi–Hai Phong	-0.6	-2.9	6.8	-3	-20	43
Northern Mountains	6	25.9	19.3	19	36	97
Red River Delta	16.4	19.7	19.7	28	45	105
North Central Coast	13.1	21.9	23.8	27	58	176
South Central Coast	16.3	28.0	25.5	44	98	124
Central Highlands	14.7	21.7	18.4	53	101	148
HCMC Area	13.0	43.2	43.1	57	235	331
Mekong Delta	14.0	33.3	29.8	33	100	135
Income Grouping						
High Income Provinces	12.9	30.5	25.8	51	140	248
Middle Income Provinces	10.8	23.9	26.4	26	74	162
Low Income Provinces	9.0	23.8	24.6	21	72	104
Average	11.2	26.8	26.8	33	98	182

Source: Vietnam Ministry of Finance.

In general, expenditure decentralization showed an average increase from 38 percent in the period 1996-2000 to 43 percent in 2001-2002. It however declined to 36 percent in 2004. Judging from this perspective, Vietnam is seemingly one of the most highly decentralized countries. While this can be attributed in part to more comprehensive coverage of local expenditures, there is a clear pattern toward greater expenditure decentralization as shown in the upward trend in local expenditures (See figure 2).

EMPIRICAL ANALYSIS

Standard measurement of fiscal decentralization normally focus on two conceptual choices; namely revenue and expenditure decentralization. In the case of revenue-based indicators, subnational tax and non-tax autonomy measure the extent to which subnational governments are capable of mobilizing local revenues to finance their spending assignments. For expenditure-based indicators, the expenditure size and share of subnational governments measure their importance as providers of public goods and services in absolute terms (government size), and relative to central government spending (expenditure share). Vertical imbalances in intergovernmental fiscal relations measure the gap between subnational expenditures and own revenues.

Assessing the degree of fiscal decentralization in a country requires clear identification of subnational autonomy and discretion on expenditure and revenue arrangements. Fiscal decentralization in Vietnam was implemented through both the revenue and expenditure components of the budget. The study chose expenditure share of subnational governments in total government spending as measure of fiscal decentralization. component The justification for the expenditure component is premised on the fact that fiscal revenue in Vietnam is reallocated between the central and subnational governments.. While use of expenditure side may have its weakness, it remains one of the commonly used indicators of the degree of fiscal decentralization.. Furthermore, revenue are reallocated between the central and subnational governments in Vietnam in manner that makes it difficult to ascertain real fiscal resources available to various level of governments.

For the estimation of the degree of fiscal decentralization, the most frequently used measures include.

i. Share of local government expenditures in the total consolidated regional budgetary expenditures. This reflects the share of public spending for which local governments are responsible;
ii. Share of local government revenues in the total consolidated regional budgetary revenues which are collected from the local tax base. This measure reflects the ability of local governments to raise taxes from local tax base);
iii. Share of regional transfers in the total local revenues. This reflects the degree of dependence of local governments on the regional government transfers, and

iv. Fragmentation ratio, that is, the number of jurisdictions, since the more jurisdictions involved, the more decentralized the region is.

The study uses data from Vietnam covering 1992 to 2004 to investigate the impact of fiscal decentralization on growth and the geographical distribution of equity in the allocation of fiscal resources. The study further examines whether there is a trade-off between economic growth and equity in the fiscal decentralization policy of Vietnam Central Government. In other words, the study examines if there is an inverse relationship between economic growth and equity in the regional distribution of resources in Vietnam.

Simultaneous equation model is used in which economic growth and equity are expressed as dependent variables with fiscal decentralization as the main explanatory variable, (see equations 3.3 and 3.4 below). Past studies support use of simultaneous equation model to allow for the potential simultaneity of economic growth and the geographical distribution of fiscal resources. While the general perception is that decentralization leads to economic growth, caution is advised in view of the fact that progression of decentralization does not necessarily translate to economic growth. Both fiscal decentralization and the square of fiscal decentralization are introduced as explanatory variables in the growth equation to allow for a non-linear relationship between fiscal decentralization and growth. A negative relationship between equity in the geographical distribution of fiscal resources and economic growth is expected to exist. This can be explained by policy makers expectation that economic growth will increase faster, albeit disproportionately among regions under a fiscal decentralization policy that allows rich provinces to keep greater portion of the resources within their jurisdiction. The notion is that such growth pattern would have indirect benefits to poor provinces.

Allocation of fiscal revenues in Vietnam between central and sub national governments are done through a system of revenue sharing, rebates, and various forms of transfers. Also, extra-budgetary funds constitute significant portion of subnational government revenue. These make it difficult to obtain accurate information on fiscal resources available to various governments. The situation is exacerbated by poor statistical records in Vietnam.

For this study, fiscal decentralization is defined as share of subnational fiscal expenditure in total fiscal expenditure in per capital terms. The per capita measurement is used to measure population effect on the allocation of resources between the central and subnational governments. This is expressed as:

$$FD_{it} = \frac{\frac{LX_{it}}{POP_{it}}}{\frac{LX_{it}}{POP_{it}} \quad \frac{CX_t}{POP_t}} \qquad (3.1)$$

Where:
FD_{it} is Fiscal decentralization province i in year t. LX_{it} is the provincial fiscal expenditure for province i in year t, CX_t is the central government expenditure in year t, POP_{it} is the population for province i in year t, and POP_t is the total population in year t.

This measurement approach is consistent with the approach documented in the literature. Estimating fiscal decentralization with equation. 3.1 is preferred, because it tracks allocation of fiscal resources between the national and subnational government better. Also, equation 3.1 has a wide application for capturing changes in decentralization, with higher shares of provincial expenditures in total fiscal expenditures indicating a pattern toward a more decentralized system.A common problem that affects all measures of decentralization is the subnational governments' lack of absolute authority and discretion over funds from the national government. It is not uncommon for central governments to dictate to local governments where and how some funds should be dispensed Also, equation 3.1 may be open to other distortions such as tax cuts, which though could lead to higher decentralization, but could affect individual province differently.

Equity in the distribution of fiscal resources is estimated by:

$$EQUTYit = \frac{\frac{LX_{it}}{POP_{it}}}{\frac{\sum LX_{it}}{\sum POP_{it}}} \quad 1 \qquad (3.2)$$

The measure of equity as expressed in equation 3.2 is premised on the concept of relative share of fiscal resources. Ratio of the share of fiscal resources to the share of population of a province is defined as the relative share of fiscal resources due to a province. Consequently, the measure of equity (equation 3.2) will be the absolute value of the distance from the relative share to the perfect equal share

Consistent with the literature, a perfect equality is conceptualized in this study as an ideal equity situation in which a region's share of fiscal resources is equal to the share of the population of the country and to the relative share of fiscal resources equals one for all provinces in a one year period. This means that for provinces with initial relative share of fiscal resources higher than one, subsequent increase in their share of fiscal resources following decentralization indicates that decentralization do result in greater inequality. Conversely, a decrease in their share would point to a more equitable resource distribution. Similarly, a rise in inequality can be inferred where provinces with an initial relative share of less than one slip further below their initial relative share, that is, moving further away from one. The implication is that, the larger the gap in absolute terms, the lower the equity in the inter-jurisdictional distribution of fiscal resources among regions as measured in equation 3.2

Other explanatory variables that are introduced in the growth equation include: The growth rate of capital (CPTL) and labor (LABR) as explanatory variables, effective tax rate at the provincial level (TAX) and its square (TAX^2) as proxies to capture the effect of differences in the allocation of resources between the public and private sectors on the growth rate. Also, relative wealth was included in the growth equation given that the growth rate might be inversely related to the starting level of income. Accordingly, the ratio of a province's per capita GDP to the average per capita GDP is employed to measure relative wealth of province

Also, introduced into the equity equation is extra-budgetary allocation as an explanatory variable. For studies involving equity in the distribution of public resources, the common practice is to use the ratio of extra-budgetary expenditure to regular budgetary expenditure to control how extra-budgetary expenditure might affect equity in the distribution of budgetary resources. Since extra-budgetary funds are sourced through a variety of levies, which is dependent on the level of economic activities, the expectation is that rich provinces, given their relatively higher economic base, are better positioned to make greater use of extra-budgetary form of financing. Consequently, availability and access to extra-budgetary funds will most likely worsen equity. Also, poor provinces may make more use of extra-budgetary funds to overcome shortage of budgetary funds. Doing so will enable poor provinces to reduce the gap in the distribution of overall fiscal resources. Extra-budgetary funds give poorer provinces the ability or flexibility to exercise a higher overall fiscal effort.

Also, effective tax rate at the provincial level and its square (tax square) were introduced to proxy the impact on growth rate at different allocation of funds between the public and private sectors from the tax side. To control for differences in investment resources, the growth rate of capital invested in provinces was introduced in the equity equation. In addition, an explanatory variable for growth rate of the labour force was introduced in the equity equation to control for differences in provincial labour resources.

To account for the potential impact of the Asian financial crises, a dummy variable was introduced in both the growth and equity equations. The dummy variable - dum94" is used for observations after 1994 is set to 1 and other years set to 0 to allow for the differential impact on both of growth and equity of the 1994

The estimating simultaneous equation models are expressed as:

$$GROWTH_{it} = \square_0 + \square_1 FD_{it} + \square_2 FD^2_{it} + \square_3 TAX_{it} + \square_4 TAX^2_{it} + \square_5 RW_{it} + \square_6 LABR_{it} + \square_7 CPTL_{it} + \square_8 EQTY_{it} + v_{it} \quad (3.3)$$

$$EQUITY_{it} = \alpha_0 + \alpha_1 FD_{it} + \alpha_2 GRW_{it} + \alpha_3 XBGT_{it} + \alpha_4 LABR_{it} + \alpha_5 TAX_{it} + v'_{It} \quad (3.4)$$

Where FD and RW represent decentralization and relative wealth respectively; i and t respectively represent region i, and year t, while vit and v'_{it} are the stochastic disturbance terms. Table 3 highlights the model variables.

Table 3. Definition of Variables

Variable	Definition
GRW	Growth rate expressed as percentage of nominal per capital GDP
FD	Fiscal decentralization expressed as ratio of per capita provincial fiscal expenditure to total per capita national fiscal expenditure.
EQTY	Fiscal inequality defined as absolute value of the difference between relative share of fiscal resources and 1. Relative share of fiscal resources is expressed as ratio of share of fiscal resources to share of population.
TAX	Tax rate expressed in percentage as ratio of provincial total tax revenue to total provincial GDP.
RW	Relative wealth is the ratio of provincial per capita GDP over national average per capita GDP.
XBGT	Ratio of extra-budgetary expenditure to budgetary expenditure
LABR	Growth rate of labour force
CPTL	Growth rate of capital investment

For the empirical analysis, the data is based on consolidated provincial level panel data randomly observed on yearly basis for the period 1992 to 2004. The choice of the starting period is explained by the time line when the reform program was introduced in Vietnam. Table 4 presents a summary of descriptive statistics of the key variables in the study.

Table 4: Descriptive Statistics

Variable	Mean	Standard Deviation	Max	Min
FD	0.37	0.11	0.91	0.15
EQTY	0.30	0.44	9.78	0.01
XBGT	15.71	13.61	91.11	-42.42
GR	13.93	16.86	320.20	-15.25
RW	0.94	1.04	11.63	0.06
TAX	4.12	4.93	27.74	0.18
CPTL	11.08	21.63	76.69	-113.60
LABR	1.53	0.84	6.30	-5.57
FDSQR	0.18	0.09	0.82	0.07
TAXSQR	41.21	97.19	767.28	0.05

ESTIMATION RESULTS

The two stage least square approach is used to estimate equations (3.3) and (3.4). This is consistent with the standard estimation measure in situations where potential simultaneity of growth and fiscal equity is suspected. Test of robustness of the estimates is done by estimating the simultaneous equation model for the period of 1998-2004. Based on Durbin-Watson test, there is no indication that true error disturbances

are auto correlated in our model. Also Breusch-Pagan test rejects the null hypothesis of homoscedasticity, thus, the t-statistics (in parenthesis) are based on heterocedasticity-consistent standard errors. Results of the estimation are presented in tables 5 and 6.

Given that the study uses panel data that cover different provinces, it is necessary to account for the unobserved time constant fixed effects in the estimation. This stems from the suspicion that provincial panel data and observation of this sort in the provinces may suffer from lack of random draws from a large population and consequently result in a correlation between unobserved factors and explanatory variables.

We test the assumption that fiscal decentralization is exogenous by treating it as an endogenous variable. Variables that may affect the degree of fiscal decentralization are: fiscal decentralization at the previous year, the size of extra budgetary accounts and the year dummy. Using Hausman test, the assumption of exogeneity of decentralization is not rejected for growth and equity equations. Also, the exogeneity of the effective tax rate variable is not rejected.

The initial findings indicate slower rate of fiscal decentralization in the period of 1992 and 2004 compared to later period of 1998 and 2004. This phenomenon is attributed partly to attempts by the government of Vietnam to consolidate its financial resources to cope with the effects of Asian financial crisis of 1996-1997. Furthermore, in the later period of 1998-2004, there was an elevated attention by the government on poverty reduction. However, the results in the two estimations are almost identical in sign with similar statistic significance. Results of both estimations show no evidence of auto-correlation of the true error disturbances in the model. This is supported by Durbin-Watson tests.

The study findings show that fiscal decentralization significantly affected economic growth. Increase level of decentralization was associated with higher rate of economic growth, though this relationship was non-linear. The coefficients of fiscal decentralization in the growth equation are 907.34 and 371.55 respectively, and statistically significant. This is consistent with the expectation that high level of decentralization would increase economic growth.

The coefficient of fiscal decentralization in the equity equation is -1.94 and statistically significant, implying that fiscal decentralization policies in Vietnam significantly increased inequality in the distribution of fiscal resources. This supports the model's proposition that a growth-focused fiscal decentralization policy may widen inequality in the distribution of fiscal resources. Caution is advised in the interpretation of the result. For Vietnam, the trade-off is non conclusive, because a change in the economic growth resulted in a small increase in equity.

Furthermore, there is a negative relationship between equity in the distribution of fiscal resources and economic growth in both the growth and equity estimations. Result from the growth equation indicates that unequal distribution of fiscal resources led to positive economic growth. For example, an increase in equity in the distribution of fiscal resources measured by a change of 0.01 in the equity coefficient would lead to a 0.53 percent decline in economic growth at the margin. Consistent with the empirical literature, and our theoretical model analysis, the findings show that, local expenditures in rich jurisdictions tend to have greater marginal impact on economic growth than expenditures in poor jurisdictions. The coefficient of economic growth in the equity equation is negative, about -0.04 and significant. Thus, one percentage increase in economic growth would lead to a 0.04 decrease in equity coefficient in the geographical distribution of the fiscal resources.

Overall economic growth improved as more fiscal resources moved from poor to rich jurisdictions. The results support the proposition of a trade-off between economic growth and equity in the geographical distribution of fiscal resources. The coefficients in growth and equity equations from 1998 to 2004 period appear consistent with the U-shape relationship between growth and regional equity with the coefficient appearing smaller in the latter than in the former. The expectation is that the relationship will subsequently be negative, meaning that after initial trade-off, subsequent increase in economic growth rates would result in decreasing level of inequality in Vietnam.

Our findings show that the effect of level of tax effort on economic growth is non-linear. Consistent with the empirical literature, resource transfer from private to public sector would lead to negative economic

growth. In other words, the more the resources that are transferred from private to the public sector, the lower the economic growth generated. This is evident in the positive and significant coefficient for tax (TAX), and the negative and significant coefficient for tax square (TAXSQR) in the growth equation.

Table 5: SLS Regression Result

Growth Equation	Dependent Variable Growth (1992-2004)	Dependent Variable Growth (1998-2004)
Number of observations	640	315
FD	907.34	371.55
	(3.05)	(1.68)
FDSQR	-1253.87	-446.75
	(-3.08)	(-1.67)
TAX	1.46	0.37
	(2.74)	(1.42)
TAXSQR	-0.08	-0.04
	(-2.45)	(-1.47)
RW	4.08	1.83
	(4.33)	(4.64)
LABR	1.83	-0.97
	(1.84)	(-2.80)
CPTL	0.18	0.03
	(4.53)	(0.47)
EQTY	53.24	11.68
	(3.19)	(1.71)
Intercept	-166.52	-68.64
	(-2.90)	(-1.43)
R2	0.24	0.08

There is a positive relationship between greater reliance on extra-budgetary funds and equity. This is supported by a positive and significant coefficient of extra budgetary fund (XBGT) in the equity equation. This can be explained by the fact that while rich provinces have greater access to extra budgetary funds, poor provinces made greater use of it, and were able to mitigate the equity gap in the distribution of fiscal resources. The inference there from is that access to extra budgetary funds reduced disparity in the distribution of fiscal resources between rich and poor provinces. This contrasts with common notion that extra budgetary funds could widen the gap between the rich and poor provinces in the distribution of fiscal resources

Table 6: SLS Regression Result

Equity Equation	Dependent Variable Equity (1992-2004)	Dependent Variable Equity (1998-2004)
Number of Observations	650	315
FD	1.94	2.95
	(8.68)	(7.92)
GRW	0.04	-0.04
	(2.83)	(-0.48)
XBGT	0.004	0.04
	(1.08)	(5.70)
CPTL	-0.004	-0.0004
	(-2.57)	(-0.22)
TAX	- 0.03	-0.03
	(-1.92)	(-2.33)
Intercept	- 0.67	-1.11
	(-6.76)	(-5.70)
R2	0.23	0.38

Furthermore, there is a positive relationship between economic growth and capital investment. This is consistent with the widely documented evidence of critical role of capital investment to economic growth. The coefficient of capital investment, is 0.18 and shows that one percentage increase in capital investment would translate into a 0.18 percentage increase in economic growth.

The effect of labour resource on economic growth varied with both periods. An increase in labour force during the holding period led to increase in economic growth. However, during the period 1998-2004, an increase in labour force resulted to a decline in economic growth. The coefficient of relative wealth is positive and statistically significant. This indicates that higher ratio of per capita GDP in some provinces above national average per capita GDP resulted in higher growth rate. Also, the Asian financial crises appeared to have little or no effect on growth and equity variables as shown in the dummy variable result. This can be attributed to increased external borrowing by national government that may have offset any short fall engendered by the financial crises.

Furthermore, we verify our assumption that fiscal decentralization is exogenous by assuming alternatively that fiscal decentralization is endogenous and subjecting this assumption to Hausman test. The test indicates that the assumption of exogeneity of decentralization for growth and equity equations cannot be rejected

DISCUSSION

Since the introduction of the *Doi Moi* market based reform program, there is a noticeable increase in the pace of economic growth and income gap between rich and poor provinces in Vietnam. The findings indicate that fiscal decentralization significantly affected economic growth and equity in the geographical distribution of fiscal resources. A higher level of decentralization, on one hand, led to higher growth, but as predicted, this relationship is non-linear. Also, consistent with our expectation, fiscal decentralization increased the gap in inequality of financial distribution between provinces. However, the findings indicate that the gap is likely to narrow overtime following the U-shape theory. From the estimated growth and

equity equations, growth and inequality in the distribution of fiscal resources is found to be positively related and reinforcing as more inequality lead to higher economic growth.

Fiscal decentralization in Vietnam is likely to affect the economy in several ways: On a positive note, fiscal decentralization will encourage increased economic growth. However, the negative effect would most likely be in form of widening equity gap in resource distribution. Can effective decentralization be found in designing appropriate mix of central and local public financial arrangement as suggested by Musgrave (1959), Oates (1991), Bahl and Linn (1994) ?

The findings of this study share some similarities with other studies on economies where fiscal decentralization has taken place. It is expected that while the findings shed lights and generate further discussion on the topic, more research is highly recommended to capture new developments from the decentralization program.

END NOTES

See Bird, Wallich, (1993), Martinez-Vazquez and McNab, (1997), Shah, (1999).

Musgrave (1959) and Oates (1972) note that fiscal decentralization does exacerbate inequality and fiscal instability due to differences in tax capacities and geographical endowments across sub national jurisdiction

See for example Martinez-Vazquez (2004).

See Baoyun Qiao et al. (2007)

"Vietnam's Economy in 2003", CIEM (2003).

National Human Development Report 2001. In contrast, World Bank's "Vietnam Development Report" (2003), maintains that the Gini Index, a key indicator of inequality was constant over the 1990s

Tax on profit is defined as sales less cost of production, inclusive of all other taxes levied.

The tax revenue assigned 100 percent to the central government include export taxes and import taxes, VAT and excise on imports; taxes and other revenues from the petroleum industry and corporate income taxes on enterprises with uniform accounting.

Shared taxes between the central and provincial governments include all VAT receipts with the exception of VAT receipts on import goods, corporate income tax with the exception of receipts from enterprises under the whole unit accounting system, personal income tax, tax on profits remitted abroad excluding tax on overseas remittances of the petroleum industry, excise taxes on domestic goods and services and gasoline and oil fees. The tax revenue assigned 100 percent to local governments include land and housing taxes, natural resources taxes excluding petroleum activities license tax, tax on transfer of land use rights, fees on land use, land rent, revenues from leasing and sale of dwellings publicly owned and registration fees and other fees and charges.

In the stability period that ended in 2004, the sharing rate for the 56 poorest provinces was 100 percent, while that for the five richest provinces changed only once between the period 1996 to 2004 Between 1997 and 2000 the provinces sharing rates were HCM 15%, Hanoi 25%, Van Toa 27%, Dinh Siung 16% and Dong Nai 33%. Under a new stability period, the rates increased in 2001 as follows: HCM 24%, Hanoi 30%, Van Toa 48%, Dinh Siung 52% and Dong Nai 53%. The increase in sharing rates for 2001-2004 stability periods was designed to compensate provinces for salary increase in the public sector.

See Martinez-Vazguez (2004).

See Martinez-Vazquez (2004).

This excluded wages of employees of state enterprises. Total remuneration for a government worker comprised both cash and subsidized goods and services. Average remuneration was linked to price index of six basic commodities (rice, sugar, pork, milk, fish, soap and kerosene). Minimum remuneration was linked to official price of rice. Thus, total wages in the state budget was associated with the pricing and subsidy policies of the government.

Consumer subsidies, which accounted for about two-thirds of total subsidies, arose from price fixing of staple products below market costs.

Soviet commodity aid represented the bulk of Vietnam's trade with member-countries of the Council for Mutual Economic Assistance (CMEA).

Note: Income classification of provinces is based on 1998 per capita GDP. High-income provinces are those with per capita GDP above VND 3.5 millions, middle income provinces have per capita GDP between VND 2.5 – 3.5 millions, while low income provinces have less than VND. 2.5 million.

Vietnam (48%) ranks next to China (68%) in expenditure decentralization while Indonesia (32%) is third followed by Philippines (26%) with Thailand (10%) bringing up the rear among a group of five East Asian countries. See Mountfield and Wong (2005).

Studies such as Qiao, Martinez-Vazquez, and Xa (2002) use expenditure component to measure decentralization.

Dan Stegaresen (2002) documents that common measure of fiscal decentralization tend to over estimate the extent of fiscal decentralization.

Revenue is reallocated between the central and subnational governments consist of revenue sharing, rebates, extra budgetary funds, and various inter-government transfers etc.

See Bahl and Linn (1992), Freinkman and Yossifov (1997), Bird and Vaillancourt (1997), and Zhang and Zou (1998) for various dimensions of the fiscal decentralization process and measurement.

See, for example, Baoyun Qiao et al. (2007)

Diminishing returns and shortage of skills capacity at local level are contributory impediments to economic growth.

Provincial fiscal expenditure includes the consolidated expenditure of all sub-provincial governments (city, county, and township governments).

Similar measurement approach was used by Baoyun Qiao et al (2007),and Zhang and Zou (1998)

See, for example, Baoyun Qiao (2007), Lin and Liu (2000), and Zhang and Zou (1998)

Baoyun Qiao et al. (2007) contend that model for measuring decentralization expressed in equation 3.1 better matches the allocation of fiscal resources between the central and subnational governments

See, for example, Baoyun Qiao et al. (2007)

In this study, equity is defined narrowly in terms of opportunities that subnational governments are exposed to through geographical distribution of fiscal resources. For an insightful description of the equity model, see Baoyun Qiao et al. (2007)

Alternative measures to quantify Equity involve use of variance, coefficient of variation etc. Problems often posed by these alternative measures is the limitation on the available degrees of freedom for the estimation. Baoyun Qiao et al. (2007) note that the alternative measures are not superior to equation 3.2. Moreover, the advantage of equation 3.2 is that it fully reflects the fiscal resource advantages or disadvantages a region faces relative to other regions.

This is consistent with neoclassical ideas. See Barro (1990),

Unlike regular budget, the use of extra-budgetary funds offer wide discretion and flexibility to provinces. (Wong, 1998) notes that this flexibility and discretion associated with it stems from the fact that fund lacks specificity and detailed criteria. Also, (Bahl, 1999) notes that extra-budgetary accounts can be used to shield tax collections from the revenue sharing agreements with the central government Baoyun (2007) contends that despite the diffuse nature of extra budgetary funds, their exclusion from the data could have serious specification biases. The argument is that given the central role of equity in the geographical distribution of fiscal resources and differential opportunities for growth, and given that availability and size of extra budgetary funds differ considerably across sub-national units, its exclusion would lead to serious specification bias.

This is consistent with Baoyun Quio et.al. (2007). Despite potential specification bias that exclusion of extra budgetary funds night cause, some studies such as Zhang and Zuo (1998) treated extra-budgetary funds as ordinary budgetary expenditure while Lin and Liu (2000) ignored it.

Growth rates are computed with data from the World Bank annual reports, Ministry of Investment and Planning, and Vietnam Statistical Yearbook. The data on capital input and labour force growth are taken from various issues of the Vietnam Statistical Yearbook, Committee of Population and Family Planning, Ministry of Investment and Planning estimated data, Asian Development Bank surveys. Extra-budgetary expenditure data is sourced from Ministry of Finance and Ministry of Investment and Planning reports. Data on relative wealth was taken from Household surveys of Asian Development Bank, and General Statistical Office.

See White (1980) and Qiao, Martinex-Vazquez, and Xa (2002).

See Baoyun Qiao et al. (2007)

Both unforeseen regional and national mishaps explain the rational for grouping the study period into 1992-2004 and 1998-2004 phases.

Thieben (2003) and Baoyun (Qiao(2007) find for OECD countries and China respectively that decentralization affects economic growth in a non-linear way

The result on fiscal decentralization and equity is consistent with the notion on the non convergence of per capita incomes across provinces (See["Kanbur and Zhang, 1999],
http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VBV-4NWNCV8-1&_user=742544&_origUdi=B6VBV-4DRBCSG-2&_fmt=high&_coverDate=06%2F04%2F2007&_rdoc=1&_orig=article&_acct=C000041223&_version=1&_urlVersion=0&_userid=742544&md5=0815cac875cdf1621c64dc03e4f7e406["Dayal-Gulati and Husain, 2002] and ["Demurger et al., 2002]

See Bayun Qiao et al (2007)

Qiao, Martinex-Vazquez, and Xa (2002) document that too few or too many resources transferred from the private sector to the public sector in China is detrimental to economic growth.

Some variables that could affect fiscal decentralization include fiscal decentralization level in the previous year, the level of extra-budgetary funds and dummies

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ECONOMIC SURVIVAL OF JAMAICA'S DOMESTIC-MARKET BANANA FARMERS

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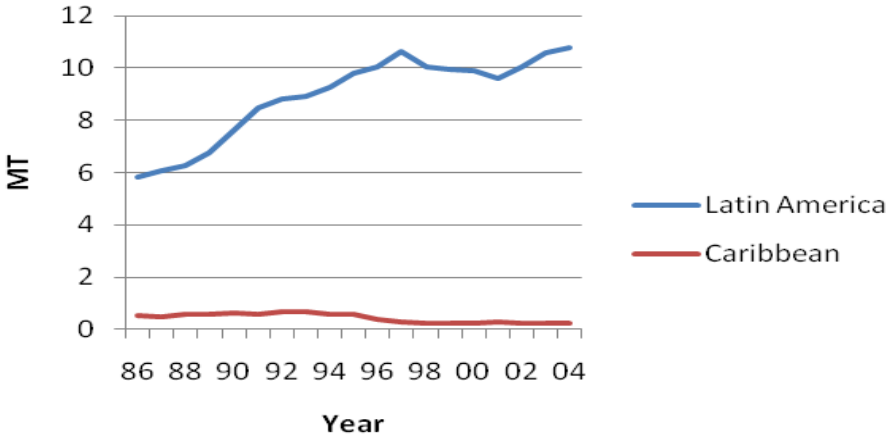
ABSTRACT

Jamaica's domestic-market banana farms are mostly family-run, small and limited resource enterprises. A 2008 random survey of 25 farmers reveal that a majority (75%) of them cultivate plots of five acres or less. Because they farm relatively small plots, they have limited opportunities to achieve cost reductions due to economies of scale. In good years, they sell up to 90, 000 tons of bananas locally, which is about twice the amount that banana farmers engaged the export trade produce. The survey data further shows that a majority (68%) lacks the access to the financial resources and extension services normally available to their export-market counterparts. The supplemental data collected in face-to-face interviews with selected farmers reinforce the survey results. Many domestic-market banana farmers (60%) are over the age 50 and they fear that a younger generation will not replace them. Like the export-market banana farmers, they face rising input costs (especially fertilizer, pesticides and mist blower) but receive far less assistance from government agencies and the EU Global GAP certification assistance programs. Their long term challenges include low educational attainments and low farmland-ownership. However, the critical factor contributing to their competitive disadvantage in the domestic market is the public policy advantages of export-trade banana farmers, who dump their fruit in the local market whenever hurricanes disrupt export trade.

INTRODUCTION

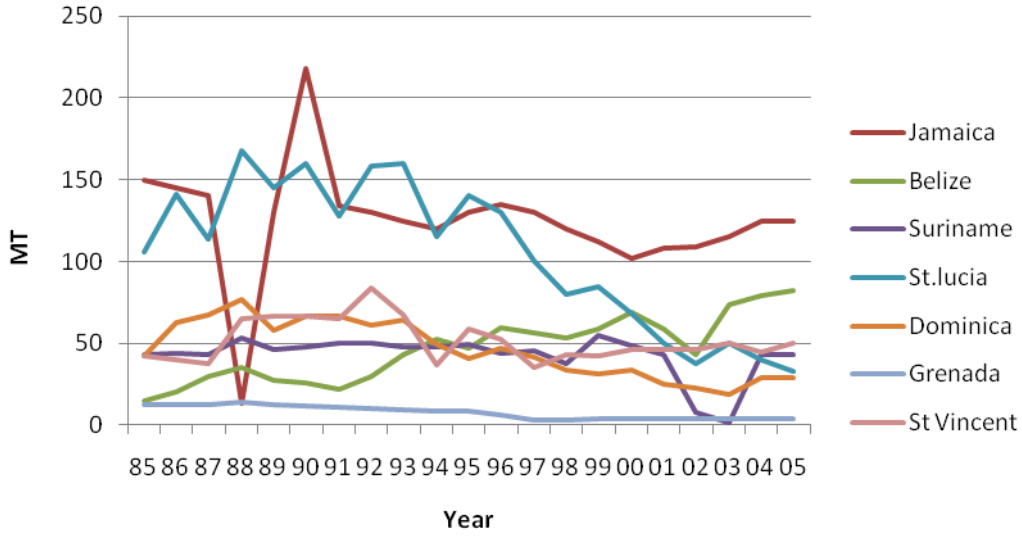
Globally, banana is the fourth most important crop in terms of food value (Fonsah 2003). This crop is the world's most exported fresh fruit in terms of volume and value (Arias et al, 2003). World banana production has been increasing steadily over the past twenty years, rising from 42.4 million tons in 1986 to 72.4 million tons in 2005 (FAOSTATS 2006), representing about 58% increase in total world production during this period. Latin America is the world's leading producer of bananas with about 57.6 million tons output per year (FAOSTAT, 2007).

Figure 1: Banana Output of the Latin America and Caribbean Regions



Comparatively (Figure 1), the Caribbean region's banana production has shown little growth or moderate decline over the same period. The Caribbean's regions best yearly production was 1.9 million tons in 1990s. Within the Caribbean region (Figure 2), Jamaica remains the largest producer of banana, with a fluctuating but stable trend in production since 1999. Belize, St. Vincent, Suriname, St. Lucia and Dominica are the other major banana producers in the region. In 2004, Jamaica produced 50% more bananas than Belize, the second highest banana producing country in the Caribbean.

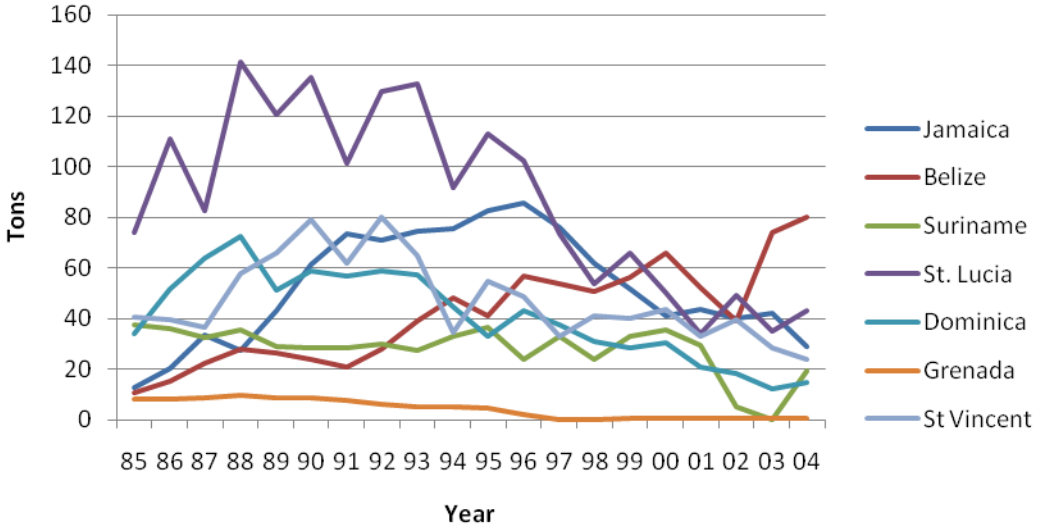
Figure 2: Banana Production within the Caribbean



Long before the European Union (EU) phased-out the preferred access to its market granted to certain developing countries including those in the Caribbean, banana exports has been declining in Jamaica except for Belize and Suriname (Figure 3). For Jamaica, banana export peaked at 86,000 tons in 1986 and has declined in successive years since then. Hence, the higher quality banana production that once went overseas is now shipped to the local market, to compete with the production of domestic-market farmers.

The purpose of this study is to examine the challenge facing Jamaican domestic-market banana farmers relative to their exporting counterparts, and the long term unintended consequences of the public policy advantages of the export-market farmers. Another goal of the study is to provide information for policy makers (Jamaican Extension Services) and guidance that will aid the survival of domestic producers.

Figure 3: Regional Banana Exports (Tons)



JAMAICA BANANA INDUSTRY

As with other Caribbean countries, the banana industry provides employment for many in the Jamaican workforce (Arias et al, 2003; Lung, 1997; Bryan 1997). Ierley (2002) states that banana industry is the livelihood of a substantial number of residents in the Caribbean and the demise of the industry would have a damaging effect on their socio-economic lives. The crop has helped many people, particularly the rural residents to live as middle-income citizens in low income countries.

For instance, Jamaica and Dominica Republic produce banana on small plots of land and rely heavily on family labor. This is the only cash crop for many rural residents and it is easy to cultivate on the hilly terrain common to the areas. Lung (1997) observes that the banana industry in these regions provides employment for those who otherwise might not be able to acquire employment elsewhere. Therefore, this industry serves these people as a source of economic refuge and security, and an escape from poverty. Based on these assessments, the domestic-market banana industry is very important to the region, and, especially Jamaica. The Jamaican agricultural sector employs about 21% of the aggregate work force, but the particular share of domestic market is difficult to estimate because most of those producers are engaged in the unofficial production and market (Arias et al, 2003).

In Jamaica, banana farmers sometimes produce for both the domestic and export markets. These two market segments are treated differently as each has specific needs. The export market has special economic and technological needs and stringent quality requirements, thus more capital and labor intensive. There are producers who produce solely for the export market while the majorities, largely subsistence farmers, produce for the local market. It is impossible to precisely assess the total volume of bananas production directed toward the domestic market annually, as there are many non-market sale transactions that occur and many backyard and small plot productions that are unaccounted for officially. Moreover, the fruits that are rejected for the intended export market are sold on the local market as staples. Thus, domestic supply and market prices are unpredictable and often move in opposite directions. Overall, the net effect for the domestic-market banana farmers is that returns to labor and capital are reduced further more.

In Jamaica the disruption of the banana export market (with every hurricane) and the dumping of more export banana onto the domestic market are reoccurring events. Thus, the export banana producers who are relatively well-off in terms of government support services, available resources and limited market competition (internally), during good weather, enjoy their niche export market and higher price advantages, as well as public policy supports. However, in poor weather (during hurricane seasons), when exports are disrupted, they compete directly with poorer resource domestic producers. Hitherto, there have been anecdotal evidences about the effects of these export dumping and public policy bias on Jamaican domestic-market banana farmers. The research is the first exploratory study to examine the economic survival of domestic-market banana farmers.

METHODOLOGY

There are seven major banana farming parishes in Jamaica and they are: St. Mary, St. Ann, St, Catherine, St. Thomas, St. James, Portland, and Clarendon. Portland, St. Mary, St. James and St. Thomas hold the largest banana acreages and farmers on the island. St. Mary is estimated to have 942.7 banana acres or 36% of the total banana acreage on the island; Portland and St. James both have 22% each, and St Thomas has 15%. The other parishes have a smaller share. However, St. James has 449 farmers representing 44% of the total banana growers' population and Portland has 330 farmers (32%) and St. Mary has 201 farmers (19%). The survey of Jamaican domestic-market banana farmers was conducted in Jamaica by the extension agents of the Jamaican Banana Board. The farmers were randomly selected from Portland and St. Mary. The survey questionnaire was administered by trained numerators from the Jamaican Banana Board. The initial questionnaire was developed based on the information collected from earlier strategy reports discussing the weaknesses and threats to the industry (European Commission, 2002). The questionnaire was further refined, tested and modified by researchers at the University of Maryland Eastern Shore, the University of the West Indies (Mona) and the Banana Board's Agricultural Extension personnel in Jamaica.

To improve the understanding of survey results, a face-to-face interview of some domestic-market and export-market banana farmers was arranged. The domestic farmers who agreed to participate in the interviews were interviewed at their farms by one of the researchers from UMES and an extension agent. The results of both the survey and the interviews are analyzed and reported below.

RESULTS AND DISCUSSIONS

The demographic characteristics of the Jamaican banana farmers who participated in the study are summarized in Table 1. The majority of the respondents was male (72%), middle aged or older (96%) and did not complete high school (92%). Their main occupation was banana farming except for a minority (16%) who supplemented their income with other employment.

Table 1: Demographic Characteristics of Respondents

Variable	**Category**	**Domestic Farmers N=25** Count (%)
Gender	male	18(72)
	female	7(28)
Respondents Age	40 and under	1(4)
	41-50	9(36)
	51-60	8(32)
	>60	7(28)
Highest Level of Education	grade school	10(40)
	trade/vocational school	2(8)
	secondary school	11(44)
	high school/college	2(8)
Main Occupation-Farming	Yes	21(84)
	No	4(16)

Other characteristics of the domestic-market banana farmers that were surveyed (Table 2) showed that the majority have farm sizes under five acres (76%), planted Cavendish banana variety (80%), owned their farm land (60%), did not own a vehicle (56%), did not own a computer (84%) and did not use a vehicle for the farm (91%). On the other hand, another study of Jamaican export-market banana farmers showed higher vehicle and computer ownership and larger farm acreages (Telphia and Nzeogwu, 2009). This is significant because vehicles ownership provides some competitive advantages in controlling the cost of transportation of farm inputs and outputs. Overall, in terms of control over transportation cost, the domestic-market farmers are at competitive disadvantage compared to the export-market farmers.

Table 2: Respondents' Farm Information

Variables	**Category**	**Domestic Farmers (n=25)** *Count (%)*
Farm Acreage	0.0-5.0 5.1-10.0	19(76) 6(24)
Banana Variety	Cavendish Gross Michel/other	20(80) 5(20)
Land Owner	Yes No	15(60) 10(40)
Own a Vehicle	Yes No	11(44) 14(56)
Own a Computer	Yes No	4(16) 21(84)

Also, the relatively small farm size holdings of the domestic-market farmers (Table 2) suggest that most are subsistence operations. Although the farm ownership numbers were higher than expected based on previous reports but the face-to-face interviews provided another perspective on the purported ownership by some of the farmers. One respondent characterized the purported ownerships by saying:

> *The thing with most farmers here is that their holdings are not always legitimate. They do not own the land. So, they do not have a title. The person who owns the land perhaps by way of inheritance also does not have a title or it may be a lease agreement but it's a word of mouth lease agreement. And this word of mouth cannot go to the bank, micro-business enterprises or financial enterprises. So there is a definite problem there.*

This land ownership and tenure problems appear to be more prevalent among domestic-market farmers and hence their small acreages. This is significant because if these farmers are mostly renter or squatters then they would have limited access to financial resources and they will be less likely to invest in their operations for future growth. In essence, the land tenure problem limits access to financial resources and deters farm investment, and ultimately, threatens the survival of these banana farmers. Comparative, export-market banana farmers many of whom have larger acreage (10 acres or more) and proper titles have better access to financial assistance (EU supported programs).

> *….those who have legitimate holdings do not have difficulty getting loans. The difficulty they would face is paying back that loan, especially considering the current market prices. An example would be, a loan initiated by the Development Bank of Jamaica through the government to the banana export company for banana farmers. Now, the only persons with access to these loans are farmers who have legitimate leases or holding on their lands and have met banana industry standards or what we call Global Gap Certification.*

This suggests a market failure problem—ill defined property rights—and in such cases government intervention and resolution maybe the only solution just as one respondent alluded to in his response:

> *I do think there are solutions the government has on its books. Laws, although some are outdated, act with regards to acquiring lands. If owners do not pay taxes for a period of time, that's a big problem in Jamaica. You will find a piece of land unoccupied and someone goes to squat on the land and uses it for housing or farming purpose. In most cases, for housing, they will squat for 10-20 years. Then out of the blue someone shows up with documentation of ownership of that land and starts the eviction processes. There are demonstrations across the country for that and in that respect I do not know but there is always room for intervention of the government (with developers) who comes in and tries to work out an amicable solution. I think that we need to be more proactive on this issue.*

In the long term, this land tenure problem may be the most important public policy issue farming banana farmers and it is the hardest issue to resolve because of the political and economic consequences for all sides. Another long term issue facing Jamaican domestic-market banana producers is their limited education and business training. Some of the interviews reveal the underlying concerns. One interviewer who is an export-market farmer (college graduate) reveals the persistent characterization of domestic market producers:

> *In this industry, 8 out of 10 of our farmers do not achieve a high school education and 90% of these farmers are above the age of 50. So there is really no formal level of management skills or business skills and to teach these farmers these skills is a very long and tedious process. However, I think that if they treat their banana farm as a business and make conscious business decisions, it will help their welfare.*

This assessment was supported by the interview statements of an extension agent. This low level of educational attainment and low farm business/management knowledge and skills, which cannot be remedied by any "quick-fix" government programs, is another factor that threatens the survival of these farmers. Moreover, in long term there is little hope for a solution since there is little hope that the younger and better educated generation will enter banana farming. The mixed assessment by the same respondent sums it up:

> *There is somewhat a new generation of farmers coming behind. But the rate of incursion into farming is very low and I speak not only for banana but for all the agricultural crops. On the whole, younger people do not see agriculture as a lucrative alternative.*

In addition to the above statements, the statement below by an extension agent indicates the current situation and arrangements work in favor of exporters and to the disadvantage of domestic market banana farmers.

> *I would also like to add that the EU helps to provide some assistance to the farmers. However, they have to comply with a few rules. They have to be a registered tax payer and present a tax registration number (TRN). They must provide proper identification, and documentation of ownership or legal occupation of the land they farm. Then they can apply for assistance.*
>
> *Many of these small farmers find some of these policies a little cumbersome and this poses a problem or a barrier for many of them. Unfortunately, many of these farmers farm on captured land and of course this denies them access to these assistance.*

These long term issues—the unresolved land tenure problems, low educational attainment and the stringent requirements for accessing government services/assistance and EU funded program—underscore why more Jamaican domestic-market banana farmers face an uncertain future. These issues also explain why the current farm equipment holdings are minimal (Table 3).

Table 3: Equipment/Facilities on Farm

	Domestic Farmers N=25 Count (%)
Pick Up Truck	2(8)
Spray Pan	19(76)
Wheel Borrow	1(4)
Machetes	20(80)
Storage Room	10(40)
Wash & Packing Shed	9(36)
Other	6(24)

The survey data reveals that the other factors that affected the production of bananas during the 2006 and 2007 banana season (Table 4). The factor that was identified as the most serious problem by many domestic farmers was access to information from the Jamaican government establishments and extension services. Again, this problem was generally attributed to the low levels of education by the agents but the interviewed farmers tended to view it otherwise. From the farmers' perspective, which is also reflected in their assessment of government response after hurricanes, there is policy neglect.

Table 4: Difficulties Experienced with Production Input (Past 2 years)

	Domestic Farmers				
Variable	NP	MP	SP	VSP	Mean(RK)
	Count (%)				(SDT)
Cost of Fertilizer	0 (0)	6 (24)	19 (76)	0 (0)	2.76(3) (0.43)
Cost of farming equipment	10 (40)	6 (24)	1 (4)	8 (32)	2.28(9) (1.31)
Availability of Loans/Financing	9 (37.5)	2 (8.3)	2 (8.3)	11 (45.8)	2.63(4) (1.41)
Cost of Labor	10 (40)	5 (20)	2 (8)	8 (32)	2.32(8) (1.31)
Cost of Pesticides	1 (4.2)	9 (45.8)	12 (50)	2 (0)	2.46(6) (0.59)
Access to Information	0 (0)	1 (4)	1 (4)	23 (92)	3.88(1) (0.44)
Effects of Hurricane & Droughts	1 (4)	1 (4)	23 (92)	0 (0)	2.88(2) (0.44)
Transportation	9 (36)	4 (16)	1 (4)	11 (44)	2.56(5) (1.36)

Scale Key: Not a Problem(NP), Moderate Problem(MP), Serious Problem(SP), Very Serious Problem(VSP) Notes: Means and STD were computed by assigning NP=1, MP=2, SP=3, VSP=4. RK-Ranking of difficulties experienced is based on the computed means.

This inadvertent policy bias was also revealed in the interview statements below by one extension agent and which lends support to the view of domestic-market farmers.

> *The local market, as you should see from the surveys is very complicated. There are three major sector of the local market; the green fruit, we consume the banana green as a starch after it is boiled which is very important to us in Jamaica; the banana is also used to make chips which is a snack and we consume the banana as a ripe fruit. Now for the first two markets the quality standards are not that stringent. However, for the ripe banana market, locally, the current trends are that the local consumers are now demanding similar requirements as fruits being shipped to the UK.*
>
> *Our focus is on the export market and we must try our best to meet the quality standards as these standards are levied on all importers to the UK. If we do not impose these standards on our farmers, our shipment may be rejected and dumped even.*

These statements reveal some of the challenges facing policy maker. On one hand, since banana is an important foreign exchange earner for Jamaica, the government supports export-market banana farmers to maintain or increase their exports. But this support, on the other hand, increases the competitive disadvantages and challenges facing domestic-market farmers. While this is an inadvertent policy bias, the impact of those policies poses economic challenges for the domestic-market farmers. Some statements by one female farmer, forced out of the export market by hurricane, and who was thereafter engaged in the domestic market, summarize the challenges of the domestic market.

> *No I sell to both, but right now I am only selling to the local market right now as the farm is still recovering from Hurricane Dean. On the local market I only get JMD.$300-$400 per bunch which is cheap.*
>
> *….I am barely getting by, just enough to put a little food on the table because chemical cost and fertilizer cost has increased.*
>
> *….If they can cut input costs that the farmers use and also increase the price they buy bananas from us. Right now the local buyers want to pay us less for the bananas and they want us to transport it to the market for them also. It is a rough process and there is so much work involved. But we don't have any other option so we have to work with it the best we can because this is the most profitable crop.*

CONCLUSION

Traditionally, Jamaican domestic-market banana farmers sell their crop to the local market as green or ripe bananas. The green banana is boiled and consumed as a yam or boiled as a starch, or processed into chips or distilled into liquor. The ripe fruit is retailed or sold to the local hospitality industry. The hospitality market has traditionally been more lucrative. But since increasing numbers of export-market farmers are now withdrawing from the export trade and selling to the local market due to the loss of their preferential access to EU market and the loss of market share to the Dollar producers (in Latin America), the quality demands of the local hospitality has risen. These quality demands have inadvertently given export-market producers an added advantage and further displaced or undermined the survival the domestic farmers.
In good weather and good times (non-hurricane season) when export trade is flourishing, export farmers have the added advantage that they qualify, participate and receive government/EU sponsored assistance, which will better position them to effectively compete and displace domestic farmers in bad weather times.

These public policy induced difficulties further complicates the challenges facing Jamaica's domestic-market banana farmers. The other challenges that they face includes the land tenure issues, the high prices of farm inputs (fertilizers, pesticides and farm equipment), and the limited access to financial resources and extension services—since the stated goal of government policy is to support export trade, which is a foreign exchange generator. The other socioeconomic factors such as an aging farming population with limited education and the poor access to information are equally problematic. Without a strong government intervention and based on these assessments the displacement of Jamaican domestic-market banana producers will continue unmitigated.

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THE CAUSAL NEXUS BETWEEN FOREIGN DIRECT INVESTMENTS AND ECONOMIC GROWTH IN TRANSITION ECONOMIES: EVIDENCE FROM BRIC COUNTRIES

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ABSTRACT

The last decades the world has experienced significant transformations in geopolitical and economic terms, and in the location, organization and distribution of production. For several reasons, large developing economies such as Brazil, Russian Federation, India and China (BRIC) have acquired a most important role in the world economy as producers of goods and services, receivers of capital, or potential consumer markets given their common characteristics of having a big part of their large population still not integrated in the market economy. Although BRIC countries followed different trajectories in their integration into the globalizing learning economy all of them have acquired a more important role in the world system. This paper investigates the casual nexus between Foreign Direct Investment (FDI) and economic growth in BRIC countries for the period from January 1970 to December 2008 by using the preliminary statistics like Augmented Dickey Fuller test and Phillip Perron test to test the stationarity of the series. Further, this paper uses two popular time-series models for testing the long-run and short-run relationships by using Johansen's Cointegration and the Vector Error Correction Model (VECM) for the speed of equilibrium between the bivariate variables. Finally, our results suggest that there was a unidirectional and feedback relationship in both short-run and long-run.

***Keywords**: FDI, Economic Growth, Transition Economies, Johansen Cointegration, VECM.*
***JEL Classification**: F21, F23, O53*

INTRODUCTION

In the recent wave of globalization, it is well recognized that the Foreign Direct Investment (FDI) is widely viewed as being one of the important sources of international transfer technology, introduction of new processes, managerial skills and know-how in the domestic market, international production networks and enhancing global market access and thus contributes directly to the economic growth. Accordingly, neo-classical or exogenous models of growth argues that the greater flow of FDI brings substantial benefits to bear on the world economy and on the economies of developing countries in particular, in terms of improving the long-term efficiency of the host country though greater competition, transfer of capital, technology and managerial skills and enhancement of market access for the expansion of international trade. The proponents of neo-classical theory further argue that FDI raises competition in an industry with a likely improvement in productivity. The rise in competition can lead to reallocation of resources to more productive activities, efficient utilization of capital and removal of poor management practices. Foreign Direct Investment can also widen the market for host producers by linking the industry of host country more closely to the world markets, which leads to even greater competition and opportunity to technology transfer.

Another view pertaining to negative relation between FDI and economic growth are mainly due to (a) the decision of Multinational Corporations for acquisition of domestic firms might lead to large inflow

of foreign exchange which will create an atmosphere for appreciation in the host country currency level. This might in turn make the host country's export less competitive and discourage domestic investment for export markets, (b) negative effects may arise form competition when foreign firms with advanced technologies produce at lower marginal cost and therefore gain market shares from domestic firms, which results in a reduced domestic productivity, (c) rather than closing the gap between domestic savings and investment, FDI might actually crowding-out domestic investment in the developing nations, (d) large amount of funds outflows from the nations through remittance of profits, dividends, interests, royalties and fees, etc. (e) Further, dependency school theory argues that foreign investment from developed countries is harmful to the long-term economic growth of developing nations. It asserts that First World nations became wealth by extracting labour and other resources from the Third World nations. It also argued that developing countries are inadequately compensated for their natural resources and thereby sentenced to conditions of continuing poverty. This kind of capitalism based on the global division of labour causes distortion, hinders growth, and increases income inequality in developing countries.

These arguments make the proposition of FDI leads to economic growth as weak. Economic growth also leads to FDI due to the fact that as the market size of the host country increases with a high rate of economic growth, ceteris paribus, foreign direct investment, will increase, resulting from the expected higher level of profitability. High rates of economic growth will cause levels of aggregate demand for investments to rise. In addition, better economic performance suggests better infrastructure facilities and greater opportunities for making profits. As a result, the greater the market size, the larger will be the inflows of foreign direct investment into the recipient countries.

Furthermore, there is a possibility of positive feedback relationship between FDI and economic growth due to the fact that, large market size leads to rapid economic growth, which in turn attracts the larger flows of FDI into host country, resulting from the expected higher level of profitability. Ultimately, these larger inflows of FDI can potentially supply a combination of technology, management, production procedures, quality control techniques and access to financing and markets that may not be available locally in the host country. These innovations can contribute to economic growth in host country through demonstration and other spillover effects. Finally, there is also a possibility for the existence of independent relationship between FDI and economic growth in the host country. This was mainly due to the following reasons, (a) lack of highly educated workforce, which lead to limit the benefits from FDI technological spillovers, (b) lack of full integration of capital and financial markets, (c) insufficient protection of physical and intellectual property rights, and (d) lack of innovations in technological, organizational and availability of technical assistance, which will make the cost of adoption of new technologies remains high in the host country. On the other hand, higher levels of economic growth in the host country may not attract FDI due to lack of stability of domestic currency in international market.

The above diversified theoretical arguments create phenomenon of economic growth and FDI as complex in nature. This is due to the fact that the causation between two may take place in the following four alternative ways: (a) Foreign Direct Investment causes Economic Growth; (b) Economic Growth causes Foreign Direct Investment (c) Bi-directional relationship between Foreign Direct Investment and Economic Growth, and (d) Independent relationship between these two variables. The remainder of our article is organized as follows: Section 2 describes the earlier literature review pertaining to the study. Data and Methodological parts are discussed in Section 3. Section 4 offers the results and discussion of the study. Finally, Concluding remarks are presented in section 5.

REVIEW OF LITERATURE

From the above theoretical arguments, it appears that the debate of whether FDI inflows are growth-enhancing in the emerging economies remains largely an empirical question. Considerable volume of research has been conducted on the subject, but still there exist conflicting evidences in the literature regarding the FDI-growth relationship. Early studies on FDI, such as Singer (1950), Prebisch (1968), Griffin (1970) and Weisskof (1972) supported the traditional view that the target countries of FDI receive very few benefits because most benefits are transferred to the multinational company's country. Bacha (1974) examined the effects of FDI by US companies on the host country's growth. Their results revealed a negative relationship between these two variables, while Saltz (1992) examined the effect of FDI on economic growth for 68 developing countries and he also found a negative correlation between FDI and

growth. Similarly, Haddad and Harrison (1993) and Mansfield and Romeo (1980) find no positive effect of FDI on the rate of economic growth in developing countries. As De Mello (1999) pointed out: "whether FDI can be deemed to be a catalyst for output growth, capital accumulation, and technological progress seems to be a less controversial hypothesis in theory than in practice". In his study, De Mello (1999) used both time series and panel data from a sample of 32 developed and developing countries found weak indications of the causal relationship between foreign direct investment and economic growth. Similarly, other studies such as Carkovic and Levine (2002) for 72 developed and developing countries, Mencinger (2003) for 8 transition countries and Eric Fosu and Joseph Magnus (2006) for Ghana found that FDI has a negative impact on economic growth.

On the other hand, the empirical literature supports the modernization view that foreign direct investment can exert a positive impact on economic growth in emerging economies. Using a single equation estimation technique with annual data over the period 1960-1985 for 78 developing countries, Blomstrom et al (1992) showed a positive influence of FDI inflows on economic growth. In an empirical study by Borensztein et al. (1998), an endogenous growth model was developed that measures the influence of the technological diffusion of FDI on economic growth in 69 developing countries over two periods, 1970-1979 and 1980-1989. They found that FDI inflows positively influenced economic growth. Moreover, the relationship between FDI and domestic investment in these countries was complementary. Campos and Kinoshita (2002) examined the effects of FDI on growth for 25 Central and Eastern European and former Soviet Union economies. Their results indicated that FDI had a significant positive effect on the economic growth of each selected country. Besides, the other studies by Marwah and Tavakoli (2004) for ASEAN-4 countries, Lumbila (2005) for 47 African countries, Aghion et al. (2006) for 118 countries, Lensink and Morrissey (2006) for 87 countries, Feridun and Sissoko (2006) for Singapore and Har Wai Mun et al (2008) for Malaysia revealed that FDI has a positive impact on GDP growth. Moreover, the recent study of Reyadh and Khalifa (2009) show that, for most of the Gulf Cooperation Council (GCC) countries, there is a weak but statistically significant causal impact of FDI inflows on economic growth.

Some empirical studies indicate that higher economic growth will lead to greater FDI inflows into host countries. Jackson and Markowski (1995) had found that economic growth has had a positive impact on FDI inflows in some Asian countries. The studies of Kasibhatla and Sawhney (1996) and Rodrik (1999) for United States reveal unidirectional causal relationship from economic growth to foreign direct investment. Further, Chakraborty and Basu (2002) for India had employed vector error correction model (VECM) to find the short run dynamics of FDI and growth for the years 1974-1996. The empirical result reveals that the causality runs more from real GDP to FDI flows. Besides, Tsai (1994) employed a simultaneous system of equations to test two-way linkages between FDI and economic growth for 62 countries in the period 1975-1978, and for 51 countries in the period 1983-1986. He found that two-way linkages existed between FDI and growth in the 1980s. Bende-Nabende et al. (2001) also investigated the impact of FDI on economic growth of the ASEAN-5 economies over the period 1970-1996 and found that there exists bi-directional relationship between the two variables. Similarly, Liu et al (2002) for China, Basu et al (2003) for 23 developing countries, Saha (2005) 20 for Latin America and the Caribbean countries, Hansen and Rand (2006) for 31 developing countries, Nguyen Phi Lan (2006) for Vietnam and Mahmoud Al-Iriani et al (2007) for 6 Gulf Cooperation Countries (GCC) found the bi-directional causality between foreign direct investment and gross domestic product.

On the other side, Alam (2000) in his comparative study of FDI and economic growth for India and Bangladesh economy stressed that though the impact of FDI on growth is more in case of Indian economy, yet it is not satisfactory. The study of Pradhan (2002) for India estimated a Cobb-Douglas production function with FDI stocks as additional input variable for the years 1969-1997 and found that the FDI stocks have no significant impact for the whole sample period. Similarly, the other studies such as Bhat et al. (2004) for India, Akinlo (2004) and Ayanwale (2007) for Nigeria, Habiyaremye and Ziesemer (2006) for SSA countries and Jarita Duasa (2007) for Malaysia found no evidence of causal relationship between foreign direct investment and economic growth.

The literature reviewed above pertaining to the causal nexus between foreign direct investment and economic growth in emerging economies is well established. However, the results appear to be ambiguous. Most of the studies employed cointegration test and VECM to examine the causal relationship between FDI and economic growth. It revealed that Johansen's cointegration test and VEC model are the

superior techniques to investigate the issue. Johansen's cointegration test examines the presence of (Cointegrating) long-run relationship between economic variables in the model. A principal feature of co-integrated variables was that their time paths were influenced by the extent of any deviation from the long-run equilibrium (Walter Enders 1995). Thus, vector error correction model that incorporates error correction term represents the percent of correction to any deviation in long-run equilibrium in a single period and also represents how fast the deviations in the long-run equilibrium are corrected. Besides, the VECM provide inferences about the direction of causation between the variables. Thus, the study can be done by employing Johansen's cointegration test and VEC model to investigate the causality between foreign direct investment and economic growth in the BRIC (Brazil, Russia, India and China) countries. Understanding causal relations between FDI and economic growth should help policy makers of BRIC's countries to plan their FDI policies in a way that enhances growth and development of their economies.

DATA AND METHODOLOGY

The data used for the study consist of net FDI inflows and Gross Domestic Product (GDP) for the BRIC countries which include Brazil, Russia, India and China. The data on foreign direct investment inflows are limited and time series of most countries start in the late 1960s and early 1970s, which prevents the consideration of longer time span for the analysis. Hence, the annual time-series data on net FDI inflows and GDP for Brazil, Russia, India and China were considered for the years 1970-2008. The inward Foreign Direct Investment series were compiled from United Nations Commission for Trade and Development (UNCTAD) reports. To measure the economic growth of BRIC countries we used proxy variable as the real Gross Domestic Product series were obtained from International Monetary Fund's International Financial Statistics (IFS) database. The values of both series are expressed in terms of millions of US dollars in current prices.

The present study employed Johansen's (1988) Cointegration technique and Vector Error Correction Mechanism (VECM) to investigate the casual nexus between Foreign Direct Investment and Gross Domestic Product for the post liberalization period in India. A precondition for the test of Cointegration technique is the existence of a stationarity of the data series in an identical order. Therefore, as a first step, it is necessary to test the stationarity of the data series by using Augmented Dickey Fuller (1979) test and Phillips and Perron (1988) test were conducted. Besides, the Johansen Cointegration (1988, 1991) tests were employed to check the existence of at least one Cointegrating relationship among the variables, the presence of Cointegrating vectors in non-stationary time series as a Vector Auto regression (VAR):

$$\Delta Z_t = C + \sum_{i=1}^{K} \Gamma_i \Delta Z_{t-1} + \Pi Z_{t-1} + \eta_t \qquad (1)$$

Where, Z_t is a vector of non-stationary (in log levels) variables and C is the constant term. The information on the coefficient matrix between the levels of the $\prod$ is decomposed as $\prod = \alpha\beta$, where the relevant elements the α matrix are adjustment coefficients and β matrix contains the Cointegrating vectors. There are two test statistics for Cointegration under the Johansen method, they are

$$\lambda trace(r) = -T \sum_{i=r+1}^{n} In(1-\hat{\lambda}_i) \qquad (2)$$

$$\lambda max(r, r+1) = -TIn(1-\hat{\lambda}_{r+1}) \qquad (3)$$

Where, r is the number of Cointegrating vectors under the null hypothesis and $\hat{\lambda}_i$ is the estimated value for the i^{th} ordered Eigen value from the $\prod$ matrix. Each Eigen value will have associated with it a different Co integrating vector, which will be Eigenvectors. A significantly non-zero Eigen value indicates a significant Cointegrating vectors. Johansen and Juselues (1990) provide critical values for the two statistics. If the test statistics is greater than the critical value from Johansen's table, reject the null hypothesis that there are r Cointegrating vectors in favour of the alternative that there are r+1 (for λ_{trace}) or more than r (for λ_{max}).

As the third step, if variables are non-stationary and are cointegrated, the adequate method to examine the issue of causation is the Vector Error Correction Model (VECM), which is a Vector Autoregressive model (VAR) in first differences with the addition of a vector of Cointegrating residuals. Since Vector Error Correction Model (VECM) can capture both the short-run dynamic and the long-run equilibrium relationship between variables, we use it to estimate the relationship between Foreign Direct Investment and Gross Domestic Product; this can be expressed as follows;

$$\Delta FDI_t = \alpha_1 + \Delta\sum_{i=1}^{k} \alpha_{1i} FDI_{t-k} + \Delta\sum_{i=1}^{k} \beta_{2i} GDP_{t-k} + \gamma_1 ECM_{t-k} + u_{1t} \quad (4)$$

$$\Delta GDP_t = \alpha_0 + \Delta\sum_{i=1}^{k} \beta_{1i} GDP_{t-k} + \Delta\sum_{i=1}^{k} \alpha_{2i} FDI_{t-k} + \gamma_2 ECM_{t-k} + u_{2t}$$

Where, the Vector Error Correction Model the, GDP_t granger causes FDI_t, if some of the β_{2i} coefficients, i = 1,2,3,…..n-1 are not equal to zero and the error coefficient ρ_1 in the equation of FDI flows is significant at convention levels. Similarly, FDI_t granger causes GDP_t, if some of the α_{2i} coefficients, i = 1,2,3,…..n-1 are not zero and the error coefficient ρ_2 in the equation of GDP is significant at convention levels. These hypotheses can be tested by using either t-tests or F-tests on the joint significance of the lagged estimated coefficients. If both FDI_t and GDP_t cause each other, then there is a feedback relationship between FDI and GDP. The error correction coefficients, ρ_1 and ρ_2 serve two purposes. They are (i) to identify the direction of causality between foreign direct investment and gross domestic product and (ii) to measure the speed with which deviations from the long-run relationship are corrected by changes in the foreign direct investment and gross domestic product.

RESULTS AND DISCUSSION

Table: 1 Result of Augmented Dickey-Fuller and Phillips-Perron Tests

Countries	Variables	ADF Test Statistics		PP Test Statistics	
		Level			
		Trend	No Trend	Trend	No Trend
Brazil	FDI	-0.46	0.48	-1.45	-0.17
	GDP	-1.92	1.16	-2.20	0.78
Russia	FDI	-0.63	1.22	0.03	1.25
	GDP	0.14	1.46	-0.008	0.99
India	FDI	-2.10	0.48	-1.63	-1.30
	GDP	-0.41	0.45	-0.43	1.53
China	FDI	-1.53	-1.60	-1.52	-1.67
	GDP	-0.02	1.31	0.07	1.05
Countries	**Variables**	**First Difference**			
Brazil		-6.27*	-6.18*	-6.20*	-6.14*
	GDP	-3.98*	-2.48**	-4.02*	-2.35**
Russia	FDI	-5.06*	-5.85*	-8.99*	-5.99*
	GDP	-3.83*	-2.01**	-3.93*	-1.98**
India	FDI	-7.42*	6.04*	-8.38*	-7.63*
	GDP	-5.02*	-3.69*	-4.94*	-3.66*
China	FDI	-3.48**	-3.75*	-3.60**	-3.93*
	GDP	-6.70*	-3.73*	-6.81*	-4.07*

Notes: * (**) – indicates significance at the one and five per cent level respectively. Optimal lag length is determined by the Schwarz Information Criterion (SC) and Newey-West Criterion for the Augmented Dickey-Fuller Test and Phillips-Perron Test respectively

The above Table: 1 presents the properties of unit root series and it is crucial for testing the cointegration and causality analyses. The standard Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were employed to examine stationary property of the selected data series. Table: 1 depicts the results of Augmented Dickey-Fuller and Phillips-Perron tests for the GDP and FDI series of the BRIC countries. Both the unit root test results reveal that the null hypothesis of unit root for the selected variables such as foreign direct investment and gross domestic product in case of each individual country was not

rejected at levels. But, when the series are first differenced, both the series are found to be stationary and integrated at the order of one I(1).

Table: 2 Results of Johansen's Cointegration Test

Countries	Vector (r)	Trace Statistics	95 % C. V for Trace Statistics	Max-Eigen Statistics	95 % C.V for Max-Eigen Statistics
Brazil	H_0: r = 0	39.66**	19.96	31.49**	15.67
	H_1: r ≥ 1	8.174	9.24	8.174	9.24
Russia	H_0: r = 0	29.94**	25.32	26.39**	18.96
	H_1: r ≥ 1	3.550	12.25	3.550	12.25
India	H_0: r = 0	34.39**	25.32	23.06**	18.96
	H_1: r ≥ 1	11.33	12.25	11.33	12.25
China	H_0: r = 0	19.47**	15.41	16.70**	14.07
	H_1: r ≥ 1	2.771	3.76	2.771	3.76

Notes: ** – indicates significance at five per cent level. The significant of the statistics is based on 5 per cent critical values obtained from Osterwald-Lenum (1992). r is the number of Cointegrating vectors. H_0 represents the null hypothesis of presence of no Cointegrating vector and H_1 represents the alternative hypothesis of presence of Cointegrating vector.

If both the series are integrated of same order I(1), the Johansen Cointegration test was performed to examine the presence of long-run relationship between foreign direct investment and gross domestic product for the individual BRIC countries and its result is presented in Table: 2. In the table, the Johansen's maximum eigen and trace statistics for each individual BRIC's nations namely, Brazil, Russia, India and China indicates that the null hypothesis of no Cointegrating vector ($r = 0$) can be rejected at five per cent significance level, and the alternative hypothesis of at most one Cointegrating vector ($r \geq 1$) can be accepted. Therefore, the results support the hypothesis of cointegration between foreign direct investment and gross domestic product, implying that there are stable long-run relationships exist between these two variables in case of each BRIC countries.

Table: 3 Results of VECM Pertaining to Causal Nexus between FDI and GDP in BRIC Countries

Countries	Regression Equation	C	ΔFDI_{t-1}	ΔFDI_{t-2}	ΔGDP_{t-1}	ΔGDP_{t-2}	ECT_{t-1}	Inference
Brazil	*ΔFDI on ΔGDP*	-0.097 (-0.48)	0.449 (1.48)	0.308 (1.990)**	-1.538 (-0.68)	0.645 (0.290)	-2.032 (-4.96)*	*FDI↔GDP*
	ΔGDP on ΔFDI	0.004 (0.34)	0.049 (2.38)**	0.017 (1.58)	-0.741 (-4.82)*	-0.486 (-3.21)*	-0.059 (-2.12)**	
Russia	*ΔFDI on ΔGDP*	-0.189 (-0.94)	-0.199 (-1.10)	-	1.053 (0.56)	-	-0.420 (-1.98)**	*FDI↔GDP*
	ΔGDP on ΔFDI	0.026 (2.29)**	-0.040 (-3.87)	-	0.274 (2.53)**	-	0.120 (9.80)*	
India	*ΔFDI on ΔGDP*	0.029 (0.16)	0.271 (1.62)	-	0.170 (0.06)	-	-1.497 (-5.78)*	*GDP→FDI*
	ΔGDP on ΔFDI	0.004 (0.38)	-0.007 (-0.64)	-	-0.446 (-2.60)*	-	0.007 (0.421)	
China	*ΔFDI on ΔGDP*	-0.097 (-0.48)	0.449 (1.48)	0.308 (1.990)**	-1.538 (-0.68)	0.645 (0.290)	-2.032 (-4.96)*	*GDP→FDI*
	ΔGDP on ΔFDI	0.004 (0.34)	0.049 (2.38)**	0.017 (1.58)	-0.741 (-1.82)	-0.486 (-1.51)	-0.059 (-1.12)	

Notes: Optimal lag length is determined by the Schwarz Information Criterion (SC): FDI and GDP are the Foreign Direct Investment and Gross Domestic Product respectively, * and ** denote the significance at the one and five per cent level, respectively. Parenthesis shows t-statistics, * (**) – indicates significance at one and five per cent level, respectively.

After confirming the existence of single Cointegrating vector among foreign direct investment and gross domestic product for the BRIC economies namely, Brazil, Russia, India and China, we should search

for proper Vector Error Correction Model (VECM) to determine the direction of long-run causation. In the Table: 3, the VECM results for Brazil and Russia signifying the direction of causality running on both the direction. For India, the result of VECM shows that error correction coefficient, ECT_{t-1}, in FDI equation is found to have expected negative sign and significant at one per cent level, implying that the direction of causality runs from the GDP to FDI. This indicates a one-way long-run causality runs from GDP to FDI for India. Similarly, the VECM results indicate a one-way long-run causality runs from GDP to FDI for China.

SUMMARY AND CONCLUSION

This present paper examines the flow of causality between Foreign Direct Investment and economic growth for four major FDI recipients in the developing economies like Brazil, Russia, India and China. The dataset were spanned over the period from 1970 to 2008 by applying Johansen Cointegration technique followed by the Vector Error Correction Model (VECM) to investigate the causal nexus between FDI and GDP as the proxy variable. Our result suggest, there was a univariate and feedback relationship exist between foreign direct investment and gross domestic product for the sample of four most dominant economies like Brazil, Russia, India and China in both short-run and long-run. Our empirical findings based on the Vector Error Correction Model seem to suggest, the causality running from FDI to GDP for Russia and India during the short-run. As far as, Brazil and Russia the speed of equilibrium between these two variables are not converging in the short-run. In the long-run, GDP is the variable that causes FDI in India and China and not vice versa. In case of Brazil and Russia, there is a strong evidence of a bi-directional causality running between GDP and FDI

The above findings have important policy implications. Understanding the direction of causality between FDI and GDP is crucial for formulating policies that encourage the policy makers to strengthen the rules and regulations for the investors in developing countries. In view of our findings, the conventional view which seems to suggest that the direction of causality running from FDI and GDP is due to large market size leads to rapid economic growth and attracts the largest FDI flows into host country. FDI in Brazil and Russia can potentially supply a combination of technology, management, production procedures, quality control techniques and access to financing and markets in the host country. Consequently, the higher level of economic growth in India and China may not attract FDI due to lack of stability of domestic currency in international market. Increased attention needs to be given to the overall role of GDP as crucial determinants of FDI along with the quality of human capital, infrastructure and institutions for the host countries.

At the same time, BRIC countries have recognizes that Brazil, Russia, India and China have changed their political systems to embrace global capitalism. China and India are the two dominant global suppliers of manufactured goods and services while Brazil and Russia would become similarly dominant as suppliers of raw materials. Cooperation is thus hypothesized to be a logical next step among the BRICs countries because Brazil and Russia together form the logical commodity suppliers to India and China. Thus, the BRICs have the potential to form a powerful economic bloc and comprising BRIC countries to initiated economic or political reforms to allow their countries to enter the world economy. In order to compete, these countries have simultaneously stressed education, foreign investment, domestic consumption, and domestic entrepreneurship in the economic setup. According to the study, the more potential countries to grow among the BRIC over the future is remains like a muddy water and yet to be answered by the future researchers.

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IMPACT OF FINANCIAL CRISIS ON INSURANCE AND BANKING SECTOR (A COMPARATIVE STUDY)

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ABSTRACT

Insurance sector in India is one of the booming sectors of the economy Together with banking services; it contributes to about 7 per cent to the country's GDP. Indian insurance sector had started in 1938, in which general insurance and life insurance chain were started in 1956. Insurance is a method or process which distributes the burden of the loss on a number of persons within the group formed for this particular purpose. We face a lot of risks in our daily lives. Some of these lead to financial losses. Insurance is a way of protecting against these financial losses. For a payment (premium), an insurance company will take the responsibility of compensating your financial losses. In India now a day's many private and public companies are working in such a way to protect the people and give them the financial safety for their family.

The Reserve Bank of India acts a centralized body monitoring any discrepancies and shortcoming in the system and it was established in 1935, and modern banking system was established after the British era in1955 and it was taken by SBI. After the controlling of SBI the Indian banking were broadly categorized into nationalized (government owned), private banks and specialized banking institutions. Now a day's many public, private and cooperative banks are working not for only generating the revenue but more concentrating on customers and new business opportunities.

Before financial crisis the growth of GDP of Indian banking and insurance sector was near 7percent of Indian economy. As we know that recession is reduction in economic activities in the country, financial crisis of 2008-09, Indian banking and insurance sector were downturn. Our objectives of this paper are to find out the actual effects of financial crises on India's two major service sectors and how they are trying to overcome from this crisis, also we want to find out the emerging trend and comparative picture of both the sectors with the help of comparative analysis.

INTRODUCTION

Banking is a system of trading in money which involved safeguarding deposits and making funds available for borrowers, banking developed in the Middle Ages in response to the growing need for credit in commerce. In general terms, banking is the business activity accepting and safeguarding money owned by other individuals and entities, and then lending out this money in order to earn profit. were taken over by the government. The Reserve Bank of India acts a centralized body monitoring any discrepancies and shortcoming in the system. The nationalized banks continue to dominate the Indian banking arena. Insurance is nothing but the Commercial mechanism for transferring risk and spreading loss or it can be say that it is just the Economic Concept in different terms like: Insurer offers policy to cover specified risk, Insurer collects policy premiums from customers, Insurer invests premiums and Insurer pays money to insured customers in the event of losses covered by policy. Insurance is nothing but the spreading the risk on one onto many shoulders, it provides to people security risk in case of lose and failure of any sort. Insurance may be defined as a social device to reduce or eliminate the risk of loss of life and property. We face a lot of risks in our daily lives. Some of these lead to financial losses. Insurance is a way of protecting against these financial losses. For a payment (premium), an insurance company will take the responsibility of compensating your financial losses.

A recession is a decline in a country's gross domestic product (GDP) growth for two or more consecutive quarters of a year. A recession is also preceded by several quarters of slowing down. An economy, which grows over a period of time, tends to slow down the growth as a part of the normal economic cycle. An economy typically expands for 6-10 years and tends to go into a recession for about six months to 2 years.

REVIEW OF LITERATURE

C. P. Chandrashekhar,Jayati Ghosh 'India and the global financial crisis',2008,given the concept that India is not only facing a financial meltdown it was nearly experienced in the US, the global financial crisis will certainly have an impact. They consider the possible negative effects of the crisis on India and whether the Government's response so far has been appropriate.

Malcolm D Knight,'Global Banking: paradigm shift - towards meeting the emerging challenges', 2006, defines that three issues are of particular importance for maintaining financial stability at the national and global level. First, global banking will flourish in a strong and stable financial environment. Second, adoption of sound corporate governance practices by all the entities in the financial system will improve the national and global financial systems. Third, accounting standard setters and prudential standard setters need to develop an understanding of each other's approaches.

Rakesh Mohan,' Global Financial Crisis and Key Risks: Impact on India and Asia', 2008, defines how the global financial crisis left impact on Indian economy and finding out the reasons behind the crisis.

Rosemary Omaha , 'Relevance of Insurance during Meltdown', 2009, gives the concept of meltdown on insurance industry, its challenges and the role of insurance industry in world's economy.

International Labor Organization, 'Impact of the Financial Crisis on Finance Sector Workers',2009 briefly review the background, causes, and characteristics of the ongoing financial and economic crisis.

Credit Analysis & Research Limited [CARE], 'Report on Indian Banking Sector', 2009, tells that 72% of public sector banks are dominating the Indian Banking Sector. It also gives the comparison between public and private banks of India.

Nidhi Choudhari, 'Global Recession and its impact on Indian Financial Markets', 2009, defines the impact of global recession on Indian financial market, major initiatives taken up by the Government and Reserve Bank of India in the order to contain it with special focus on employment, import-export, interest rates, and risk management, credit demand and taxation.

OBJECTIVES OF THE STUDY

* To find out the impact of financial crises on insurance sectors.
* To find out the impact of financial crises on banking sector.
* To measure the comparative impact of financial crisis overall banking and insurance sector.

RESEARCH METHODOLOGY

In the research paper, we are using secondary data for the comparative analysis of banking and insurance sectors. We have taken all the data from different private and public insurance and bank's annual reports, balance sheets, journals and books. For the research purpose we have taken Indian banks and insurance companies and for our convenience we have selected 6 banks in banking sector and 4 insurance companies from insurance sector. This is an exploratory research paper based on secondary data.

Sampling: In the present paper we have taken one public life insurance and 4 public general insurance companies and 3 private life and general insurance companies. In the banking area we have taken the sample size of major 3 public and 3 private banks of India .The statistical tool which is appropriate to analyze the data to measure the impact of financial crisis on banking and insurance sector is paired t test. With the use of this technique, the inferences are drawn.

COMPARATIVE ANALYSIS AND FINDINGS

Table-1 Net premium of three years of selected Insurance companies:

Insurance Sector	2006-07	2007-08	2008-09
LIC NIC+OIC+UIC	Life-127782.26 Gen-293358.59	Life-149705.59 Gen-293935.63	Life-157186.55 Gen-330674.04
ICICI	Life- 79129879 Gen-10,666,460	Life-135,610,612 Gen-15,671,848	Life-153582208 Gen-19736522
HDFC	Life- 28558656 Gen-1331126	Life-48585616 Gen-1675823	Life-55646937 Gen-1947673
Bajaj Allianz	Life-53099971 Gen-8385	Life-97253110 Gen-14154427	Life-106245213 Gen-18912709

Table-2, Net profit and deposit of three years of selected banks:

Banking sector	2006-07	2007-08	2008-09
HDFC	Dep-6829794 Prof-1141.5	Dep-1007685910 Prof-15901930	Dep-1427670642 Prof-22449392
ICICI	Dep-2305101863 Prof-31102200	Dep-2444310502 Prof-41577279	Dep-2183.48 Prof-37.58
Axis	Dep-58785.60 Prof-659.03	Dep-87626.22 Prof-1071.03	Dep-117374.4 Prof-1815.36
BOI	Dep-1198817362 Prof-1123.17	Dep-1500119812 Prof-2009.40	Dep-1897084797 Prof-3007.35
SBI	Dep-4355210894 Prof-45413073	Dep-5374039409 Prof-67291247	Dep-7420731280 Prof-91212265
PNB	Dep-1398596711 Prof-1540.08	Dep-1664572260 Prof-17235725	Dep-2097604967 Prof-3090.88

Hypothesis:

H0: There is significant difference before, during and after the financial crises in general insurance and life insurance companies.

H1: During and after financial crises general and life insurance companies have not affected.

Table -3 Paired Samples Statistics for general Insurance sector (both public and private) 2007-2009

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before crisis – during crisis	3208101.0000	4	5002022.22661	2501011.11330
		7949008.4075	4	8085016.29900	4042508.14950
Pair 2	During crisis – after crisis	7949008.4075	4	8085016.29900	4042508.14950
	During crisis – after crisis	10231894.5150	4	10525476.65365	5262738.32683

Table -4 Paired Samples Test for general Insurance sector (both public and private) 2007-2009

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Before crisis – during crisis	-4740907.40750	6724630.61145	3362315.30572	-15441295.32940	5959480.51440	-1.410	3	.253
Pair2	During crisis – after crisis	-2282886.10750	2476004.74779	1238002.37390	-6222762.18824	1656989.97324	-1.844	3	.162

Report: There is no significant difference before, during and after the financial crises in general insurance and life insurance companies, since calculated value is greater than tabulated value so null hypothesis is rejected.

Hypothesis: H0: There is significant difference before, during and after the financial crises in Life insurance of both the sectors.

H1: During and after financial crises life insurance in both the sectors has not affected.

Table -5 Paired Samples Statistics for life Insurance (both public and private sector) 2007-2009

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before crisis	40229072.0650	4	33779899.71736	16889949.85868
	during crisis	70399760.8975	4	58834470.19067	29417235.09533
Pair 2	During crisis	70399760.8975	4	58834470.19067	29417235.09533
	after crisis	78907886.1375	4	65995778.21323	32997889.10661

Table -6 Paired Samples Test for Life Insurance (both public and private sector) 2007-2009

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1 P Pair1 1	Before crisis - during crisis	-30170688.83250	25163271.06939	12581635.53469	-70211068.35431	9869690.68931	-2.398	3	.096
Pair 2P Pair2	During crisis – after crisis	-8508125.24000	7396974.80915	3698487.40457	-20278362.81582	3262112.33582	-2.300	3	.105

Report: Here also p=.90> .05
P=.105>0.05
There is no significant difference before, during and after the financial crises in Life insurance in both the sectors, since calculated value is greater than tabulated value so null hypothesis is rejected.

Hypothesis: H0: There is significant difference before, during and after the financial crises in overall banking both sectors.
H1: During and after financial crises in overall banking both sectors have not affected.

Table -7 Lives and general Insurance 2007-2009 Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before crisis	24820043.8943	7	30824081.59230	11650407.75503
	-during crisis	42748664.3171	7	54260718.57226	20508623.90027
Pair 2	During crisis	42748664.3171	7	54260718.57226	20508623.90027
	-after crisis	48235201.9443	7	60661817.11550	22928011.73784

Table -8 Insurance sector (public and private both) 2007-2009 Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Before crisis – during crisis	-17928620.42286	23509078.94792	8885596.63548	-39670892.13472	3813651.289	-2.018	6	.090
Pair 2	During crisis – after crisis	-5486537.62714	6577495.09441	2486059.46708	-11569705.99979	596630.745	-2.207	6	.069

Report: Since p value is .090(> 0.05), it can be concluded that statistically there is no impact of financial crisis in insurance sector. It can also be concluded that on an average before crisis premium deposits and

during crisis premium deposits are same. This conclusion get a big support from pare to where p value is 0.69 (also >0.05) which also conclude that that there is no significant difference between average premium deposits during the crisis and after the financial crisis. Thus it can easily be concluded that there is no impact of financial crisis in insurance sector.

Hypothesis: H0: There is significant difference before, during and after the financial crises in overall banking both sectors.

H1: During and after financial crises in overall banking both sectors have not affected.

Table-9 Paired Samples Test overall in banking (both public and private) 2007-2009

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pa Pair1	Before crisis – during crisis	-232640802.85583	378070102.81886	109139437.81751	-472855085.87291	7573480.16125	-2.132	11	.056
Pa Pair2	During crisis – after crisis	-68838005.92583	983157680.15865	283813175.64772	-693506593.76495	55583058 1.91329	-.243	11	.813

Report: There is no significant difference before, during and after the financial crises of overall banking in both the sectors, since calculated value is greater than tabulated value so null hypothesis is rejected.

Hypothesis: H0: There is significant difference before, during and after the financial crises in deposits of banking both sectors.

H1: During and after financial crises in deposited of banking both sectors have not affected.

Table 10 Paired Samples Statistics-Deposits in banking (both public and private) 2007-2009

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before crisis	1544102568.2667	6	1635183326.66711	667560797.70686
	-During crisis	1998469253.2033	6	1840014588.18594	751182810.05548
Pair 2		1998469253.2033	6	1840014588.18594	751182810.05548
	During crisis – after crisis	2140868540.5983	6	2742730730.54933	1119715131.94947

Table -11 Paired Samples Test-deposits in banking (both public and private) 2007-2009

			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
PP	Pair1	Before crisis – during crisis	-454366684.93667	443155775.47304	180917587.74606	-919430149.739	10696779.86	-2.511	5	.054
	Pair2	During crisis – after crisis	-142399287.39500	1453626310.98737	593440456.43389	-1667886545.223	1383087970.43	-.240	5	.820

Report: There is no significant difference before, during and after the financial crises of deposited in banking in both the sectors, since calculated value is greater than tabulated value so null hypothesis is rejected.

Hypothesis: H0: There is significant difference before, during and after the financial crises in profits of banking both sectors.

H1: During and after financial crises in profits of banking both sectors have not affected.

Table-12 Paired Samples Statistics profit in banking (both public and private) 2007-2009

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before crisis	12753289.4633	6	20267292.35345	8274087.45563
	During crisis	23668210.2383	6	26251166.05307	10716993.66385
Pair 2	During crisis	23668210.2383	6	26251166.05307	10716993.66385
	After crisis	18944934.6950	6	36524482.76405	14911057.64850

Table-13 Paired Samples Test-Profit in banking (both public and private) 2007-2009

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Before crisis – during crisis	-10914920.77	9202401.971	3756864.872	-20572249.376	-1257592.173	-2.905	5	.034
Pair 2	During crisis – after crisis	4723275.54	22391333.385	9141223.576	-18774987.736	28221538.823	.517	5	.627

Report: There is no significant difference before, during and after the financial crises profits in banking both the sectors, since calculated value is greater than tabulated value so null hypothesis is rejected. Impact of FC profit increases during crisis sees from table5-6.

CONCLUSION

In conclusion, the impact of financial crisis on banking and insurance sector in India is not substantial. Statistically there is no impact of financial crisis in insurance sector and an average before crisis premium deposits and during crisis premium deposits are same. There is no difference between average premium deposits during the crisis and after the financial crisis. Thus it is clear that there is no effect of financial crisis in insurance sector both in life insurance and general insurance.

It has also been observed that there is no significant difference before, during and after the financial crisis profits and deposits in banking both in the private and public sectors. It is clear that the effect of financial crisis on overall Indian banking sector is not substantial affected.

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CONTINENTAL GATEWAY AND TRADE CORRIDOR QUEBEC-ONTARIO: BETTER MULTIMODALITY

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INTRODUCTION

The project of the Continental Gateway and Trade Corridor Quebec-Ontario (CGTCQO) is an agreement between the governments of Quebec, Ontario and Canada as well as 46 institutions working in the maritime, air and land in order to develop in this commercial area a multimodal transportation network, secure, efficient and sustainable (Ontario-Quebec Continental Gateway, (2009)). The project was created to solve many problems plaguing the network, especially congestion problems, mainly existing in areas centers (Montreal and Toronto), in the borders (especially Detroit-Windsor) and the busiest roads. Through several years, this situation increased wear of the infrastructure and declined security level, especially at the borders and security, especially on roads; the environmental impacts are also considerable in terms of emissions GAS, and quality of life of the population.

To resolve this problematic, we identify some several solutions by applying a Benefit-Cost Analysis (BCA) on the transportation network of the OQCGTC, subsequently, we propose a National Planning (NP) methodology to expose how to determine an optimal solution for balancing the transportation networks of OQCGTC.

In BCA, we do not propose to construct a section of road due to costs associated to this solution, and especially for our interest in solutions that can be achieved in the short term and that can have a rapid return on investment, thus, solutions will be adopted quickly and the transportation system can be improved rapidly.

as a result of BCA, we have proposed a combination of options that seems the most likely to cover all issues affecting the OQCGTC: apply a tax on GHG emitted by trucks and private cars - with a lower rate for the latter -; install Advanced Fleet Management Systems (AFMS) in all transport fleets (trucks, trains, boats) and in the consolidation and transfer terminal's facilities, with ensuring the integration of all these AFMS together; install a Scan -Truck (a Commercial vehicles operating - CVO) border, starting at the Detroit-Windsor border, the border is the busiest among the five boundaries of the network.

Subsequently, we expose what is a NP and we learn from the use of this methodology in Sweden because of its resemblance to the OQCGTC in some areas (weather, geographic position, existence of concentrated traffic flows in the same area, etc.); then we end by proposing a methodology to implement NP in OQCGTC while detailing the stages of its implementation and at the same time addressing the factors affecting the infrastructure, integrated technology and / or technology to integrate, the economic, political, regulatory and Social aspects.

COST-BENEFIT ANALYSIS OF THE CGTCQO

a. The problematic exposition

In CGTCQO commercial area, we find the greatest flow of trade in the country - 70% at least, which participates in more than 60% of GDP in Canada (Transport Canada (2008)); also, 80% of the Canada-US road and rail trade pass through the boarders of CGTCQO (IBI Group, (2008)); in addition, over 60% of Canada's population occupies this area.

On the other hand, the area of CGTCQO is strategically positioned relatively to the international maritime flows because of the existence of the Marine Highway – on Saint-Lawrence river - which link the entire

commercial area from the Atlantic to the five lacks of Ontario and Michigan, knowing that shipping is by far the largest type of international freight transport in terms of quantity and it consolidates more and more deliveries in order to stop the least possible.

Therefore, in the area of CGTCQO, there are large international flows of goods circulating in a restricted area; with time, road transportation (of goods and people) has been developed to answer the demand. Due to the continuous growth of the international trade and its speed, some congestion problems were created, especially in central areas: the total annual cost of congestion for the nine major cities of Canada in regard to lost time and fuel consumption is between 2.3 and 3.7 billion USD (Transport Canada; (2008)) and it is expected that congestion continues to grow in the future (Transport Canada (2008)).

the biggest problems plaguing the OQCGTC are the imbalance of multimodality due to the dominance of the truck transportation; the wear of the infrastructure especially in the most used sections of the surface transportation network, hub-and-spokes areas and the terminals facilities; safety and security at borders (65% of Canada- United States trade pass through the boundaries of OQCGTC); increased wait times especially in borders and in the consolidation and transfer terminals; the high emissions of greenhouse gases (GHG) emissions and their impact on quality of life in the commercial area.

To decorticate this problematic, we separated the economical and social problems:

- Economical problems:
  - *Multimodality disequilibrium*: truck dominate the merchandise transport
  - *Wear of infrastructure*: especially on the strategic nodes, due to the high level of truck circulation on the roads – as well as the other transportation vehicles -;
  - *Lack of fluidity, security and boarders safety;*
  - *Expansion of Lead times*: especially at the area centers (Montreal and GTA), the boarders and, mostly, the consolidation and transfer terminals;

- Social problems:
  - *Lack of road safety*: due to the truck-car cohabitation - 71% of fatal accidents in Canada involving a car and / or a truck in 2004 (Statistics Canada 2008);
  - *High level of GHG emissions*: 74% of the transportation GHG emissions are due to road transportation (Plan d'action 2008-2012); the effects of this emissions appears in terms of air pollution, respiratory disease among the population, damage to the landscape and global warming acceleration.

The problems plaguing the area of CGTCQO have a major negative impact on the companies supply chains efficiency on several levels (cost of transportation, of inventory, of treatment, etc.), and increases their Total SCM Cost as well. On the other hand, social problems fall directly on the quality of life of the population (high accident rate, air quality, etc.).

b. Aims of the BCA

The specific objectives that we derived from the problematic described above and following this overall objective are as follow:

1. The reduction of congestion in the most affected nodes
2. Enhance distribution of demand between all modes of transport
3. Reduce GHG emissions
4. Enhance security on the transport network
5. Enhance safety on the transport network

c. Baseline scenario

Like baseline scenario, we propose to redirect the trucks circulation from the road sections that are suffering from congestion problem to other road sections that will be affected only to trucks, with being focus, during the detection of the other road sections, on the optimization of the ride.

d. Determining options

The following table summarizes the 4 options that we consider most relevant to the actual situation that the transport network in the area of CGTCQO is facing:

Table 1: options determined for the CGTCQO area during the BCA
The options are autonomous and the reference period of time to apply the options is at maximum 17 years[9].

Option	Description	BCA aims
1-Tax policy on trucks and personal vehicles	Set up a law that dictates to the trucking companies to pay a rebate related to the number of Kg of GAS issued;	1; 2; 3; 4; 5.
	Apply at the same time the same law on personal vehicle, but with a lower rate;	
2-Accelerating the transfer of freight between boats/trains/trucks at the consolidation and transfer terminals	Implement an integrated Advanced Fleet Management System – AFMS in terminals, boats, trains et trucks;	1; 2; 3; 4; 5.
	Update the transfer facilities train/truck	
	Standardize loading units	
3-Install an STI at borders targeting non-stop trucks	Install an STI that scans moving trucks (Truck-Scan)	1; 4; 3; 5
4- Establish a Short Sea Shipping (SSS) in the CGTCQO area	Establish a fleet adaptable to SSS	1; 2; 3; 4; 5
	Arrange facilities of central and regional to SSS	
	Allow reliable access to the fleet during the winter.	
	Equip the fleet with an AFMS	
	Easing regulations on SSS	

e. Organizing options

Option 1: Tax policy on trucks and personal vehicles: the system of taxation of GHG issued by road transport is proposed by the European Commission to be implemented by 2012 (Commission of the European Communities (2007)) and is already implemented in London, Australia and Germany (Blauwens, and al. (2006)). Also, emissions of GHGs from private cars in Canada are more important than those from trucks (Baldwin JR, Gu W. (2008)), that is why we propose to include the individual costs of GHG emissions related to personal cars; this strategy - the taxation of private transport of people - is part of short-term plans of the European Union (European Commission (2001)).

Option 2: Accelerating the transfer of freight between boats/trains/trucks at the consolidation and transfer terminals: Among others, we propose to normalize the loading units (containers, pallets and trailers); this has already been proposed by the European Union. We also propose to install an AFMS, which is a control system that provides, among others, better automation of fleets and real-time coordination of vehicle loads (Architecture Development Team, (2007)).

Option 3: Install an ITS at borders targeting non-stop trucks: it's a Commercial Vehicle Operations (CVO). Briefly, two devices (for screening and for satellite transmission) will be installed at the motorway crossing of the truck at the border; also, trucks must be equipped with a communication device compatible with those present in the border (The ITS/CVO community (2008)). This ITS is already in use in Australia (Reid, Myers (1996)) and the United States, only stations check the weight. We propose to start by the Detroit-Windsor border because it's the busiest among the five boundaries of the CGTCQO network.

[9] Transport Canada should respect this duration (Gaudreault Valérie., Lemire Patrick, (2006)).

Option 4: Establish a Short Sea Shipping (SSS) in the CGTCQO area: The SSS is already well established in Europe (Working Group "Accessibility" (2006)), in western Canada (British Columbia) and begins to emerge in the PCCCQO (Quebec Maritime Day (2009)).

Options 1 and 2 are combined in option A, to be known as "distribution of demand between boat / truck / train": the combination of these two options is encouraged in the literature, because with a fee between 10% and 20% on GHG emissions in road transport and, simultaneously, a decrease of half a day in lead times for rail, multimodality between the two modes is significantly promoted (Blauwens, and al. (2006)). Moreover, among the variables that determine the integration of seaport container terminals in supply chains are using the latest information and communication systems in the industry, the reliability of multimodal operations, adoption of services to the needs of consumers and identification of the least expensive option for transporting goods to hinterland destinations (Panayides, PM and DW Song (2008)); elements of this option meets these criteria by normalizing the loading units and by installing an AFMS in the consolidation terminals that helps in the distribution of demand between rail / truck.

Option 3 will be named option B
Option 4 will be named option C

f. Costs of options

Option A: distribution of demand between boat / truck / train:

- *Cost of establishment of a tax on GHG emissions:* in terms of meeting and discussions, visibility of the Act, monitoring of its implementation, staff training for measurement and inspection of gas emissions emitted by trucks, companions of awareness and accountability of the individual. (Costs supported by the governments of Canada, Quebec and Ontario).
- *Cost of standardization of loading units*: in terms of planning and implementation of the standards, modernizing obsolete or non-compliant items (Costs supported by the three governments and the owners of the lading units)
- *Cost of modernizing facilities of consolidation and transfer terminals:* cost of updating and acquiring facilities dealing with the movement of goods between the three modes (Costs are assumed by the three governments and by shipping lines, road and rail companies)
- *Costs of installing an AFMS in the terminals and the fleets of the three modes of transportation (*costs are supported by the three governments and the transportation companies concerned)

Option B: Install an STI at borders targeting non-stop trucks:

- *Costs of governmental implication in international negotiations:* in terms of negotiating, with the United States the possibility of installing the Truck-Scan in the five CGTCQO borders, starting by Detroit-Windsor (Costs supported by the three governments, Canada, Ontario and Quebec and by the USA government if the collaboration implicates a financial of southern neighbour)
- *Cost of installation of screening devices and satellite transmission border* (Costs assumed by the governments of Canada, Ontario and Quebec and neighbouring states where the device is installed)
- *Cost of installing the device in screening trucks* (Costs supported by the governments of Canada, Ontario and Quebec and by the trucking companies)

Option C: Establish a Short Sea Shipping (SSS) in the CGTCQO area:

- *Costs of government involvement*: in terms of financial support to major investments in the SSS, negotiation of reducing regulations that impede the development of maritime transport, adaptation of terminal facilities at central and regional SSS, addition of significant ice-breakers on the marine highway (Costs assumed by the three governments)
- *Costs related to the maritime fleet*: the costs of adapting existing vessels and acquisition of new ones which are fast and reliable (Costs are supported by the shipping companies and the three governments)
- *Cost of establishment of the AFMS in the fleet* (Costs supported by the governments of Canada, Ontario and Quebec).

While calculating the costs of options, the discount rate should consider the variation of the Canadian dollar due to the 2007 recession.

g. Benefits of options

In the table 2, we present the benefits of each option proposed above:

Table 2: benefits of the options proposed for the BCA:

option	*Security & safety*	*Transportation efficiency & productivity gains*	*Environmental impact*
A	**Fewer road accidents Under-faulty goods**	**Multimodality enhancement (Train/ truck) Decrease wear of the infrastructure Increased flow rail Decrease in lead times at terminals Increased use of transit**	**Significant reduction of GHG emissions**
B	**Less risk of terrorism Over-delivery reliability**	**Reduced lead times at borders**	**relative reduction of GHG emissions**
C	**More safety (AFMS)**	**Multimodality enhancement (SSS/train/truck) Increased activities of regional ports**	**Significant reduction of GHG emissions**

h. Analyse and presentation of results

The baseline scenario requires change the paths of all journeys, what have a direct effect on Just-In-Time (timeliness of delivery); at short term, it's difficult to ensure a secure way to separate trucks and cars with forecasting all the impact of change of road transportation paths. Option B, while involving less investments comparatively to options A and C, it's has less advantages. Option C depends on the relaxation of the cabotage acts (for example, marine fee for international vessels) and the presence of consensus between industry and providers of SSS, while the vast majority of industries are not yet receptive to adopting this type of transport.

We choose option A - distribution of demand between boat / truck / train, because it's the option that respond the most effectively to the objectives of the study its actions are solving the maximum of the most urgent and important problems, while offering advantages early and involving limited investment.

STRUCTURE OF NATIONAL PLANNING (NP) METHODOLOGY

During this step of the study, we try to describe how the transportation system of the CGTCQO could be well managed by installing a National Planning (NP) system that handle the transportation system by calculating continuously the optimum solutions to all the problems of the area; the options that we proposed during the BCA above have to be considered during the calculations.

NP develops a comprehensive, rigorous and thorough vision for the transportation problem of a region, a country or a group of countries; it is an analytical tool that address, at the same time, the factors affecting the infrastructure, technologies and the economical, political, regulatory and social aspects. Any NP follows 4 steps: demand modeling, supply modeling, mode choice and assignment. Several countries have set up a NP system for managing their transportation systems, for example Belgium, Norway, Italy, Brazil, Sweden, etc.(Crainic, Gendreau, Kuncyté (2006)).

Generally, the PN can be transferred from one study area to another with some reservations. For CGTCQO area, the region that most resembles to this area is Sweden. Indeed, both regions have a goods transportation system concentrated in the southern region, have focused international trade in these two areas have intensive trade corridors through which the greatest flow of goods in transit as well as two regions a similar climate. It is possible to learn from the Swedish model to implement a methodology for PN in the area of CGTCQO which will be discussed in the following:

Demand modeling: this step begins with the collection of input-output tables and simplification (generation) of data. Follows after the distribution of demand, where we determine the volume of goods passing through each sub-area for each product group (origins-destination. In the area of CGTCQO, we propose to divide the whole area by administrative geographical regions (17 in Quebec and 16 in Ontario) and the provinces of New England in the States United, the eastern provinces of Canada, the other States of the United States and the provinces of Mexico will be distributed by the states and provinces. Thereafter, the distribution of demand will be based on input-output tables available for different ministries (transport, industry, etc.). In Sweden, the model used at this level is the entropy. The latter is considered as a snapshot of data, however, this is the case for other most popular models (gravity and spatial equilibrium); so we propose to rely on the same model, entropy.

Supply modeling: this step provides matrix gathering information on different modes of transportation (all infrastructure and services relates to goods transportation from one point of origin to a destination point) that exist in the study area but without associating the flows with the product groups indentified earlier in the application. In the area of CGTCQO, we propose to gather all information about infrastructure of all transportation modes, carriers, shippers, intermodal transfer facilities, logistics services providers. To do so, we suggest first to apply to the associations of stakeholders mentioned above. This data set will develop an integrated matrix on the flows of goods.

Mode choice: this step involves gathering data (provided by the demand modeling, the supply demand, found in industrial and strategic studies - such as Cost Benefit Analysis (CBA) - etc.) to create a matrix that provided all information about the behaviour of the commodity in the network (the set of nodes, links, modes and transfers that represent every possible physical movement of goods over the available infrastructure in the area). The network of supply and all key measures to use during the assignment step must be clearly identified at this step (congested road sections, its intensity, its frequency, lead times in terminals, etc.). Also, the BCA is often devoting a high optimism when calculating costs and benefits. We therefore propose to integrate data of the BCA applied on CGTCQO area in this step to ensure the validity of the options and the choice of option A (distribution of demand between boat / truck / train). For the model to apply Sweden has used the "assignment on multimodal networks" which is a recognized modal for its capacity to expose the overall behaviour of the transport system (Crainic, Gendreau, Kuncyté (2006)), so we propose to use the same modal.

Assignment: Once the origin-destination matrices are created, they are affected to the network of supply by using a mechanism of trip choice. This step determines the routes for each product by mode of transport and by sub-area, focusing on the most optimal trips in terms of cost, travel time and all the economic, political, technological and social implications that we had consider in the study. At this step, Sweden has used an optimization model system that can explain the overall behaviour of the transport system in the area which is in study and simultaneously be flexible enough to provide different results depending on multiple scenarios to consider; this system is an optimization model nonlinear that considerate at the same calculation multiple modes of transportation and multiple products. We propose to use at the CGTCQO the optimization model system used by Sweden at this stage.

Feed-back: at this step, the government deliver the information about the optimal trips to the shippers, carriers and all the institutions that will be implicated in these trips choices; also, the operators evaluate continuously the reliability of these trips and of the new devices included in the transportation system. For the CGTCQO, after implementing the NP system and the recommended actions in option A, it will be possible to verify the reliability of the Truck-Scan and AFMS installations.

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E-COMMERCE SOLUTIONS AT HIGHER EDUCATION INSTITUTIONS: A NEW PERSPECTIVE

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ABSTRACT

Leaders in higher education have come to realize that e-commerce solution is an indispensible tool for their role in providing visionary direction and strategic planning for their institutions. In this respect, a significant amount of their investment has been channeled to a variety of e-commerce solutions, in anticipation of improving the effectiveness and efficiency of the institutions' operations. Lately, the efficacy of such approach has been called to question, that is, have e-commerce solutions added any value to the business management at these institutions? Is the return in investment in e-commerce solutions significant using various important measures, such as, student enrollment; the usage volume; increase in revenue; and effective and efficient business operations? In this paper, we present the research findings in the application of e-commerce in higher institutions. The cross-sectional study focused on sample institutions which consisted of randomly selected historically black colleges and universities in the United States of America. The mixed research approach utilized for the analysis of collected data revealed subtlety in the measurement factors that were considered. Although, there was no apparent relationship between the e-commerce solutions and student enrollment due to deficiencies in the data collection; e-commerce solution was shown to positively impact business operations at the sample institutions. This paper shed some new insights into the resurgence of e-commerce solutions and their merits and demerits in business operations at higher education institutions.

Keywords: *E-Commerce, Leadership, Higher Education, Mixed Research Approach.*

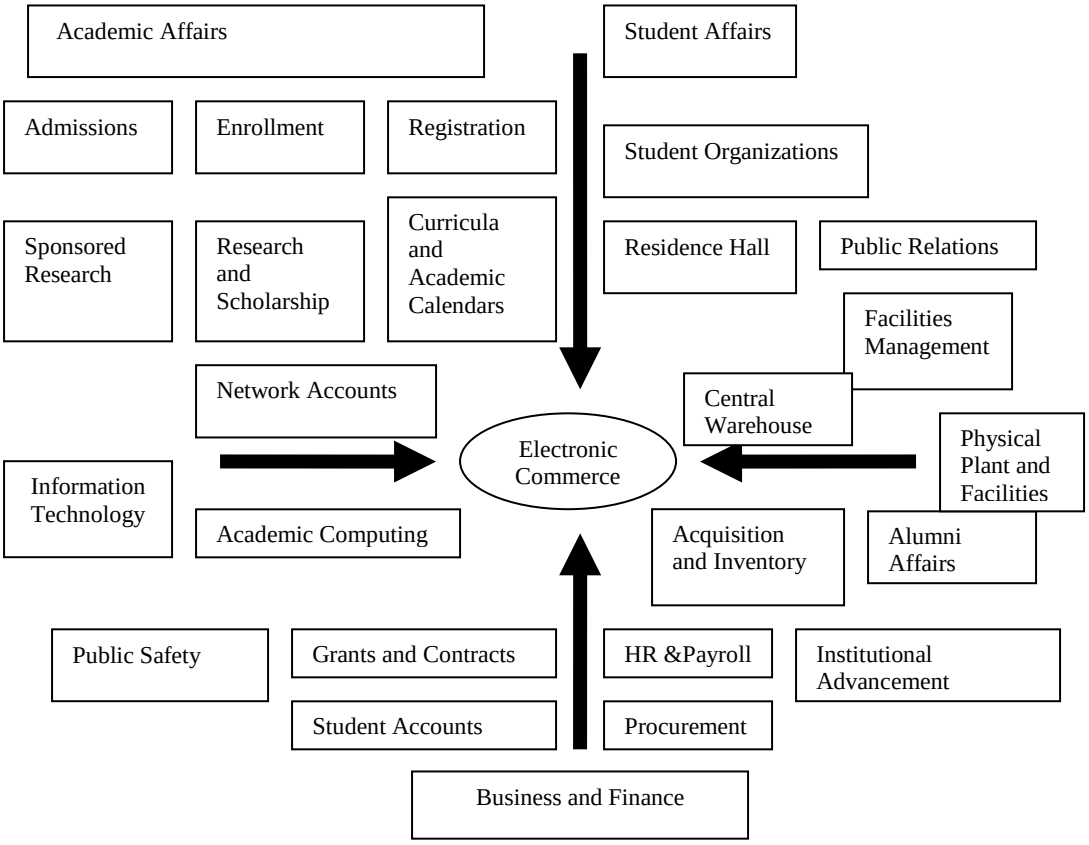
INTRODUCTION

Electronic Commerce (or E-Commerce) has become a ubiquitous tool for all aspect of organizational operations, including businesses conducted at higher education institutions (HEIs). It must be noted that the applications of the Electronic Mail (E-Mail) and the Internet were pioneered by higher educational institutions and government agencies. Its proliferation to private enterprises and other public corporations was not until the eighties. Leaders in higher education have come to realize that e-commerce solution is an indispensible tool for their role in providing visionary direction and strategic planning for their institutions. E-Commerce has gained momentum from the design, development and deployment of software systems supporting them and their applications. With a tremendous growth in Internet-based applications in the commercial and industrial sectors, higher educational institutions (HEIs) and government establishments have revisited the ways they conduct business and have fully embraced the infusion of Information Technology into their normal business operations. In this respect, a significant amount of their investment has been channeled to a variety of e-commerce solutions, in anticipation of improving the effectiveness and efficiency of the institutions' operations. Lately, the efficacy of such approach has been called to question, that is, have e-commerce solutions added any value to the business management at these institutions? Is the return in investment in e-commerce solutions significant using various important measures, such as, student enrollment; the usage volume; increase in revenue; and effective and efficient business operations?

The motivation for E-Commerce stems from the application of the supposedly massively under-utilized computing infrastructure to businesses with the primary purpose of developing an effective and efficient

resource for commercial sectors and their consumers. E-commerce has become a driving force for higher education in a fairly short period of time, helping students and staff with a myriad of tasks and functions – from streamlining paperwork, paying bills online, and gathering alumni donations, to more accurately forecasting future cash flow. The chart below depicts the dependence of business functions at HEIs on E-commerce. A growing number of schools are reaping big benefits in terms of cost savings; new revenue opportunities; greater administrative efficiencies; and enhanced service and support for students, families, faculty and staff, and others."

E-Commerce has been defined in many ways. In the book by Shelly, Cashman and Vermaat (2001), E-Commerce was defined as a financial business transaction that occurs over an electronic network. Kalakota and Robinson (2000) in the Encyclopedia of Computer Science defined E-Commerce as an execution of transactions between two or more parties using interconnected networks. This definition was expanded by a detailed explanation of the term "transaction" to mean exchanges that occur when one economic entity sells product or service to another entity. More importantly, a transaction links consumer (client) to the producer (server). The Technology Forecast produced by the Price Waterhouse (1997) defined E-Commerce as a way to conduct, manage, and execute business transactions using computer and telecommunications networks.



Goral (2003b), wrote about how college admissions have made national headlines on the upsurge of student applications and how difficult a task it has become for university admissions offices to carry out their operations; thus, like many Internet-age innovations, online college applications have moved into the realm of out-sourcing thereby contracting services to external vendors through services such as those offered by the College Board. Components of E-Commerce such as E-payment systems are gaining acceptance at schools across the country (Goral 2003a). The web-based solution, according to Goral enables students and parents to receive tuition bills online and pay them using their checking or savings account. Branch (2002) explained E-Payment as a credit card transaction process involving payment of

tuition and billing payment for students and parents over the Internet. According to Branch the cost of implementing E-Payment is estimated to be between $25,000.00 and $150,000.00.

Also, E-procurement has gained popularity in institutions of higher education. Several universities are already reaping tremendous benefits from the implementation of E-procurement systems, (Goral, 2003c). Goral further described E-Procurement as an online process that includes online purchases, online banking thereby reducing the need for advance paperwork involved with these transactions. These are just a few of the benefits of E-Commerce systems.

The citations in the preceding paragraphs have demonstrated that the results of E-Commerce on the institutions are positive. Although these results are expository, there is no data demonstrating how the conclusions were arrived at. Cited in the literature, are increases in enrollment and efficiency in procurement process as a result of E-Procurement (Olsen, 2000), faster and efficiency in tuition and bill payments due to E-Payment (Branch, 2002), increased flexibility in course delivery as a result of E-Learning (Chanpko, 2002) and flexibility in event scheduling due to E-Calendaring (Sherman, 2003).

This research surveys high ranking administrators from a sample of 55 historically black colleges and universities (HBCUs). As reported by the U.S. Department of Education, Office or Postsecondary Education, White House Initiative on Historically Black Colleges and Universities, HBCUs were established to cater for the educational needs of black Americans during the period in which blacks were generally denied admission to traditionally white higher educational institutions. The report also indicated that there are 105 HBCUs, divided into 2- private and public colleges and universities. There are 49 4-year and 4 2-year privately controlled institutions and 41 4-year and 11 2-year public colleges and universities. Reported by the Princeton Review, in an article entitled "Is Historically Black College or University Right for You", HBCUs are categorized as "historically black" or colleges, "predominantly black" colleges or colleges, "having plurality of black students." "Historically black" colleges were established specifically to serve black students and yet open to many white students. "Predominantly black" colleges have more than 50% black population. Colleges "having plurality of black students" although, comprise a large segment of black students do not necessarily have blacks as majority. The student enrollment at these colleges and universities has been increasing significantly within the past decade and half. This growth in student enrollment may be attributed to a variety of factors, including the rise in the number of electronic commerce solutions at HBCUs. It is imperative, therefore, to study the extent of E-Commerce implementation at HBCUs.

High ranking administrators surveyed included presidents or chancellors, vice presidents or vice chancellors, assistant or associate vice presidents or chancellors, college or school deans, registrars, relevant program directors, and department chairs. Survey participants included also relevant program directors, such as directors for admissions and enrollment, information technology, library, retention, human resources, business and finance, procurement, physical facility and public safety. These managers will have first-hand knowledge of the different E-Commerce solutions at the institution.

QUANTITATIVE/BIVARIATE ANALYSIS

The integration of qualitative and quantitative approaches in a research study is regarded as a mixed research model (Creswell, 1994; Rocco, Bliss, Gallagher & Pėrez-Prado, 2003; Tashakkori & Teddlie, 1998). This new paradigm combines the qualities of both research techniques to produce a more holistic and detailed analyses (Spratt, Walker & Robinson, 2004). The application of mixed research model requires a careful understanding of the goals of the research (Johnson & Onwuegbuzie, 2004). Although new, numerous successes of the application of mixed model are available in the literature.

A total of 53 out of the 55 HBCUs that were surveyed responded. A total of 153 (21.399%) responses from administrators at 53 HBCUs were received. This is acceptable considering the size of the sample. Senior administrators in some of the respondent HBCUs worked together to submit a single completed survey questionnaire to avoid unnecessary duplications and to ensure that someone with appropriate expertise or knowledge actually completed the survey. The quantitative analysis uses a bivariate Pearson Correlation

approach to determine the relationship between dependent and the independent variables described in the tables below.

Dependent Variables	
NoECS	Average number of E-Commerce solutions
NaECS	Average number of years of adoption of E-Commerce solutions
InECS	Estimated average investment in E-Commerce solutions
IaECS	Impact assessment of E-Commerce solutions

Independent Variables	
INVIMPENROLL	Level that investment in E-Commerce solutions impacted student enrolment
POSCUSTREL	The usefulness of E-Commerce solutions in sustaining positive customer relations
STUSATISF	The usefulness of E-Commerce solutions in sustaining students' satisfaction
STULEARN	The usefulness of E-Commerce solutions in sustaining student learning
NOSTUEPAY	Number of students making electronic payments for services provided by the institution
IMAGEREPUT	The usefulness of E-Commerce solutions in sustaining your institution's positive image and reputation
IMPTIMEBUDG	The level of E-Commerce solutions impact on time spent on budget planning
IMPTIMREPGEN	The level of E-Commerce solutions impact on time spent on report generation
IMPEELEADER	The level of E-Commerce solutions impact on effective or efficient leadership
IMPCONFLRESOLSTU	The level of E-Commerce solutions impact on conflict resolutions among students
IMPCONFLRESOLFAC	The level of E-Commerce solutions impact on conflict resolutions among faculty and staff
IMPEFFFACSTAFFEVA	The level of E-Commerce solutions impact on promoting efficient faculty and staff evaluation

From Pearson correlation matrix below, we see that **NoECS** correlates positively with INVIMPENROLL (R=0.271, P=0.001), NOSTUEPAY (R=0.309, P=0.0001), IMPTIMEBUDG (R=0.409, P=0.0001), IMPTIMREPEN (R=0.363, P=0.0001), IMPEELEADER (R=0.240, P=0.005), IMPCONFLRESOLSTU (R=0.269, P=0.012), IMPCONFLRESOLFAC (R=0.415, P=0.0001), and IMPEFFFACSTAFFEVA (R=0.247, P=0.014). **InECS** correlates positively with INVIMPENROLL (R=0.216, P=0.018), NOSTUEPAY (R=0.294, P=0.001), IMAGEREPUT (R=0.245, P=0.009), IMPTIMEBUDG (R=0.349, P=0.0001), IMPTIMREPGEN (R=0.243, P=0.008), and IMPEELEADER (R=0.322, P=0.0001). **IaECS** correlates positively with INVIMPENROLL (R=0.480, P=0.0001), POSCUSTREL (R=0.341, P=0.0001), STUSATISF (R=0.308, P=0.0001), STULEARN (R=0.225, P=0.011), NOSTUEPAY (R=0.417, P=0.0001), IMAGEREPUT (R=0.366, P=0.0001), IMPTIMEBUDG (R=0.516, P=0.0001), IMPTIMREPGEN (R=0.511, P=0.0001), IMPEELEADER (R=0.433, P=0.0001), IMPCONFLRESOLSTU (R=0.421, P=0.0001), and IMPCONFLRESOLFAC (R=0.523, P=0.0001).

It is observed that **NaECS** did not show any significant correlation with any of the independent variables. This is because the period of adoption is certainly immaterial and is unaffected by the any of the independent variables. Similarly, there were no noticeable significant inverse or negative correlations.

		NoECS	NaECS	InECS	IaECS
INVIMPENROLL	Pearson Correlation	.271**	.066	.216*	.48`0**
	Sig. (2-tailed)	`.001	.435	.018	.000
POSCUSTREL	Pearson Correlation	.168	-.078	.117	.341**
	Sig. (2-tailed)	.055	.377	.219	.000
STUSATISF	Pearson Correlation	.117	-.118	.146	.308**
	Sig. (2-tailed)	.182	.176	.127	.000

STULEARN	Pearson Correlation	.151	-.150	.063	.225*
	Sig. (2-tailed)	.091	.095	.520	.011
NOSTUEPAY	Pearson Correlation	.309**	-.002	.294**	.417**
	Sig. (2-tailed)	.000	.979	.001	.000
IMAGEREPUT	Pearson Correlation	.166	-.071	.245**	.366**
	Sig. (2-tailed)	.061	.421	.009	.000
IMPTIMEBUDG	Pearson Correlation	.409**	.040	.349**	.516**
	Sig. (2-tailed)	.000	.646	.000	.000
IMPTIMREPGEN	Pearson Correlation	.363**	.095	.243**	.511**
	Sig. (2-tailed)	.000	.268	.008	.000
IMPEELEADER	Pearson Correlation	.240**	-.005	.322**	.433**
	Sig. (2-tailed)	.005	.957	.000	.000
IMPCONFLRESOLSTU	Pearson Correlation	.269*	-.086	.194	.421**
	Sig. (2-tailed)	.012	.434	.098	.000
IMPCONFLRESOLFAC	Pearson Correlation	.415**	-.062	.163	.523**
	Sig. (2-tailed)	.000	.583	.174	.000
IMPEFFFACSTAFFEVA	Pearson Correlation	.247*	.055	.127	.398**
	Sig. (2-tailed)	.014	.592	.237	.000

**. CORRELATION IS SIGNIFICANT AT THE 0.01 LEVEL (2-TAILED).
*. CORRELATION IS SIGNIFICANT AT THE 0.05 LEVEL (2-TAILED).

It must be noted that, a significant number of respondents (about 62%) indicated that the investment on E-Commerce solutions has an impact on student enrolment (INVIMPENROLL) with a mean impact level of 4.85. In a similar vein, as noted earlier, NoECS correlates significantly positively with NSEP, NSER, and NOSTUEPAY, suggesting that the number of E-Commerce solutions is a significant catalyst of student enrolment if they are able to register for classes and make payment faster electronically.

Slightly more that 68% of the respondents say that E-Commerce solutions have an impact on the effectiveness and efficiency of institutional leadership (IMPEELEADER) at a level equal to or greater than 5 (on a scale of 1-9) with a mean impact level of 5.19 and standard deviation of 2.329. The Pearson Correlation shows a statistically close relationship between number of E-Commerce solutions (NoECS) and their impact of effective institutional leadership (R=0.240, P=0.005).

Examining STUSATISF factor, about 60% of the respondents say that E-Commerce solution was useful in sustaining students' satisfaction at an average impact level of over 4 (on a scale of 1 to 8). Although the Pearson Correlation between NoECS and STUSATISF was computed, it was found to be unimportant in this analysis since impact level is already determined by STUSATISF factor. On scale of 1 to 5, the respondents indicated that E-Commerce solutions bolstered the image and reputation of the institution with an average impact level of 3.84 and standard deviation of 0.994. The impact of E-Commerce on positive customer relations and students' satisfaction was not as strong with average impact levels of 3.75 and 3.74, respectively. The fact that these average impact levels for POSCUSTREL and STUSATISF is a clear indication of the validity and reliability of the data. As expected, all three factors POSCUSTREL, STUSATISF and IMAGEREPUT correlate positively with the IaECS. As described previously in this chapter, the NCECS did not correlate with any of the dependent variables. It is likely that the institutions do not maintain records or any form of database of complaints from user of its E-Commerce solutions and therefore, the values given by the respondents may be extraneous. Conversely, institutions regularly document customers' satisfaction of their of the E-Commerce solutions. As a consequence, the CSEC correlate positively with NoECS, InECS and IaECS. It is believed that clientele satisfaction of E-Commerce solutions impact the image and reputation.

From the Pearson Correlation Matrix, IMPTIMEBUDG and IMTIMEREPGEN correlates positively with NoECS, InECS, IaECS, suggesting that E-Commerce solutions have significant impact on time spent on budget planning and report preparations. Examining the variables IMPTIMEBUDG and IMPTIMEREPGEN separately, it is observed that on a scale of 1 to 9, many of the respondents indicated that E-Commerce solutions contribute to the reduction in time spent on budget planning and time spent the preparation of important administrative reports with average impact levels of 4.69 and 5.36, respectively.

The average impact levels on a scale of 1 to 9 for IMPACONFLRESOLSTU and IMPCONFLRESOLFAC are 3.58 and 3.77, respectively. The average impact levels seem a little low; however, the calculated Pearson Correlation R values show a significant correlation of IMPCONFLRESOLSTU and IMPCONFRESOLFAC with NoECS and IaECS. The number of E-Commerce solutions affects the conflict resolutions among student, faculty and staff. The implication is that E-Commerce solutions facilitate and promote faster and more effective conflict resolutions at all levels of the administration. It is noteworthy that IMPCONFRESOLSTU and IMPCONFLRESOLFAC did not correlate with InECS at an acceptable level of $P<0.05$, the computed P values 0.098 for IMPCONFLRESOLSTU and 0.174 for IMPCONFLRESOLFAC.

To address the issue as to whether or not E-Commerce solutions promote effective and efficient faculty and staff annual evaluations, respondents were asked to rank on a scale of 1 to 9, the impact of E-Commerce solutions on effective and efficient faculty and staff evaluations. The average impact level of IMPEFFFACSTAFFEVA was 4.65, indicating that many of respondents felt that E-Commerce solutions have a significant impact on the evaluation process at HBCUs. This is further supported by that fact that IMPEFFFACSTAFFEVA correlates significantly with NoECS and InECS with R values of 0.247 ($P=0.014$) and 0.127 ($P=0.001$), respectively.

As indicated earlier, E-Commerce solutions have penetrated virtually every segment of an organization, whether it is a private enterprise, government sector, non-for-profit establishment, small scale business, large scale business, or higher education institution. To say that E-Commerce has improved the efficiencies of administrative activities within an organization may be an underestimation to some and exaggeration to others. The effect of E-Commerce solutions on administrative activities has not been fully studied. Some researchers have developed tools to analyze the impact of enterprise E-Commerce solutions on organizational structures. However, it has not been examined whether or not E-Commerce solutions affect the efficiency in the conduct of administrative activities within an organizational structure. Consequently, we examined the relationship between investment in E-Commerce solutions and efficiency in the conduct of administrative activities using the variables IMPEELEADER and InECS. On a scale of 1 to 9, the respondents claimed with a high average impact level of 5.19 that E-Commerce solutions promote efficient leadership. Variable IMPEELEADER significantly correlates positively with InECS with $R=0.433$, $P=0.0001$, suggesting a strong relationship between the variables. It was also found that IMPEELEADER also correlates significantly with NoECS and IaECS with R values 0.240 and 0.322, respectively.

QUALITATIVE/CONTENT ANALYSIS

Participants were requested to comment on the following questions:

1. Please describe briefly your overall perception of E-Commerce solutions. Indicate whether there has been increased/decreased job productivity, increased/decreased usage of E-Commerce solutions, increased/decreased student learning due to E-Commerce solutions at your institution.
2. Please describe briefly your overall perception of the effect of E-Commerce solutions on organizational leadership at your institution. Indicate whether E-Commerce solutions have had any positive impact on social (communication), cultural, and administrative atmosphere at your institution.

Comments from these two open-ended were coded and re-coded according to institutions and states, collapsing common terms and associating with them frequencies. Results showed that the content analyses complemented the quantitative results.

Out of the 53 institutions from 22 states that participated, 24 or 45.28% of all participating institutions (47 Administrators overall) were either at initial stages of E-Commerce implementation or had not acquired or invested adequately in E-Commerce. These institutions are yet to experience full impact of E-Commerce solutions in their daily administrative functions.

Also, 34 or 64.15% of the institutions (80 Administrators overall) of the indicated higher investment in E-Commerce and increased job productivity of administrators due to E-Commerce solutions. There was an indication that E-Commerce solutions bolster satisfaction among administrators, faculty and students.

Analyses from the second open-ended questions revealed that 83 administrators from 34 or 64.15% of participating institutions perceived E-Commerce as a positive impact on leaders' global view; enhanced decision-making and increased communications amongst faculty, staff and students; improved cultural and administrative atmosphere; and improved overall organizational leadership. On the other hand, 23 administrators from 14 or 24.41% of the participating institutions perceived the need for increased implementation, the need for cultural shifts to experience full benefits across campus at all levels of administration and the need for assessment to measure social and cultural impact. In addressing the questions, "What impact do the identified applications and implementations have on organizational leadership hierarchies and management at the HBCUs?" 29 (or 54.71%) institutions (60 Administrators overall) reported perceived increased adherence to policy and guidelines pertaining to E-Commerce ethical, legal, social, diversity and accountability issues; increased security measures on networks; and leadership able to analyze situations more effectively. However, 16 or 30.18% of participating institutions (22 Administrators overall) revealed that there is more room for improvement because leaders lack full understanding of E-Commerce; training programs in place; and lack of full implementation of E-Commerce solutions.

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