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EDITORIAL

It gives me immense pleasure to place the sixth issue of “Gavesana Journal of Management” in your hands.

We are glad to inform that that we keep receiving a very good response for the contribution of articles that have been a good intellectual food to the readers. As usual , in this issue, we have strived to include the articles from various areas of management with a judicious blend of both conceptual and empirical papers. Hence, I hope this issue would further help the teaching fraternity in enhancing their knowledge. Apart from this, the spread of knowledge through the journal is a humble effort made by the institute to encourage quality research among the teaching and industry professionals to undertake studies on the areas of further research pointed out by the authors in their articles.

It is our continuous efforts to seek the areas of further research based on the current affairs and the expectations from the industry. For example, BCG Report 2012 says that India faces challenging domestic factors like high interest and inflation rates, slow down in savings and investments along with an unfavourable external environment with Euro crisis looming large on the global economy which has led to the current state of affairs of reduced GDP. However, when we look at the decade before the current slowdown, the Indian manufacturing sector had grown at a robust rate of nearly 7 per cent per annum, the second best performing country in world after China. India’s National manufacturing Policy (NMP) adopted by the government has set out to unlock this potential of manufacturing sector and raise the share in the GDP to 25 percent from the current share of 16 percent, in next 10 years. For the reason which India, has recognized four keys areas for unlocking its manufacturing potential. First is that of exports, which have to double its growth rate in the years to come. The second key area is investments, expecting an increase in the domestic capital formation through savings and FDIs in to the country. The third area of focus is manpower- improvement of labour productivity resulting in creation of new jobs; and the fourth area of concentration is the ease of regulatory burden.

Hence the Indian Government is making an holistic approach to manufacturing, considering the different flows needed to make India a major economy, a few of initiatives include creating an internet superhighway, virtual manufacturing zones to support IT solutions for Industry clusters, finding supply-chain finance solutions, skills development training for the manufacturing sector, etc.,

With so much  planning and developments going on in the Indian manufacturing sector at present, it is felt necessary to fathom the intricacies of the topic- what are the real challenges to India and what is India’s stand in this regard? We would thus make earnest efforts, to make  this journal a platform for sharing the research work undertaken by the intelligentsia of the institutes pursuing management education.

Dr. B. Raveendra Babu
Editor

Assessing Small and Medium Enterprises' (SMEs) Performance through Financial and Non- Financial Indicators in Sri Lanka

B.Nimalathan*^{*}

Abstract

All developed and developing countries have recognized the importance of the development of SMEs, because, they play a significant role in economic development. SMEs perform as a useful vehicle for economic growth of countries, because they have the capacity to achieve rapid economic growth, while generating a considerable extent of employment opportunities (Reddy, 1991). Role of SMEs is significant in the developing countries, which suffer from problems of unemployment, lack of investment, balance of payment, poverty etc., because, growth of SME's provides solution for the complex economic problems of a country. In addition, SMEs are assumed to play a key role in social and economic development.. The present study is analysed SMEs performance through financial and non financial performance. The outcome of this research is expected to benefit policymakers, planners and development economists and could help to formulate an effective strategy of entrepreneurial development in Sri Lanka and other similar countries

Keywords: Small Medium Enterprises (SMEs); Financial Performance; Non-financial performance JEL Classifications: M1; M12:M21

Introduction

Sri Lanka is primarily an agrarian economy with a wide range of crops ranging from tropical to semi-temperate, grown on about 1/3rd of the country. The chief crop is rice, which is the staple diet of the people. Tea, rubber, coconut and spices are other important agricultural crops. The country has a reasonably well-developed economic infrastructure whilst continuing to be an export-import economy. This sector was dominating the overall economic growth rate for the last few years and its contribution to the overall growth rate was around one third of the total growth rate. Since the introduction of the liberalized economic policies in 1977, the SMEs in the country experienced significant growth rates increasing almost 3 fold between 1977 and 1997. Liberalization ensured higher capacity utilization due to the adequate availability of equipment, plant and machinery tools and raw materials. This in turn contributed towards setting up of new businesses, expansion of existing enterprises and also improvement of quality standard of goods and services provided by SMEs.

However, inspite of their widely recognized role in value-add to GDP and employment generation, no specific policies were formulated for their targeted development. In the manufacturing sector of the country, SMEs constitute 86% of the industrial establishments. contribute to almost 18% of industrial output, 17% to value added and account for about 24% of industrial sector employment. SMEs in services constitute approximately 17% of units while 8% of SMEs are EOUs. Most of the service based SMEs are in the engineering sector. EOU SMEs mainly focus on textiles and apparels.

There is no single and clear definition of Small and Medium Enterprises (SMEs). However, the terms 'enterprise' and 'firm' are also often used; in the vast majority of cases small and medium establishment in developing countries are independent firms (Little, 1987). SMEs can be categorized in various ways depending on the country's custom and researcher's objectives. The classification given by the European Commission, is widely accepted. According to the Commission, the SME sector can be categorized into three based on the

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number of employees: Micro-enterprises (between 0 and 9 employees), Small enterprises (between 10 and 99 employees), and Medium enterprises (between 100 and 499 employees)..

However, other qualitative criteria adopted by researches include: according to Staley and Morse (1965), SMEs exhibit certain distinct characteristics such as relatively little specialization in management, close personal contacts, problems in obtaining capital and credit, and so on. The other distinct features are in terms of outlay, product type, pattern of technology, and system of organization and management. These examples clearly prove that there is no single and clear definition of small and medium scale enterprises. Sri Lanka also does not have one uniform criteria or definition for SMEs. Different government agencies and other organizations adopt different criteria and definitions. These include: number of employees, amount of fixed investment, and the nature of the business and the sector (i.e. formal or informal), in which the firm operates.

Literature Review

Various definitions of organisational performance and its measurement have been given in literature. For instance, Amaratunga, David and Marjan (2000) measured an organization's performance based on the quality of its organisational functioning. Devinney, Richard, Yip and Johnson (2005) mentioned that, organisational performance (financial performance as well as non-financial performance) is one of the most important constructs in management research and without doubt the singularly most important measure of the success of a commercial enterprise. They also mentioned that organisational performance, in turn, depends on the quality and quantity of many other factors like land, labour, capital, management, customers, shareholders, Government, financial institutions, culture, values, systems, expectation of the individuals which create a business environment where in a firm operates.

Richard, Gail, Kathleen and Charles (2008) in their article titled, "Perceived Diversity and Organisational Performance", indicated that while defining organisational performance it is important to consider a wide variety of potential organisational measures. They considered firm performance from multiple organisational perspectives including quality, productivity, market share, profitability, return on equity and overall performance.

Akal (1996) pointed out that performance is a concept that describes the qualitative or quantitative results of activities. Neely, George and Platts (1995) described performance measurement as a process of quantifying the efficiency and effectiveness of actions that lead to performance. On the other hand Davidson and Honig (2003) in their paper titled, "The role of social and human capital among nascent entrepreneurs", stated that organisational performance is a 'multi dimension' variable consisting of financial performance and non financial performance.

Venkatraman and Ramanujam (1986) opined that a broader conceptualization of business performance would include emphasis on indicators of operational performance especially the non financial ones such as market-share, new product introduction, product quality, marketing effectiveness, customer satisfaction, customer loyalty, manufacturing value added, and other measures of technological efficiency. Further they also stated that while business performance can be measured using financial indicators, or operational indicators, or both, another issue is the source of data. The sources of performance data could be either primary or secondary. They also opined that the conceptualization of business performance (financial versus operational indicators) and data sources (primary versus secondary) constitute the two basic but different concerns in the overall process of measuring business performance.

Literature gap: Based on the above literature, we can say that several studies have been done on this area, but a comprehensive study has not yet been conducted, especially in SMEs. Thus the present study is initiated on assessing SMEs performance through financial and non-financial performance with the sample of ninety.

Objectives

The ultimate objective of the paper is to highlight assessing SMEs' performance through financial and non-financial performance.

Research Methodology

Sampling procedure

For this study, we initially consulted the Industrial Development Board (IDB) for the purpose selecting our sample. Small and medium enterprises were considered as the population of the sample. The research covered ten enterprises from each province such as Northern (except Kilinochi and Mulitivu districts due to the political unrest) North Central; North western, Eastern; Central; Sabragamuva; Southern; Uva and Western in order to make the study relevant. The total sample size is ninety.

Data Sources

The study was complied with the help of primary data. Primary data was collected through mailed questionnaire Secondary data included various published and unpublished sources.

Measurement criteria

The questionnaire was administrated to small and medium enterprises (i in Sri Lanka. The questionnaire used seven items on a scale continuum ranging from strongly disagree (-3) to strongly agree (+3). On the other hand, for financial performance it used SMEs' income statements and balance sheets.

Reliability and Validity

The reliability value of our surveyed data was 0.6 of financial and non- financial variables. The reliability value compares well with the standard measure in use of value alpha of 0.6 advocated by Cronbach (1951), (Nunnally and Bernstein's, 1994) and Bagozzi and Yi's (1988). The scales used by the study for data analysis were used by other authors such as Cooper and Schindelr, 2001; Page and Meyer, 2000; Hair, Anderson, Tatham and Black, 2003. Validation procedures involved initial consultation of questionnaires with expert researchers from Faculty of Business Administration, Faculty of Social science and Faculty of Science of University of Chittagong, Bangladesh. The experts have certified that the face and content validity of the questionnaire is adequate. In addition researcher organized a faculty based seminar for taking comments from academics; researchers and other interested groups and their feedback was incorporated.

Statistical Tools Used

In the present study, we analyse our data by employing accounting techniques (i.e., ratio analysis), statistical analysis (i.e., mean; standard deviation; analysis of variance (ANOVA); trend analysis) and mathematical techniques. SPSS version-13.0 was used for data analysis.

Results and discussions

In this section an attempt has been made to conduct a comprehensive analysis of the sample enterprises both - financial and non- financial. The sample is closely represents the SMEs in Sri Lanka.

The analyses have been summarized below.

Financial Performance

The financial performance was measured based on a ten years time-series data on (1) Sales Growth; (2) Net Profit Ratio; (3) Return on Assets; (4) Return on Investment. These ratios have been calculated for each individual enterprise from its accounts (income statement and balance sheet). Average ratio has been calculated

for all the enterprises taken together for all the years of the period of the study. The trend analysis was estimated by using the least squares method.

Sales Growth

Growth in sales is expressed as a percentage of the difference between sales of previous period (t_1) minus sales of current period (t_2) divided by t_1 . The period of study is 1998- to 2007 (10 Years). Data of aggregate sales growth (ASG) and its trend values (TV) have been tabulated.

Table -1: Sales Growth and Trend Values of Sample Enterprises in the Study

(Figures in Percent)

Enterprises Year	Family Business (n=27)		Sole Proprietorship (n =34)		Partnership (n=14)		Private Company Ltd (n = 15)	
	ASG	TV	ASG	TV	ASG	TV	ASG	TV
1998	86.50	93.27	124.50	122.55	91.30	96.99	124.50	133.06
1999	93.50	96.62	112.50	123.72	101.00	96.65	155.45	136.41
2000	125.25	99.98	124.50	124.88	65.10	96.31	134.50	139.76
2001	107.40	103.33	136.50	126.05	93.90	95.96	135.60	143.12
2002	101.40	106.68	134.50	127.21	86.50	95.62	145.56	146.47
2003	95.45	110.03	124.50	128.37	139.30	95.28	150.60	149.82
2004	89.50	113.38	126.48	129.54	152.50	94.94	165.66	153.18
2005	134.45	116.73	134.65	130.70	78.40	94.59	148.95	156.53
2006	125.60	120.09	124.34	131.87	70.70	94.25	145.65	159.89
2007	124.50	123.44	135.45	133.03	75.80	93.91	175.00	163.24
Average	108.36	-	127.74		95.45	-	148.15	-
Growth Rate of Trend		3.35		1.16		(0.34)*		3.35
F Value	3.97 (0.081)**		2.27 (0.171)**		0.01 (0.922)**		6.90 (0.030)**	

Note: * Figures in the brackets indicate negative growth.

**Figures in the parentheses indicates P- value

Table- 1 indicates that the aggregate sales growth and its trend value of sample enterprises during the study period. From the table it can be found that the average sales growth is the highest - 148.15 percent for private companies. Further, the trend values of this ratio have increased from 133.06 to 163.24 percent at an annual growth rate of 3.35 percent. Sole proprietorship scored the second highest rate of average sales growth at 127.74 percent with increasing annual growth rate of trend 1.16 percent. Family business recorded 108.36 percent average sales growth with annual growth rate of 3.35 percent. The average sales growth of partnership is the lowest in the sample enterprises, 95.45 percent with annual negative growth rate of 0.34 percent. Therefore, it can be said that thgrowth rate of trend is increasing for all enterprises except partnership.

As per the results, calculated value of F is 6.90 and in that case P value is 0.030 which clarify that sales growth of private company limited is statistically significant in respect to distinguish years at 0.05 levels of significance. Although sales growth of family business has statistically little bit significant effect (F = 3.971

and $P= 0.081$) in respect to changing years at 0.10 levels of significance. In this regard trend values of sales growth of sample enterprises have been positioned in figure- 1.

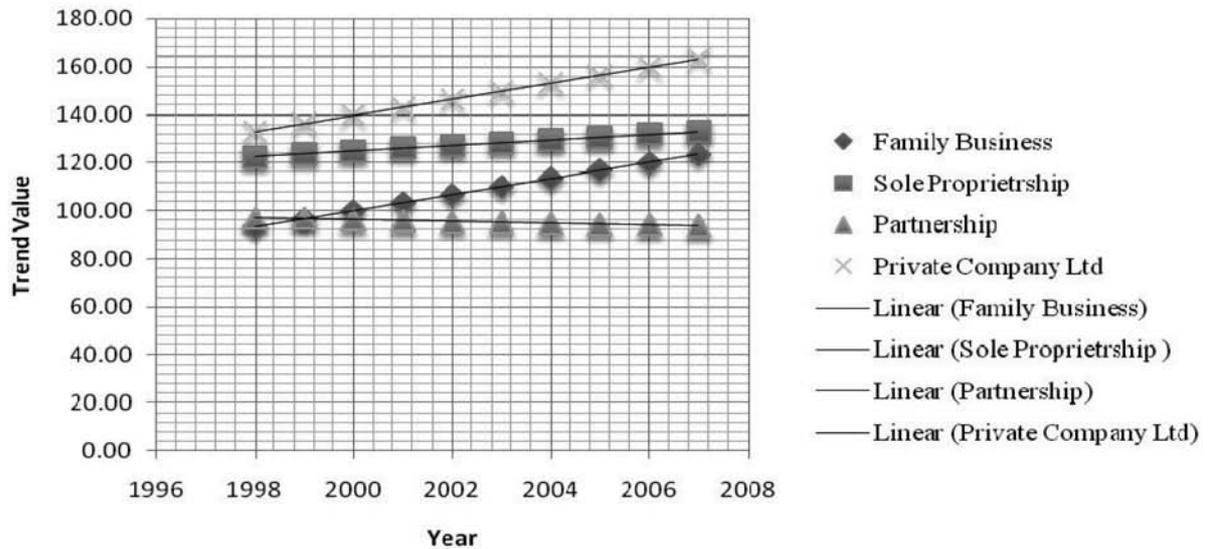


Figure-1: Trend Values of Sales Growth of the Sample Enterprises

Figure-1 illustrates the trend lines of sample enterprises. It is seen that private company ltd has an increasing trend in advance of time (years) just like family business. Though soleproprietorship trend line shows an increasing trend over the years, it is not considerable and remains more or less flat. Furthermore partnership trend line reveals a slightly decreasing trend over the years and is also more or less flat.

Net Profit Ratio (NPR)

This ratio is also known as profit margin. The earnings in terms of sales can be accessed through the profit margin ratio which is calculated by dividing net profit by net sales and the quotient is multiplied by hundred to express it in percentage. This ratio is widely used as a measure of overall profitability and is very useful to proprietors. Furthermore an adequate margin of net profit to sales is vital for the enterprise growth. As the period of study is from 1998 -2007 (10 years), data of aggregate net profit and its trend values of the sample enterprises have been shown in table -2

Table-2: Net Profit Ratio and Its Trend Values of Sample Enterprises

(Figures in Percent)

Enterprises Year	Family Business (n=27)		Sole Proprietorship (n=34)		Partnership (n=14)		Private Company Ltd (n=15)	
	NPR	TV	NPR	TV	NPR	TV	NPR	TV
1998	49.30	38.71	79.00	77.63	42.52	42.09	60.00	74.46
1999	35.80	36.04	68.70	72.96	38.51	41.76	67.10	73.88
2000	31.30	33.37	60.50	68.30	48.08	41.43	90.04	73.30
2001	18.35	30.70	66.10	63.64	42.24	41.10	87.50	72.72
2002	39.00	28.03	66.90	58.98	39.02	40.77	71.40	72.14
2003	12.80	25.36	68.50	54.32	38.61	40.43	73.20	71.56
2004	18.50	22.69	47.00	49.66	35.14	40.10	64.50	70.99
2005	19.60	20.02	32.30	45.00	38.46	39.77	70.00	70.41
2006	21.30	17.35	39.00	40.34	41.66	39.44	65.80	69.83
2007	21.00	14.68	38.50	35.67	41.76	39.11	69.00	69.25
Average	26.70	-	56.50	-	40.60	-	71.85	-
Growth Rate of Trend	-	(2.67)*	-	(4.66)*	-	(0.33)*	-	(0.58)*
F Value	7.58 (0.025)**		27.115(0.000)**		0.716(0.422)**		0.271 (0.617)**	

Note: * Figures in the brackets indicate negative growth.

** Figures in the parentheses indicate P- value

The analysis of table-2 portrays that the individual enterprises performed differently in respect to net profit ratio. The enterprises like private company ltd performed very well (71.85 percent) followed by sole proprietorship (56.50 percent). On the other hand performance of partnership is mediocre (40.60 percent). However, the family business performed the worst. (26.70 percent). Individual enterprises showed a decreasing trend in the net profit ratio. Family business; sole proprietorship; partnership and private company ltd recorded a decrease of 2.67; 4.66; 0.33 and 0.58 percent in trend values of the net profit ratio. It is seen that enterprises such as family businesses, sole proprietorship, partnerships and private company limited, whose performance in the later years was declining recorded negative or decreasing trend values of the net profit ratio.

Moreover calculated value of F value is 27.11 and therefore, the P value is 0.000 which shows that net profit of sole proprietorship highly significant over time. Similarly, F value of family business is 7.58 (P=0.02) which shows moderately significant net profit (at 5 percent significance levels) for the relevant years. The trend values of net profit ratio of the individual enterprises have been depicted in figure-2.

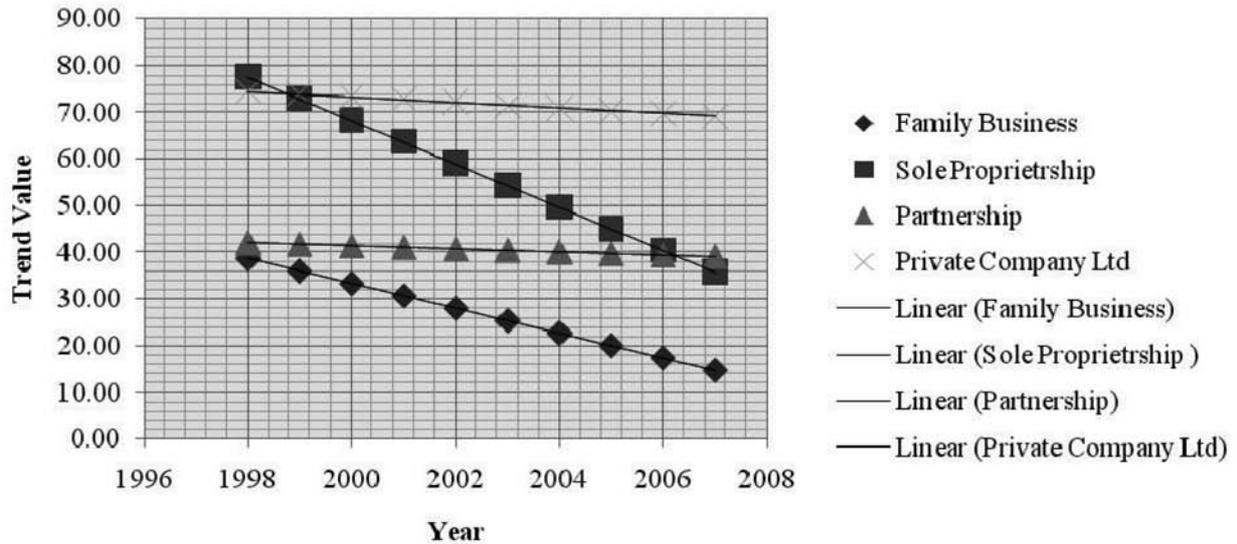


Figure-2: Trend Values of Net Profit Ratio of the Sample Enterprises

From figure-2 it can be seen that private company ltd witnessed a sharply decreasing trend over the years while family business witnessed a moderately decreasing trend. However, soleproprietorship and partnership registered flat growth rates.

Return on Assets

It expresses the relationship between sales and total assets. It is calculated by dividing net sales by the total assets and the quotient is multiplied by hundred to express it in percentage. This ratio tells about the relative efficiency with which an enterprise utilizes its resources to generate output. Further, the ratio is the indicator of operating efficiency. The higher is the ratio the better is the operating efficiency as the assets are properly utilized there by generating more income. Data on aggregate return on assets (ROA) and its trend values of the sample enterprises have been shown in table-3.

Table -3: Return on Assets and Its trend values of Sample Enterprises

(Figures in Percent)

Enterprises Year	Family Business (n=27)		Sole Proprietorship (n =34)		Partnership (n=14)		Private Company Ltd (n = 15)	
	ROI	TV	ROI	TV	ROI	TV	ROI	TV
1998	55.45	51.86	45.65	36.59	124.59	105.82	74.65	60.90
1999	65.45	56.21	35.00	41.26	133.18	100.06	67.50	62.27
2000	52.50	60.57	45.60	45.93	71.22	94.30	55.45	63.64
2001	64.50	64.93	48.78	50.60	65.17	88.54	65.32	65.00
2002	55.40	69.28	54.56	55.27	60.49	82.79	54.32	66.37
2003	74.80	73.64	56.50	59.94	67.44	77.03	57.85	67.74
2004	84.50	77.99	65.60	64.61	66.74	71.27	66.65	69.11
2005	82.50	82.35	66.87	69.28	75.97	65.51	67.45	70.47
2006	84.50	86.71	74.85	73.95	70.15	59.76	74.85	71.84
2007	95.00	91.06	82.65	78.63	64.13	54.00	86.50	73.21
Average	71.46	-	57.60	-	79.90	-	67.00	-
Growth Rate of Trend		4.36		4.67		(5.76)*		1.37
F Value	29.793 (0.000)**		89.510 (0.000)**		6.326 (0.036)**		1.696 (0.229)**	

Note: * Figures in the brackets indicate negative growth.

** Figures in the parentheses indicates P- value

From the table-3 it can be seen that the ROA of partnership is as high at 79.90 percent (with decreasing annual growth rate of trend 5.76 percent); On the other hand sole proprietorship was low at 57.6 percent (with increasing annual growth rate of trend 4.67 percent). ROA of other enterprises like family business and private company limited are 71.46 percent and 67.00 percent respectively (with rising annual growth rate of trend 4.36 and 1.37 percent respectively). It can be seen that operating efficiency is the highest for partnership and family business.

Furthermore family business and sole properitership F values are 29.793 and 89.510 (P = 0.000), which illustrate that return on assets is highly significant over the years. On the other hand, F value of partnership is 6.326 (P=0.036) a and Iso moderately significant over the years. The trend values of return on assets of the individual enterprises have been shown in figure-3.

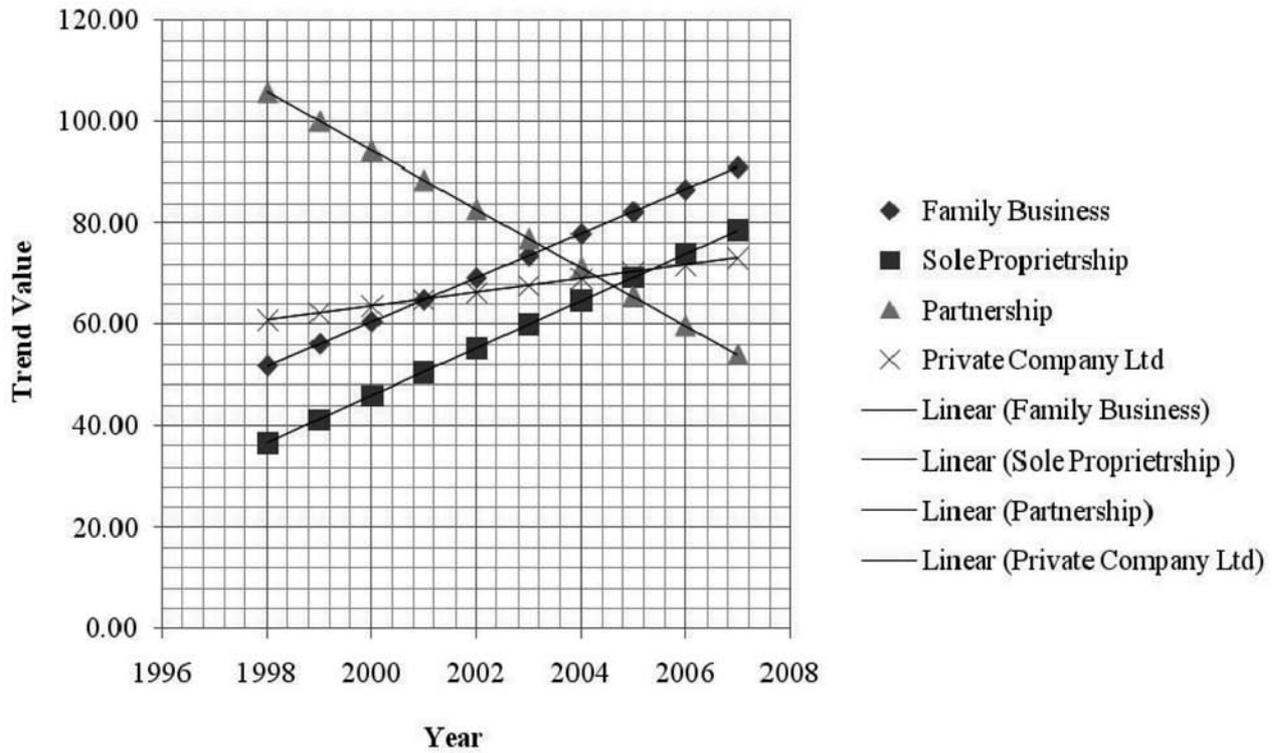


Figure-3: Trend Values of Return on Assets of the Sample Enterprises

It is evident from the figure-3 that partnership witnessed sharply decreasing trend line. On the other hand family business and soleproprietorship has moderately increasing trend line while private company ltd shows slightly increasing trend line over the years.

Return on Investment

It is computed by dividing net profit by the investment (owner’s capital) and the quotient is expressed in percentage. As the period of study is from 1998 -2007 (10 years), data of aggregate return on investment (ROI) and its trend values of the sample enterprises have been shown in table-4.

Table -4: Return on Investment and Its trend values of Sample Enterprises

(Figures in Percent)

Enterprises Year	Family Business (n=27)		Sole Proprietorship (n =34)		Partnership (n=14)		Private Company Ltd (n = 15)	
	ROI	TV	ROI	TV	ROI	TV	ROI	TV
1998	42.65	50.69	15.65	26.42	106.22	98.53	66.78	64.16
1999	64.32	55.54	23.68	34.11	95.47	94.54	72.35	65.33
2000	55.45	60.38	42.89	41.80	90.92	90.56	66.35	66.49
2001	65.78	65.22	65.78	49.49	83.38	86.58	67.45	67.66
2002	67.89	70.06	64.89	57.18	74.43	82.59	58.79	68.82
2003	83.41	74.91	74.85	64.87	74.39	78.61	62.31	69.99
2004	82.30	79.75	72.65	72.57	69.36	74.62	64.78	71.15
2005	86.60	84.59	83.45	80.26	75.88	70.64	78.89	72.32
2006	87.89	89.43	77.89	87.95	69.68	66.66	82.78	73.48
2007	88.56	94.28	88.56	95.64	66.27	62.67	73.56	74.65
Average	72.50		61.03		80.60		66.78	
Growth Rate of Trend		4.84		7.69		(3.98)*		1.17
F Value	53.534(0.000)**		48.103 (0.000)**		45.150 (0.000)**		2.313 (0.166)**	

Note: * Figures in the brackets indicate negative growth.

** Figures in the parentheses indicate P-value

From the table-4 it is found that the return on investment of the family business; sole proprietorship and private company limited is 72.50 percent, 61.03 percent and 66.78 respectively with a corresponding increasing trend rates of 4.84 percent, 7.69 percent and 1.17 percent . On the other hand, partnership's ROI is 66.78 percent with decreasing trend of 1.1 percent.

Further family business; sole proprietorship and partnership with calculated F values are 53.554, 48.103 and 45.150 respectively (P= 0.000), which reveal statistically significant ROAs over the years. The trend values of return on assets of the individual enterprises have been shown in figure-4.

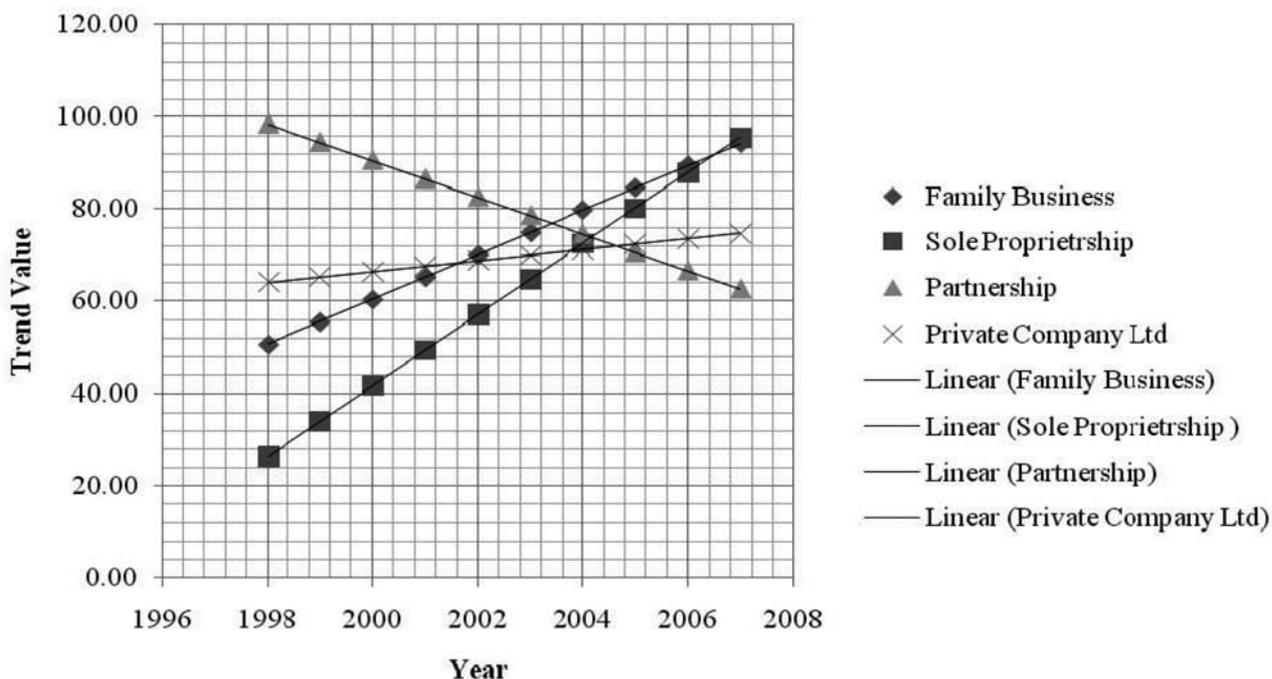


Figure -4: Trend Values of Return on Investment of the Enterprises

Figure-4 reveals that sole proprietorship has witnessed a dramatic growth over the years, while family business and private company Ltd witnessed moderate and slow increase in growth rates. Conversely, partnership illustrates moderately decreasing trend.

Non-Financial Performance

In this section the data collected from the sample respondents pertaining to market orientation, social performance, executive satisfaction and non executive satisfaction is analyzed. The analysis is intended to reveal meaningful insights into organizational performance. These findings may also be true for the entire industry and economic environment in Sri Lanka and therefore could be useful in policy making.

Market Orientations

In this context the opinion of entrepreneurs of market orientations are also sought and the responses gathered there of have been examined. In this respect the opinion given by entrepreneurs on the same priority areas for market can be depicted by the following table-5

Table-5: Opinion of the Entrepreneurs Regarding the Market Orientations.

	Areas	Mean	Std. Deviation
1	Sales after service	4.81	1.36
2	Competitive strategy	4.63	1.23
3	Response to Negative Customer satisfaction information	4.95.	1.17
4	Customer Satisfaction	5.03	1.30
5	Sharing the competitor information	4.97	1.28
6	Competitor's weakness	5.02	1.10
7	Contributing Customer value	5.27	1.02

Source: Survey data

It can be noted from table-5 that mean score of each area indicates their relative importance in market orientation. The mean scores vary between 4.63 and 5.03. For variables 1, 2, 3 and 5 the mean score is less than 5.00. However, such variations are marginal as revealed by their corresponding standard deviation. This also demonstrates the growing awareness of the importance of such variables for SMEs in Sri Lanka. The minimum value of the standard deviation indicates that there is a lower variation among opinions. Higher the mean score, generally lower is the internal variation.

Social Responsibility Performance

The study also identified social responsibility areas on which SMEs need to focus. These variables vary from philanthropic community development to mandatory legal obligations to relationships with different stakeholders of a business enterprise.

Table -6 summarizes the opinions of the respondents in this area.

Table -6: Opinion of the Entrepreneurs Regarding the Social Responsibility Performance

	Areas	Mean	Std. Deviation
1.	Today's customers prefer to consume products or services of socially responsible firms.	1.64	1.31
2.	Highly competitive labour market is a pressure to be socially responsive.	1.36	1.13
3.	Supply chain responsibility is an issue.	1.37	1.15
4.	Pressure from investors for Corporate Social Responsibility.	1.17	1.29
5.	Stakeholders expect more disclosure of performance of social responsibility.	1.37	1.27
6.	Socially responsible firms fulfil objectives of government relating to manufacturing and distribution.	1.43	0.97
7.	Stakeholders' expectations from business organisations are changing.	1.38	1.23

Source: Survey data

From the analysis of table-6 we understand that variable 1 is the most important one since it has the highest mean score followed by variables 6 and 7 respectively. Also, the standard deviation indicates that most of the respondent's opinions are approximately close. The analysis proves that a socially responsible business also has an opportunity to earn higher profits.

Employees' Satisfaction

The following table analyzes the degree of satisfaction shown by of the executives and non – executives of enterprises.

Table -7: Opinion of the Respondents Regarding the Employees' Satisfaction

Activity	Employees	Mean	Std. Deviation	t- value	P- value
1. I like the content of work I do	Executive	2.611	0.980	1.035	0.302
	Non- Executive	2.444	1.172		
2. My salary is best compared with other organisation	Executive	1.300	0.626	-0.216	0.829
	Non- Executive	1.322	0.750		
3. There are many chances to get promotion in my career.	Executive	1.444	0.925	-0.911	0.364
	Non- Executive	1.567	0.875		
4. I am happy to work with my peers.	Executive	2.544	0.876	1.395	0.165
	Non- Executive	2.344	1.040		
5. My work place is more comfortable to do my job	Executive	2.511	0.707	0.996	0.321
	Non- Executive	2.379	1.055		
6. I have a better relationship with my supervisor	Executive	2.378	0.730	1.455	0.147
	Non- Executive	2.200	0.902		
7. My supervisor accepts my suggestion when necessary	Executive	1.678	0.820	0.529	0.597
	Non- Executive	1.611	0.872		
8. I am always satisfied (his/her leadership styles, attitudes) with my supervisor.	Executive	2.189	0.652	0.507	0.613
	Non- Executive	2.133	0.810		
9. My achievement is recognised by my boss	Executive	2.078	0.927	0.634	0.527
	Non- Executive	1.989	0.954		
10. I am thankful to God for getting this sort of supervisor	Executive	2.689	0.681	1.519	0.131
	Non- Executive	2.511	0.877		
11. Generally, overall Job satisfaction	Executive	2.178	0.743	0.099	0.922
	Non- Executive	2.167	0.768		

Source: Survey data

The above table reveals that the executive employees of have recorded their satisfaction for variables 1, 4, 5 and 10 since mean score is greater than 2.5. However, against the same variables non-executives se to be less gave a mean score of less than 2.5 exhibiting their relative dissatisfaction. .

All in all, there is no statistically significant difference between executives and non- executives on most of the variables in the anlysis. Therefore, it can be concluded that there isn't much difference in the satisfaction levels of executives and non-executives.

Conclusion

The present study analysed SMEs performance through financial and non financial performance. The outcome of this research is expected to benefit policymakers, planners and development economists in formulating effective strategies for entrepreneurial development in Sri Lanka and other similar countries.

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Day-of-the-Week Effect on Select Sectors of Indian Stock Market

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Abstract

This paper examines the presence of day-of-the-week effect anomaly in the returns of selected sectoral S&P CNX indices in the Indian stock market. The indices selected for the study are Banking, the FMCG, Pharma and the IT. The study covers a period of 10 years from 1st April, 2001 to 31st March, 2011. In order to identify the non-randomness of the stock indices returns, the data is analyzed using descriptive statistics, simple OLS regression and the GARCH regression model. Using simple OLS regression equation, it is found that Wednesday and Friday have significant negative impact on Pharma and the IT sector respectively. When regression equation is estimated under the ARCH method, it is observed that Monday and Friday have significant positive impact on Banking Sector; Friday has significant positive impact on the FMCG sector; Thursday has significant positive impact on the IT sector; Monday, Wednesday and Friday have significant positive impact on Pharmaceutical sector.

Key words: Day-of-the-week effect, Sectoral indices, ARCH regression, Stock market anomalies.

Introduction

Numerous studies have been conducted to support the view that there is randomness in stock prices of the Indian stock market. This random behaviour of the stock prices challenges the Efficient Market Hypothesis (EMH), which states that the stock prices fully reflect all available information. On the contrary, there are instances in which the stock price movements enable investors to reap abnormal returns. Hence, there exist some anomalies in the stock market such as size effect, calendar effect like January effect, week-day effect, week-end effect and market sentiments resulting in the formation of a volatile stock market. The volatility in the stock prices is due to plethora of factors. Some of them are speculation, inflation, trading and settlement system, rising oil prices, imposition of Securities Transaction Tax (STT), increased day traders, interest rates, corporate results and announcements, Government regulations, corporate restructuring, under-pricing of IPOs (Initial Public Offerings), less liquidity, goods prices, money supply, exchange rates, derivatives trading, influence of international stock indices like NASDAQ, Foreign Institutional Investors (FIIs) and other political, social and economic events. All these factors increase the risk exposure and uncertainty which adversely affects the smooth functioning of the financial system in a country. Also, the degree of volatility presence in the stock market would lead investors to demand a higher risk premium, creating higher cost of capital, which impedes investment and slows economic development. However, subsequent to 2003-04 a reduction in the transaction costs, online trading system, dematerialization, ban of badla system, increased transparency promoted the stock market development to create an investor-friendly environment in India.

Stock market analysis assumes great importance especially in the developing countries like India to achieve the goal of financial stability. The present study attempts to scrutinize the existence of a week-day effect in the selected CNX indices. The present study considers the week-day effect in the selected sectoral CNX indices such as Banking, FMCG (Fast Moving Consumer Goods), IT (Information Technology) and Pharma (Pharmaceuticals).

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Literature Review

Sunil Poshakwale (1996) provided empirical evidence on weak form efficiency and the day-of-the-week effect in Bombay Stock Exchange (BSE) over a period of 1987-1994. The results provide evidence of day-of-the-week effect and that the stock market is not weak form efficient¹. Madhusudan Karmakar (2006) investigated the behaviour of stock returns of ten market indices of Asia-Pacific countries using the GARCH and Asymmetric TARARCH models for a period of 11 years from July 1994 to June 2005. The study finds an evidence of time-varying volatility, which exhibits clustering, high persistence and predictability for almost all the countries included in the sample². Amitabh Gupta (2006) examined the day-of-the-week effect during 2002-05 and concluded highest returns on Friday for all the indices and provide evidence of the day-of-the-week effect for BSE 100 and S&P CNX 500 index for the Indian stock market³. Ramesh Chander (2006) investigated the return process of scrips in 95 companies from the BSE and the NSE during 1990-2004 and found that the stock returns do not follow a normal distribution⁴. Ramesh Chander, Kiran Mehta and Renuka Sharma (2008) examined the evidence of day-of-the-week effect on the NSE (National Stock Exchange) and the BSE during 1997-2007. The findings recorded for the post-rolling settlement period, January 2002-March 2007 were in harmony with those recorded across the globe. The returns on Friday were the highest and the same were lowest on Monday to document credible evidence for day-of-the-week effect⁵.

Objectives of the study

The objective of this paper is to examine day-of-the-week effect in the returns of S&P CNX sectoral indices. The study focuses on identifying the non-randomness of the selected sectoral indices returns during the trading days in a week.

Hypothesis

In order to attain the above stated objective, the following hypothesis has been formulated:

Null hypothesis (H_0): There is no significant difference in the mean returns among the trading days of a week.

Alternative hypothesis (H_1): There is a significant difference in the mean returns among the trading days of a week

Symbolically,

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$$

$$H_1: \mu_1 \neq \mu_2 \quad \mu_3 \quad \mu_4 \quad \mu_5$$

Data and Methodology of the study

The study covers a period of 10 years from 1st April, 2001 to 31st March, 2011. In the present study, an attempt has been made to analyze day-of-the-week effect on the sectors which are selected for the study. Sectors selected for the study are Banking, FMCG, IT and Pharma. CNX-Bank Index is used as proxy for Banking sector; CNX-FMCG for FMCG Sector; CNXIT for IT sector; and CNX Pharma for Pharmaceutical sector.

The study considers daily prices of the selected sectoral indices of NSE. The indices daily prices are converted into natural logarithmic returns and same is used as inputs for statistical analysis. It is the general practice to use log returns for making research with time series data relating to financial markets as the log returns will take into account the compounding effect of returns. Descriptive statistics are used to provide simple summaries about the sample data. The measures used to describe the data set are measures of central tendency and measures of variability or dispersion such as mean, standard deviation, Skewness and Kurtosis. Simple Ordinary Least Squares (OLS) Regression equation has been estimated by taking log returns of daily prices of selected indices as dependent variable and day-of-the-week dummy variables as predictors.

Following French (1980), daily dummy variables are created to test for the day-of-the-week effect by estimating the following equation:

$$R_{it} = \alpha_1 i D1 + \alpha_2 i D2 + \alpha_3 i D3 + \alpha_4 i D4 + \alpha_5 i D5 + \epsilon_t$$

Where $D1 \dots D5$ are the days of the week; $\alpha_1 i - \alpha_5 i$ = coefficients to be estimated and ϵ_t = Random error term for day t .

In the above equation, $D1$ is a dummy variable which takes the value 1 if day t is a Monday and 0 for all other days of the week (days fall on Monday = 1; days falls on other days = 0); $D2$ is another dummy variable which takes the value 1 if day t falls on Tuesday and 0 for all other days of the week (days fall on Tuesday = 1; days fall on other days = 0); The remaining dummy variables are defined in the same manner.

The standard error measures the statistical reliability of the coefficient estimates. The value of t-statistic evaluates the contribution of each independent variable to regression model. R-squared measures the success of the regression in predicting the values of the dependent variable within the sample while Adjusted R-squared attempts to correct R-squared to more closely reflect the goodness of fit of the mode in the population. Durbin –Watson (DW) Statistic for autocorrelation of the AR (1) type measures the auto-correlation of the residuals. Autocorrelation refers to the correlation of a time series with its own past and future values.

Thus, after estimating the regression equation under traditional method, an attempt has been made to see whether there is a presence of Heteroskedasticity in the series. For this purpose, ARCH Heteroskedasticity test has been employed which regresses the squared residuals $[RESID^2]$ on one period lagged squared residuals $[RESID^2(-1)]$ and a constant. It tests the null hypothesis that the series is not Heteroskedastic. After testing the Heteroskedasticity of the series, regression equation has been estimated by using Autoregressive conditional Heteroskedasticity (ARCH) method which categorizes predictors into two equations i.e., mean equation and variance equation. Week day dummy variables are classified under mean equation; and constant(C), one period lagged squared residuals $[RESID (-1) ^2]$ and conditional volatility (GARCH (-1) are classified under Variance equation.

After arriving at the results under ARCH regression, comparison has been made between the results under simple OLS regression and the results under ARCH regression.

Results and Discussion

Based on the methodology discussed above, the analysis revealed the following results:

Descriptive Statistics for log return of sector indices: Descriptive Statistics like mean, standard deviation, skewness and Kurtosis have been computed to describe the characteristics of the sample data.

Table 1 : Descriptive Statistics for log return of sector indices.

Day	CNX Sectoral indices	N	Mean	Std. Deviation	Skewness		Kurtosis
					Statistic	Std. Error	
Monday	BANK	499	0.000957	0.0250786	-0.138	0.109	8.1
	FMCG	499	0.0004657	0.0163316	-1.032	0.109	8.883
	IT	499	0.0004318	0.0260096	0.062	0.109	6.829
	PHARMA	499	0.0004093	0.0151469	-0.251	0.109	9.179
Tuesday	BANK	499	0.000556	0.0203976	0.292	0.109	3.624
	FMCG	499	0.0005716	0.0141258	-0.099	0.109	4.53
	IT	499	0.0010571	0.0214997	0.442	0.109	3.556
	PHARMA	499	0.0005548	0.0134316	-0.539	0.109	5.609
Wednesday	BANK	498	0.0016914	0.0198363	0.201	0.109	1.962
	FMCG	498	0.0002795	0.0134729	0.225	0.109	2.437
	IT	498	0.0005042	0.0238025	-0.463	0.109	9.075
	PHARMA	498	0.001359	0.0127047	-0.073	0.109	1.368
Thursday	BANK	499	0.0007111	0.0194559	-0.285	0.109	1.632
	FMCG	499	0.0003068	0.0133516	-0.176	0.109	2.629
	IT	499	0.0010922	0.0239565	-1.563	0.109	16.142
	PHARMA	499	0.0001882	0.0126437	-0.445	0.109	2.367
Friday	BANK	489	0.0010265	0.0219534	-0.979	0.11	6.246
	FMCG	489	0.0007876	0.0144468	-0.149	0.11	2.55
	IT	489	-0.0050136	0.1089919	-20.71	0.11	447.826
	PHARMA	489	0.0007818	0.013605	-0.561	0.11	5.153

Table 1 presents the basic statistics of the returns series from the four sectoral indices. The mean return is positive on all the days for all the sectors except on Friday for the IT. The highest return is reflected on Wednesday in Banking and Pharma; on Friday in the FMCG; and on Thursday in the IT. The lowest return is reflected on Tuesday in Banking; on Wednesday in the FMCG; on Thursday in Pharma; and negative returns on Friday in the IT sector. The standard deviation of daily log returns is highest on Monday and lowest on Thursday for Banking, FMCG and Pharma sectors. On the contrary, it is interesting to note that the standard deviation is highest on Friday and lowest on Tuesday for the IT sector. This is due to obvious reason that Monday, being the first day-of-the-week, the stock market is highly volatile and closes with a low variance eventually. Thus, based on the means of daily log returns for sectoral indices, the best return sectors are in the order of Banking, Pharma and the IT followed by the FMCG. However, based on the standard deviations, the risky sectors follow in the order of the IT, Banking, the FMCG and Pharma.

The kurtosis of all sectors investigated shows consistently positive value, suggesting that the series are leptokurtic that means all series have a thicker tail and higher peak than a normal distribution. The Skewness of the distribution of log returns of selected sectoral indices prices is found to be negative in almost all the days indicating that the left tail is longer; the mass of the distribution is concentrated on the right of the figure and it has relatively few low values. This signifies the high probability of relatively more number of large returns in the distribution of the series.

Estimation of regression equation under Simple ordinary least squares method

Table 2: Simple OLS Regression equation for estimating log returns of CNX sectoral indices daily prices.

Day Numeric	Sectoral indices	Coefficient	Std. Error	t-Statistic	Prob.
Monday	BANK	0.000957	0.00096	0.996994	0.3189
	FMCG	0.000466	0.000644	0.723139	0.4697
	IT	0.000432	0.002367	0.182398	0.8553
	PHARMA	0.000409	0.000605	0.676623	0.4987
Tuesday	BANK	0.000556	0.00096	0.579241	0.5625
	FMCG	0.000572	0.000644	0.887502	0.3749
	IT	0.001057	0.002367	0.446567	0.6552
	PHARMA	0.000555	0.000605	0.917198	0.3591
Wednesday	BANK	0.001691	0.000961	1.760349	0.0785
	FMCG	0.000279	0.000645	0.433518	0.6647
	IT	0.000504	0.002370	0.212765	0.8315
	PHARMA	0.001359	0.000606	2.244270	0.0249
Thursday	BANK	0.000711	0.00096	0.740889	0.4588
	FMCG	0.000307	0.000644	0.476313	0.6339
	IT	0.001092	0.002367	0.461406	0.6445
	PHARMA	0.000188	0.000605	0.311123	0.7557
Friday	BANK	0.001026	0.00097	1.058618	0.2899
	FMCG	0.000788	0.000651	1.210667	0.2261
	IT	-0.005014	0.002391	-2.096646	0.0361
	PHARMA	0.000782	0.000611	1.279323	0.2009

Table 2 shows the empirical results for estimating the coefficients using simple OLS regression equation for each day in the select sectors. The estimated coefficient of Friday is significantly negative with a comparatively higher standard error for the IT sector exhibiting a negative impact of Friday. Wednesday has documented significantly positive impact on Pharmaceutical sector. The analysis clearly indicates that none of the week days have a significant impact in the case of Banking and the FMCG sectors.

Table 3: R-squared, Adjusted R-squared and Durbin-Watson Statistic under simple OLS Regression.

CNX Sectoral indices	R-squared	Adjusted R-squared	Durbin-Watson statistic
BANK	0.000332	-0.001281	1.746765
FMCG	0.000167	-0.001447	1.930864
IT	0.001919	0.000309	2.001626
PHARMA	0.000721	-0.000884	1.826625

From Table 3, it is observed that the R-squared value is almost equal to zero indicating that the proportion of variance in dependent variable explained by the regression model is very poor. Adjusted R-squared is negative in all the sectors indicating that the predictors are statistically not useful in fitting the regression model. DW value is close to 2 indicating that there is no autocorrelation in the series.

Testing the Heteroskedasticity in the series: - The existence of conditional heteroskedasticity is verified in the residual series from linear models fitted to the daily log returns of CNX sector daily indices.

Table 4: ARCH Heteroskedasticity Test

	CNXBANK	CNXFMCG	CNXIT	CNXPHARMA
F-statistic	298.5742**	367.061**	0.000632	443.0497**
Obs*R-squared (Chi-Square)	266.717**	320.0115**	0.000632	376.4953**

* Significant at 0.05 level **Significant at 0.01 level

As shown in the table 4, 'p' value of the F-statistic is statistically significant ($P < 0.01$) which suggests the presence of Heteroskedasticity in the series of log returns for all the sectors except for the IT. Hence, Generalized Autoregressive Heteroskedasticity model is applied to estimate regression equation.

Estimation of Regression equation under GARCH (1, 1) model: - after finding the presence of heteroskedasticity in the series of log returns of selected sectoral indices, ARCH method is used in estimating the regression equation.

Table 5: Regression under GARCH(1,1) equation for estimating log returns of CNX sectoral indices daily prices.

Mean Equations					
Day Numeric	CNX Sectoral indices	Coefficient	Std. Error	z-Statistic	Prob.
Monday	BANK	0.001773	0.000677	2.620725	0.0088
	FMCG	0.000806	0.000483	1.669904	0.0949
	IT	0.001082	0.000801	1.351182	0.1766
	PHARMA	0.001053	0.000453	2.322245	0.0202
Tuesday	BANK	0.000960	0.000788	1.217803	0.2233
	FMCG	0.000860	0.000533	1.614335	0.1065
	IT	-0.000469	0.000760	-0.617994	0.5366
	PHARMA	0.000407	0.000540	0.753008	0.4514
Wednesday	BANK	0.001445	0.000761	1.899437	0.0575
	FMCG	0.000471	0.000546	0.863097	0.3881
	IT	0.001612	0.000878	1.834882	0.0665
	PHARMA	0.001398	0.000482	2.903940	0.0037
Thursday	BANK	0.001242	0.000741	1.677430	0.0935
	FMCG	0.000720	0.000531	1.355569	0.1752
	IT	0.001078	0.000555	1.940780	0.0523
	PHARMA	0.000706	0.000509	1.385680	0.1658
Friday	BANK	0.001578	0.000706	2.234400	0.0255
	FMCG	0.001106	0.000509	2.175474	0.0296
	IT	0.000279	0.000918	0.303988	0.7611
	PHARMA	0.000868	0.000443	1.958890	0.0501
Variance Equation					
		CNX Sectoral Indices			
		BANK	FMCG	IT	PHARMA
C	Co-efficient	8.71E-06	1.33E-05	-7.70E-06	1.71E-05

	Standard Error	1.44E-06	1.64E-06	7.50E-07	2.49E-06
	z-statistic	6.028224	8.107755	-10.26289	6.877018
	Prob	0.0000	0.0000	0.0000	0.0000
	Co-efficient	0.107943	0.159797	0.371963	0.175935
RESID(-1)^2(ARCH)	Standard Error	0.008611	0.010788	0.020439	0.014617
	z-statistic	12.53499	14.81246	18.19889	12.03592
	Prob	0.0000	0.0000	0.0000	0.0000
	Co-efficient	0.876442	0.779140	0.851708	0.733059
GARCH(-1)	Standard Error	0.009199	0.012899	0.007093	0.024802
	z-statistic	95.28092	60.40304	120.0701	29.55668
	Prob	0.0000	0.0000	0.0000	0.0000

As shown in the table 5, the analysis reveals that Monday in Banking and Pharma; Wednesday in Pharma; Thursday in the IT; Friday in Banking, Pharma and the FMCG sectors documented positive impact on the daily log returns of concerned CNX indices ($P < 0.05$) significantly. RESID (-1) ² or ARCH coefficient shows the effect of news on the market and GARCH Coefficient shows the effect of old news on the market. The coefficient of constant is measure of unconditional volatility. The coefficients on both the lagged squared residuals (i.e., RESID (-1) ²) and lagged conditional variance term (i.e., GARCH (-1) in the Variance Equation are highly statistically significant ($P < 0.01$) and the sum of RESID (-1) ² and GARCH (-1) is close to one except in the IT sector. It indicates that shocks to the conditional variance are highly persistent.

Table 6: R-squared, Adjusted R-squared and Durbin-Watson Statistic under ARCH Regression

CNX Sectoral indices	R-squared	Adjusted R-squared	Durbin-Watson statistic
BANK	-0.000311	-0.003139	1.746287
FMCG	-0.000326	-0.003154	1.929993
IT	-0.000339	-0.003167	2.000633
PHARMA	-0.000060	-0.002874	1.826566

From Table 6, it is observed that R-squared value is negative indicating that the proportion of variance in dependent variable explained by the regression model is very poor. Adjusted R-squared is also negative in all the sectors indicating that the predictors are statistically not useful in fitting the regression model. DW value is close to 2 indicating that there is no autocorrelation in the series.

Comparison of regression equation results under simple OLS regression and GARCH (1, 1) regression model.

Under simple OLS regression method, Monday has no effect on the log returns of daily prices of none of the selected sectoral indices, but under GARCH model Monday has its impact on Banking and Pharma sectors. Tuesday has not documented any impact on the selected sector indices both under simple OLS regression method and GARCH regression method. Wednesday has exhibited significantly positive impact only on Pharmaceutical sector under both the methods of regression. Thursday has not shown any impact on any of the selected sectors under simple OLS regression method, while a significant positive impact on the IT sector is evidenced on Thursday under the GARCH regression method. Under simple OLS regression method, Friday has its (negative) impact only on the IT sector, whereas under the GARCH method, Friday has its significant positive impact on Banking, Pharmaceutical and the FMCG sectors.

Conclusion

With the increased liberalization and globalization, many financial reforms were undertaken to widen and deepen the secondary market in India. Volatility of stock prices has both micro and macroeconomic implications. In fact, volatility has its effect in having information, no information or misinformation. Based on the means of daily log returns for sectoral indices, the best return sectors are in the order of Banking, Pharma and the IT followed by the FMCG respectively. However, based on the standard deviations, the most-risky sectors follow in the order the IT, Banking, the FMCG and Pharma. Using simple OLS regression equation, it is found that in the case of Pharmaceutical sector, Wednesday has significant positive impact and on the IT Sector, Friday has significant negative impact in estimating the log returns of daily prices of respective sectoral indices. When regression equation is estimated under ARCH method, it is observed that Monday and Friday have significant positive impact on Banking Sector; Friday has statistically significant positive impact on the FMCG sector; Thursday has statistically significant positive impact on the IT sector; Monday, Wednesday and Friday have statistically significant positive impact on Pharmaceutical sector. So, it can be concluded that pharmaceutical sector has higher day-of-the week anomalies followed by the banking sector.

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Emotional Intelligence and Perceived Success- A Critical Study



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Abstract

Human beings struggled for a long time with the notion that emotions are disruptive; therefore, they are not to be exhibited. Though the concept of emotional intelligence is existing from time immemorial, the words emotional intelligence got prominence with Goleman's writings. Much research was done in this area to prove emotional intelligence as the predictor of success. This article examines emotional intelligence in terms of its components, viz., Emotional Competency, Emotional Maturity and Emotional Sensitivity. The study indicated that there is a significant association between emotional quotient and perceived success.

Key words: Emotional Intelligence, Emotional competence, emotional Maturity, emotional Sensitivity, Emotional quotient

Introduction

Forgetting that a human being is a bundle of emotions, conventional wisdom advocated that workplace has no room for emotions. Employees were expected to leave their emotions either at home or at the parking lot. They are not expected to exhibit their emotions. The strong belief was all emotions are disruptive.

However, recent studies indicate the need for managing emotions. Though the concept of emotional intelligence was in existence for a long time, in different form, the work of Goleman (1996 and 1998) revolutionized the thinking of both academia and practitioners. Several studies were conducted to examine the depth and width of the concept and its impact on organizations.

The Concept of Emotional Intelligence:

Goleman (1998) considered emotional intelligence as the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships. Goleman identified emotional intelligence in terms of self-awareness, self-management, social awareness and social skills. Emotional intelligence involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use the information to guide one's thinking and actions (Mayer & Salovey, 1993: 433). According to Salovey & Mayer (1990), Emotional Intelligence involves abilities that may be categorized into five domains: *Self-awareness*: observing yourself and recognizing a feeling as it happens. *Managing emotions*: handling feelings so that they are appropriate; realizing what is behind a feeling; finding ways to handle fears and anxieties, anger, and sadness. *Motivating oneself*: channeling emotions in the service of a goal; emotional self control; delaying gratification and stifling impulses. *Empathy*: sensitivity to others' feelings and concerns and taking their perspective; appreciating the differences in how people feel about things. *Handling relationships*: managing emotions in others; social competence and social skills.

Review of Literature

Emotional intelligence has become increasingly popular as a measure for identifying potentially effective leaders, and as a tool for developing effective leadership skills. Victor Dulewicz and Malcolm Higgs (1999) designed a new tailored instrument to measure emotional intelligence.. In another paper published in 2000 they reviewed the literature on the subject of "emotional intelligence" (EQ) and defined using competency-based and personality factor scales. Their study provides support to the proposition that the combination of EQ

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and IQ is a more powerful predictor of “success” than either measure alone. Richard E. Boyatzis (2008) found that emotional, social and cognitive intelligence competencies predict effectiveness in profession and felt that these competencies can be developed in adults.

Yvonne M. Agazarian (2004) introduced a systems-centered model for emotional intelligence (EI) which considers not only the emotional intelligence of individuals, but also the emotional intelligence of work groups and organizations. Considering that EI can be a potential determinant of our achievement in working life, James Poon Teng Fatt (2002) undertook a study to determine whether there was any significant difference in the EI of local and foreign undergraduates studying in universities in Singapore. The study showed that foreign undergraduates had a higher EI score than those with a local education background and it was found that males had higher EI scores than females. Results of Kevin S. Groves, Mary Pat McEnrue, Winny Shen (2008) proved that EI can be deliberately developed. Anthony M. Grant (2007) examined different approaches to coaching skills training and their impact on emotional intelligence.

Benjamin Palmer, Melissa Walls, Zena Burgess, Con Stoug (2001) explored the relationship between emotional intelligence and effective leadership. Effective leaders were identified as those who displayed a transformational rather than transactional leadership style as measured by the multifactor leadership questionnaire. Emotional intelligence correlated with several components of transformational leadership suggesting that it may be an important component of effective leadership. Malcolm Higgs and Paul Aitken (2003) have explored the relationship between emotional intelligence and leadership potential and concluded EI as a measure for identifying potentially effective leaders. Susan P. Gantt, Michelle M. Morehouse (2007) results revealed significant differences between leaders in non-profit and profit businesses in overall emotional intelligence. Using university residence staff as leaders of interest Niroshaan Sivanathan and Cynthia Fekken (2002) explored the association of emotional intelligence and moral reasoning to leadership style and effectiveness. Analysis showed that leaders who reported higher levels of emotional intelligence were perceived by their followers as higher in transformational leadership and more effective. Interestingly, having high emotional intelligence was not related to supervisor’s ratings of effectiveness. Supervisors associated greater job effectiveness with higher moral reasoning. Emotional intelligence correlated highly with all components of transformational leadership, with the components of understanding of emotions (external) and emotional management the best predictors of this type of leadership style. Julian Barling, Frank Slater, E. Kevin Kelloway (2000) investigated whether emotional intelligence (EQ) is associated with the use of transformational leadership in 49 managers. Controlling for attributional style, multivariate analyses of covariance showed that three aspects of transformational leadership (i.e. idealized influence, inspirational motivation, and individualized consideration) and constructive transactions differed according to level of emotional intelligence. Evidence from the study of Steve Langhorn (2004) suggests that there is a correlation in key areas of profit performance relating to the emotional intelligence pattern of the general manager. The results from the study of Malcolm Higgs, Paul Aitken (2003) provide some evidence to support the relationships between EI and leadership potential asserted from both a theoretical standpoint and from other studies of leadership performance. Alan D. Boss, Henry P. Sims Jr (2008) developed a theoretical perspective on how emotion regulation and self-leadership can help move the experience of personal failure toward recovery. Richard E. Boyatzis and Argun Saatcioglu argued that emotional, social and cognitive intelligence competencies that predict effectiveness in management and leadership can be developed in adults through a graduate management program. The authors felt that this degree of value added can be eroded by a tumultuous organizational climate.

Despite a reluctance on the part of organizational researchers to deal with the subjects of emotions or spirituality, recent researchers have begun to argue for the importance of exploring their relationship to workplace performance. The study done by Krishna Kumar and Sofia (2009) could not establish any association between emotional intelligence and success. Similarly, it appears that spirituality is related to workplace performance or effectiveness. Len Tischler, Jerry Biberman and Robert McKeage (2002) explores the impacts of emotional

intelligence and spirituality on workplace effectiveness, presents several theoretical models examining possible linkages among these variables, and, finally, presents several ideas for future research deriving from the models. Dalip Singh (2003) examined emotional intelligence in terms of emotional competency, emotional maturity and emotional sensitivity. The study revealed that different professions need different levels of emotional intelligence. Further the work of Dalip Singh is replicated in order to find emotional intelligence in uttaranchal (krishnakumar and gunjan). The results of the study indicated that majority of the respondents are low in emotional intelligence. Component- wise results indicated that except in the case of emotional maturity, a large majority of the respondents were found to scoring low in their scores.

Several studies which are mentioned in the Recent Studies chapter indicated that it is not just the IQ but, to a large extent EQ contributes to the success of the individuals as well as the organizations. Therefore an attempt has been made to study significance of emotional intelligence and the need to develop emotional intelligence.

Objectives

To study Emotional Intelligence in terms of Emotional competency, Emotional maturity and Emotional sensitivity.

To examine whether there is any association between emotional quotient and perceived success.

Methodology

This is an empirical study. The data have been collected from 176 respondents with the help of a structured questionnaire. The questionnaire has 15 situations which are based on Emotional Competency, Emotional Maturity and Emotional Sensitivity.

This questionnaire was developed by N.K.Chadha and Dilip Singh. The scores of the instrument were interpreted as follows: **Emotional Intelligence overall scores:** The Maximum score of Emotional Intelligence is 295. Therefore the interpretation was done based on the following: 275 and above Extremely high EQ; 250 to 274 High EQ; 200 to 249 Moderate EQ; 150 to 199 Low EQ and a score of 149 and below was considered to be Very Low EQ.

Emotional Competence: The maximum score in this case will be 160. The interpretation of the data is done based on the following scores: 149 and above Extremely high : 136 to 148 High ; 109 to 135 Moderate; 81 to 108 Low and a score of 80 and below was considered to be Very Low.

Emotional Sensitivity: In the case of Emotional Sensitivity the maximum score is 75. Therefore, the interpretations are based on the following: 71 and above Extremely high : 64 to 70 High ; 51 to 63 Moderate; 38 to 50 Low and a score of 37 and below was considered to be Very Low

In the case of **Emotional Maturity** the maximum score would be 60. Therefore interpretations are made based on the following. : 57 and above Extremely high : 51 to 56 High ; 41 to 50 Moderate; 31 to 40 Low and a score of 30 and below was considered to be Very Low.

Nature of the Profile of the Respondents:

Age constitutes an important aspect of the profile.. The mean age of the respondents is just above 32 and the modal age is 22 with a standard deviation of 11.5. Further the classification shows that a considerable number of respondents (48.9 per cent) are from the age group of upto 25 years. This is followed by the age group of above 25 years to 45 (31.3 percent) and above 45 years (19.9 per cent). Thus most of the views are expressed by the age group of respondents who belong upto the age of 45 years. Gender-wise it is observed that a vast majority constituting 73.9 per cent are male and the remaining are female. Based on religion it is found that almost 90 per cent belong to Hindu religion. Respondents belonging to Islam and Christian faith constitute

3.4 per cent each. Respondents belonging to other community like Sikh and Parsi are 4 per cent. Income-wise classification revealed that a little over 40 per cent of the respondents come under the category of no income group. Most of them belong to student community. 21 per cent respondents come under the group of above Rs.6 lakhs. This is followed by two income groups Upto Rs.3 lakhs and Above Rs.3 lakhs to 6lakhs. Thus it is observed that the respondents are spread over all the income groups. . Educational qualifications of the respondents shown that majority of the respondents constituting 52.3 percent are post-graduates. This is followed by graduates (38.6 percent) and those with a qualification of upto intermediate. The professional background of the respondents shown that 42 per cent belong to accounting profession. This is followed by engineers (21.6 per cent). Others who constitute 36.4 per cent of the sample are from management and self-employment background. Lastly the respondents are classified based on their experience in their respective professions. The mean experience of the respondents is 7.94 years with a standard deviation of 10.04 years. It is observed that a large number of respondents (48.3 percent) have an experience of upto 5 years. This is followed by those who have an experience of above 20 years (17.6 per cent). The other groups are those with 5 to 10 years (7.4 percent), 10 to 15 years (6.8 per cent) and those with 15 to 20 years (3.4 per cent). It may also be observed that considerable number of respondents (16.5 percent) are with no experience.

Results and Discussion

In this part the components of Emotional Intelligence namely Emotional Competence, Emotional Maturity, Emotional Sensitivity are examined. Further these components are examined in terms of Age, Gender and Professional background of the respondents.

Age of the respondents and emotional competence, emotional Sensitivity and emotional maturity and emotional quotient (Table 1).

Table 1:Age of the respondents and Emotional Competence, Sensitivity, Maturity and Quotient

Age of the Respondents	Emotional Competence					Emotional Sensitivity					Emotional Maturity					Emotional Quotient					Total
	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	
Upto 25 years	1	7	40	26	12	5	11	21	38	11	17	37	7	21	4	1	9	51	21	4	86
	1.20 %	8.10 %	46.50 %	30.00 %	14.00 %	5.80 %	12.00 %	24.40 %	44.00 %	12.00 %	19.80 %	43.00 %	8.10 %	24.00 %	4.00 %	1.20 %	10.50 %	59.30 %	24.00 %	4.70 %	10.00 %
Above 25 to 45 years	1	4	30	11	9	5	10	5	18	17	19	19	7	10	0	0	9	27	15	4	55
	1.80 %	7.30 %	54.50 %	20.00 %	16.40 %	9.10 %	18.20 %	9.10 %	32.70 %	30.90 %	34.50 %	34.00 %	12.70 %	18.00 %	0.00 %	0.00 %	16.40 %	49.10 %	27.30 %	7.30 %	10.00 %
	6	3	17	2	7	3	10	10	7	5	9	17	1	6	2	2	10	15	4	4	35
	17.10 %	8.60 %	48.60 %	5.70 %	20.00 %	8.60 %	28.00 %	28.60 %	20.00 %	14.30 %	25.70 %	48.00 %	2.90 %	17.00 %	5.70 %	5.70 %	28.00 %	42.90 %	11.40 %	11.40 %	10.00 %
Total	8	14	87	39	28	13	31	36	63	33	45	73	15	37	6	3	28	93	40	12	176
	4.50 %	8.00 %	49.40 %	22.00 %	15.90 %	7.40 %	17.00 %	20.50 %	35.00 %	18.00 %	25.60 %	41.00 %	8.50 %	21.00 %	3.00 %	1.70 %	15.90 %	52.80 %	22.70 %	6.80 %	10.00 %

Source: Primary Data

It may be observed that more number of respondents constituting 49.4 per cent have assessed themselves to be in the category of moderate emotional competence. This is followed by low competence (22.2 per cent) and very low (15.9 per cent) competence. Very few are in the categories of high and extremely high competence. Further, it may be observed that in all the groups more number of respondents are found to be moderate. This is more pronounced in the age group of above 25 years to 45 years, as majority of respondents (54.5 per cent) are found to be moderate. The trend of respondents rating themselves to be moderate, low and very low is there in the first two groups only. In the age group of above 45 years category there is a slight difference as the least percentage of respondents (5.7 per cent) are seen having low emotional competence. Respondents who have rated themselves to be extremely high and high are more in the age group of above 45 years. They constitute approximately one fourth of the respondents in that category (25.7 per cent). It may be deduced from the above table that more number of respondents in all the categories of age groups have moderate emotional competence.

Regarding emotional sensitivity, it is observed that in categories upto 25 years and above 25 years to 45 years, majority of them have rated themselves to be low and very low in emotional sensitivity. This is a little less pronounced in the category of above 45 years. Further it may also be observed that more than one of the respondents in the category of above 45 years have extremely high or high emotional sensitivity. This is followed by the age group of above 25 years to 45 years (27.3 per cent) and Upto 25 years age group (18.6 per cent). It may be stated that as age grows people may tend to be a little more emotionally sensitive.

Age of the respondents and their emotional maturity shows that a large majority of the respondents in all the categories of age groups have rated themselves to be extremely high or high emotional maturity. This is more in the age group of above 45 years (74.3 per cent). This is followed by the age group of above 25 years to 45 years ((69 per cent) and Upto 25 years (62.8 per cent). This leads to the conclusion that with age emotional maturity is likely to go up.

From age of the respondents and emotional quotient, it may be observed that in all the categories more number of respondents have rated themselves to have moderate emotional quotient. In the age group of Upto 25 years 59.3 per cent respondents have reported to have moderate level of emotional quotient. This is slightly lower in the age groups of above 25 to 45 years (49.1 per cent) and above 45 years (42.9 per cent). It is also observed that 34.3 per cent of the respondents in the category of above 45 years have rated themselves to have either extremely high or high emotional quotient. This is followed by the age group of above 25 to 45 years (16.4 per cent) and Upto 25 years (11.7 per cent). The above table leads to the conclusion that age influences the emotional quotient.

Emotional competence, emotional sensitivity, emotional maturity and emotional quotient based on the gender of the respondents (Table 2).

Table 2: Gender of the respondents and Emotional Competence, Sensitivity, Maturity and Quotient

Gender	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	Total
Male	6	11	69	24	20	9	26	30	46	19	32	55	13	25	5	1	26	70	24	9	130
	4.60%	8.50%	53.10%	18.50%	15.40%	6.90%	20.00%	23.10%	35.40%	14.60%	24.60%	42.30%	10.00%	19.20%	3.80%	0.80%	20.00%	53.80%	18.50%	6.90%	100.00%
Female	2	3	18	15	8	4	5	6	17	14	13	18	2	12	1	2	2	23	16	3	46
	4.30%	6.50%	39.10%	32.60%	17.40%	8.70%	10.90%	13.00%	37.00%	30.40%	28.30%	39.10%	4.30%	26.10%	2.20%	4.30%	4.30%	50.00%	34.80%	6.50%	100.00%
Total	8	14	87	39	28	13	31	36	63	33	45	73	15	37	6	3	28	93	40	12	176
	4.50%	8.00%	49.40%	22.20%	15.90%	7.40%	17.60%	20.50%	35.80%	18.80%	25.60%	41.50%	8.50%	21.00%	3.40%	1.70%	15.90%	52.80%	22.70%	6.80%	100.00%

Source: Primary Data

It can be seen that 53.1 per cent male respondents rated themselves to be moderate in emotional competence, whereas 39.1 per cent female respondents considered themselves to be moderate. Further 13.1 per cent male respondents considered themselves to be extremely high or high emotional competence, whereas 10.8 per cent female respondents rated themselves in these categories. It appears that more number of men have a little more emotional competence compared to women.

Gender of the respondents and emotional sensitivity shows that a large majority of the respondents in both the categories have rated themselves to be low and very low emotional this is observed more among females (67.4 per cent) compared to men (50 per cent). Likewise more number of men (23.1 per cent) have rated themselves to be moderate compared to women (13 per cent). Further 26.9 percent male respondents considered themselves to be extremely high or high emotional sensitivity compared to 19.6 percent female respondents. Thus it may be observed that men are a little more emotionally sensitive when compared to women.

Emotional maturity based on the gender of the respondents indicates that 67.4 per cent female respondents have rated themselves to be extremely high or high emotional maturity, whereas among male respondents it is 66.9 per cent. The table reveals that women are a little more emotionally mature compared to men.

From the overall emotional quotient based on gender it may be observed that a large number of both male (53.8 per cent) and female respondents (50 per cent) considered themselves to be having moderate emotional quotient. It is also observed that more number of male respondents (20.8 per cent) are found to be extremely high and high emotional quotient compared to female respondents (8.6 per cent). The results indicate that there seems to be a relationship between gender and emotional quotient and the components of emotional quotient. But before generalizing the statement, the sample size should be increased and the study should be replicated in many places.

Emotional competence, emotional sensitivity, emotional maturity and emotional quotient based on professional background of the respondents (Table 3).

Table 3: Professional Background of the respondents and Emotional Competence, Sensitivity, Maturity and Quotient

Professional Background	Emotional Competence					Emotional Sensitivity					Emotional Maturity					Emotional Quotient					Total
	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	Extremely High	High	Moderate	Low	Very Low	
Others	1	1	26	14	22	3	5	7	27	22	15	21	5	20	3	1	3	24	27	9	64
	1.60%	1.60%	40.60%	21.90%	34.40%	4.70%	7.80%	10.90%	42.20%	34.40%	23.40%	32.80%	7.80%	31.30%	4.70%	1.60%	4.70%	37.50%	42.20%	14.10%	100.00%
Engineering	6	5	22	4	1	4	12	11	7	4	12	20	4	2	0	1	14	22	0	1	38
	15.80%	#####	57.90%	10.50%	2.60%	10.50%	31.60%	28.90%	18.40%	10.50%	31.60%	52.60%	10.50%	5.30%	0.00%	2.60%	36.80%	57.90%	0.00%	2.60%	100.00%
Accounting	1	8	39	21	5	6	14	18	29	7	18	32	6	15	3	1	11	47	13	2	74
	1.40%	#####	52.70%	28.40%	6.80%	8.10%	18.90%	24.30%	39.20%	9.50%	24.30%	43.20%	8.10%	20.30%	4.10%	1.40%	14.90%	63.50%	17.60%	2.70%	100.00%
Total	8	14	87	39	28	13	31	36	63	33	45	73	15	37	6	3	28	93	40	12	176
	4.50%	8.00%	49.40%	22.20%	15.90%	7.40%	17.60%	20.50%	35.80%	18.80%	25.60%	41.50%	8.50%	21.00%	3.40%	1.70%	15.90%	52.80%	22.70%	6.80%	100.00%

Source: Primary Data

It is observed that majority of the respondents with engineering profession (57.9 per cent) and accounting (52.7 per cent) rated themselves to be moderate where as in the category of others it is 40.6 per cent only. It may also be observed that 29 per cent engineering professionals have rated themselves as high or extremely high on emotional competence, whereas it is 12.2 per cent among accountants and 3.2 per cent among the category of others. The results indicate that engineering professionals have a little more emotional competence compared to other two categories.

Emotional sensitivity based on the professional background of the respondents shows that engineering professionals (42.1 per cent) rated themselves to be high and extremely high emotional sensitivity. Whereas 27 per cent accounting professionals and 12.5 percent belonging to other category rated themselves to be high and extremely high emotional sensitivity. Further, 28.9 per cent engineering professionals are found to be moderate in emotional sensitivity, whereas it is 24.3 per cent among accountants and 10.9 per cent in the category of others.

Emotional Maturity based on the professional background of respondents indicates that in all the categories majority of the respondents scored extremely high and high on emotional maturity. It is extremely high among engineering professionals (84.2 per cent). Whereas among accounting professionals, it is 67.5 per cent and in the category of others, it is 56.2 per cent. Further, when compared to other two categories, a slightly higher percentage of engineering professionals (10.5 per cent) got into moderate emotional maturity, The per cent age with accounting professionals is 8.1 and the category of others it is 7.8 .

From the overall emotional quotient based on professional background it may be observed that majority of the respondents both engineering (57.9 per cent) and accounting professionals (63.5 per cent) got into the category of moderate emotional quotient. Whereas majority of the respondents in the category of others got into low and very low emotional quotient. Further 43.4 per cent engineering professionals got into extremely high and high emotional quotient whereas it is 16.3 per cent among accounting professionals. Based on the above table it may be deduced with a caution that engineering professionals have a little more emotional intelligence compared to other professionals.

Emotional Intelligence and Perceived Success

Lastly an attempt has been made to examine whether there is an association between emotional quotient and perceived success among the respondents. Table 4 portrays emotional quotient and perceived success. It may be observed that in all the categories, except among those who rated themselves to be low on EQ, majority of them have rated themselves to be either moderately successful or highly successful. Further observation reveals that a high majority constituting more than 70 percent among those who rated themselves as having high and extremely high emotional quotient, considered themselves to be successful. It appears that there is a significant association between EI and Perceived Success.

Table 4: Emotional Quotient and Perceived Success

Emotional quotient	Not at all Successful	Somewhat Successful	Success No Opinion	Moderately Successful	Highly Successful	Total
Extremely High	0	0	0	2	1	3
	0.0%	0.0%	0.0%	66.7%	33.3%	100.0%
High	0	7	1	17	3	28
	0.0%	25.0%	3.6%	60.7%	10.7%	100.0%
Moderate	10	27	6	44	6	93
	10.8%	29.0%	6.5%	47.3%	6.5%	100.0%
Low	7	15	3	12	3	40
	17.5%	37.5%	7.5%	30.0%	7.5%	100.0%
Very Low	3	1	0	4	4	12
	25.0%	8.3%	0.0%	33.3%	33.3%	100.0%
Total	20	50	10	79	17	176
	11.4%	28.4%	5.7%	44.9%	9.7%	100.0%
chi-square	26.342		df 16	P value 0.049		

Source: Primary Data

Conclusion

The components of Emotional Intelligence namely Emotional Competence, Emotional Maturity, Emotional Sensitivity are examined in terms of Age, Gender and Professional background of the respondents.

Age wise analysis revealed that age influences the emotional quotient. Age of the respondents and emotional competence revealed that in almost all the age groups, more number of respondents scored in the category of moderate emotional competence. Further analysis revealed that as the age grows people may tend to be a little more emotionally sensitive and emotionally mature.

Emotional quotient based on gender shows that there seems to be a relationship between gender and emotional quotient and its the components. It appears that more number of men have a little more emotional

competence compared to women and also that men are a little more emotionally sensitive when compared to women. Further, it is also revealed that women are a little more emotionally mature compared to men. Before generalizing, the sample size should be increased and the study should be replicated in other places.

Analysis based on professional background of the respondents revealed that engineering professionals have a little more emotional quotient compared to other professionals. The results also indicated that engineering professionals are found to be a little more emotionally competent, emotionally sensitive and emotionally mature compared to the respondents from other two professional groups.

Finally it was observed that there is an association between emotional quotient and perceived success of the respondents.

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Annexure 1

Age	Frequency	Percentage
Upto 25 years	86	48.9
Above 25 to 45 years	55	31.3
Above 45	35	19.9
Gender		
Male	130	73.9
Female	46	26.1
Religion		
Hindu	157	89.2
Islam	6	3.4
Christian	6	3.4
Others	7	4
Income		
No Income	72	40.9
Upto Rs. 3 Lakhs	35	19.9
Above Rs. 3 lakhs to 6 lakhs	32	18.2
Above 6 lakhs	37	21
Qualifications		
Post-Graduate	92	52.3
Graduate	68	38.6
Upto Intermediate	16	9.1
Professional Background		
Others	64	36.4
Engineering	38	21.6
Accounting	74	42
Experience		
No Experience	29	16.5
Upto 5	85	48.3
5 to 10	13	7.4
10 to 15	12	6.8
15 to 20	6	3.4
Above 20	31	17.6

Mobile Users' Attitude Towards Mobile Marketing in India - An Empirical Study

Vani.H*

Abstract

India is having a high growth rate of mobile subscribers which has opened up new marketing channel for communication with customers. There is a need to study which factors are affecting mobile user's attitude towards mobile marketing and what is the relationship between these factors? The study was conducted on 489 mobile phone users for a period of 5 months. The data analysis was conducted in a three-stage process. First, reliability tests were performed. Upon satisfactory results, the factor analysis of the collected data was conducted further followed by Confirmatory Factor Analysis (CFA). SPSS Statistics 17.0 was used to conduct factor analysis and the validity of the model. Once the model was validated, SPSS Amos 18.0 was used to fit a model based on Structure Equation Model to analyze the factors affecting Mobile user's attitude and the relationship between these factors. It is identified from the study that Mobile users attitude is influenced by the four factors of mobile advertisement, mobile sales promotions, mobile shopping and mobile phone usability. The present study concluded that mobile advertisement and mobile sales promotion have a positive effect on mobile marketing where as mobile shopping and mobile phone usability have negative effect on mobile marketing. The impact of factors such as mobile phone user's permission and personalization of mobile phone communication on mobile marketing are also discussed in this article.

Key words: Mobile Marketing, Mobile Advertisement, Mobile Sales Promotion, Mobile Shopping, Mobile Phone Usability, Structure Equation Model (SEM).

Introduction

Mobile marketing, as defined by The Mobile Marketing Association (MMA) is "The use of wireless media as an integrated content delivery and direct response vehicle within a cross-media marketing communications program."

In India, as on July 2010 there are over 652.42 million Mobile subscribers and the numbers of subscribers are growing every day. Due to large number of subscriber's mobile phone media has attracted many companies in banking, FMCG (Fast Moving Consumer Goods) and other sectors to extend their promotions into this platform.

In India, over a hundred Mobile value-added services (VAS) and various mobile technology companies like Affle India, Webaroo Technology India, Flytxt, Netcore solutions and Vakow Technologies are working to bring innovative solutions on the mobile and keep advertisers updated with new technologies so as to provide platforms to advertisers who want to reach the growing mobile population.

Mobile marketing is cost effective and advertisers can be sure that their ad has been seen by the Mobile users, which is not possible in other Medias of advertisement. National Do Not Disturb (NDND) registry contain database of telephone numbers of subscribers who do not want to receive Unsolicited Commercial Communication (UCC). Targeted messages can be sent to the subscribers only when they opt-in to receive them. TRAI (Telephone Regulatory Authority of India) is the regulatory authority which safeguards the interests of the mobile users. Mobile advertising will only further increase in India with the introduction of Mobile

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Virtual Network Operator (MVNO) and 3G technologies. Recently, the Indian government has permitted MVNOs which will help to grow the mobile marketing scenario. MVNOs will provide mobile phone services by buying airtime from existing telecom operator, and then they market it by leveraging their brand and distribution network. 3G will open up new opportunities for advertisers, such as rich media content and video over the mobile phone. Advertisers may be able to subsidize the cost of downloading rich media content by subscribers.

Conceptual Framework

Li and Stoller (2007) emphasize that mobile marketing is getting increasingly popular because mobile phone is a personal device used in marketing. Schreiber et.al(2005) define mobile marketing as using a wireless medium to provide mobile users with time and location sensitive personalized information that promotes products, service and ideas thereby benefiting all the stakeholders.

Components of Mobile Marketing

Mobile marketing consists of four basic components - mobile advertisement, mobile sales promotion, mobile phone usability and mobile shopping which is influencing mobile marketing's functionality.

1. Mobile advertising is a key component of mobile marketing. SMS and voice calls are two main mobile advertising communication systems which are more frequently used in India. Mobile advertising can be conducted via two methods - push advertising and pull advertising. In push advertising, after obtaining mobile user's permission advertisers sends relevant text or voice messages. In pull advertising mobile users voluntarily request for required information and advertiser sends them to mobile users.
2. Mobile sales promotion: Discounts, rebates, coupons, free samples, gifts and incentives are given to mobile users as part of sales promotion. Mobile coupons are more effective than paper-based coupons. According to Schreiber et al (2005) mobile coupons have three advantages such as targeted messages based on mobile phone numbers, time sensitivity and efficient handling by scanning the coupon's bar code at the point of sales.
3. Mobile phone usability: Mobile phone has become an important gadget in everyday life. Apart from communication, the mobile device is used for mobile entertainment including music, games, camera and videos. Technological advancement from Second Generation (2G) to Third Generation (3G) and high end products facilitated the use of video and audio in mobile marketing.
4. Further, the introduction of mobile banking is facilitating mobile commerce.

Mobile Users Attitude

Attitude is basically our predisposition towards things. According to Mehta and Purvis (1995) attitude is an enduring system of positive or negative evaluation, emotional feelings and pro or con action tendencies with respect to social object. Attitude has three main components: affective, cognitive and behavioural. Affective component include our liking or feeling about an object. The cognitive component refers to belief about an object and the behavioural component refers to the action we take regarding that object. Mobile user's attitude towards mobile marketing studies is based on attitudinal models used in online advertising studies. The Diffusion of Innovation Theory, Technology Acceptance Model (TAM) and Theory of Reasoned Action (TRA) have been used to explain mobile user's attitude towards mobile marketing. These theories can explain and develop models for both intention and behaviour towards accepting marketing concepts.

Attitude towards mobile marketing is studied from the prospects of attitude towards mobile advertising, sales promotion, mobile phone usability and mobile shopping.

Objectives

The main objective of this research is to understand the factors that affect mobile users attitude towards mobile marketing in India. In contrast to the available studies on mobile marketing acceptance models, this

study examines only attitude structure rather than intention and behavioural structure. The questions which this study attempts to answer are:

1. What are the main factors affecting mobile users attitude towards mobile marketing?
2. How are these factors relate to each another?

Research Methodology

Structural Equation Modeling (SEM) was used as the main statistical technique and data was collected through questionnaire survey. The questions in the survey are developed from the studies of Carolet.al (2007); Ducofee(1996); Okozaki, Katsura and Nishiyama(2007); Suher,Ispir and Ozturk(2008) and Tsang, Ho and Liang(2004) while few others are self drafted. 5 point likert scale was used (1 strongly disagree, 2 disagree, 3 nether agree or disagree, 4 agree and 5 strongly agree) to measure affects of mobile users attitude towards mobile marketing from mobile advertisement, mobile sales promotion, mobile phone usability and mobile shopping. The questionnaire consisted of 16 questions. The first 4 questions were related to demographic variables like age, gender, family income and education. The remaining 12 questions are related to mobile user's attitude towards mobile advertisement, sales promotions, phone usability and mobile shopping. The questionnaire was pretested on 50 respondents for consistence and reliability.

Sampling

A total of 500 questionnaire forms were distributed to respondents who have been using the phone for at least one year. Respondents were clearly explained about the objective and purpose of the research before the questionnaire. The research was conducted for a period of 5 months from February 2011 to June 2011 in Hyderabad. A total of 489 questionnaires were analyzed for the research since 11 questionnaires were invalid.

Table1: Respondents' profile

Variable		Frequency	%	Variable		Frequency	%
Gender	Male	314	64.2	Age	≤ 20 years	112	23
	Female	175	35.8		20 – 40 years	239	48.8
					≥ 40 years	138	28.2
Education	Uneducated	19	3.9	Family Income per month	≤ ₹ 10000	110	22.5
	High School	58	11.9		10001-25000	191	39
	Intermediate	82	16.8		25001- 50000	164	33.6
	Under Graduate	121	24.7		≥ ₹ 50001	24	4.9
	Post Graduate	209	42.7				

Majority of the respondents are males (at 64.2%). Other major groups include: Post Graduates (42.7%), respondents in the age group of 20 and 40 years (48.8%) and those with monthly family income between ₹ 10,001 and 25,000 (39%).

Data Analysis

The data analysis was conducted in a three-stage process. First, reliability tests were performed. After testing for reliability, factor analysis was conducted further followed by Confirmatory Factor Analysis (CFA). SPSS Statistics 17.0 software is used to analysis the content validity, construct validity and convergent validity of the model. SPSS Amos 18.0 software was then used to test the overall fitness of the Structural Equation Model (SEM) and to estimate the relationships between the variables.

Reliability Tests

The reliability of 12 items in the questionnaire is tested with Cronbachs' alpha (Cronbach, 1951). Cronbach

alpha reliability coefficient is 0.721 which is exceeding the suggested level of 0.70 (Nunnally, 1978). It suggests that the questionnaire is having reliability and can be used for further analysis.

Exploratory Factor Analysis

The Kaiser-Meyer-Olkin (KMO) and Bartlett's Test is used to test suitability of data for factor analysis. KMO value is 0.731 exceeding the recommended value of 0.60 which can be considered as adequate (Kaiser and Rice, 1974) while Bartlett's Test of sphericity reached statistical significance (Approx. chi-square 248.264, df 66 and Sig 0.00) which signifies the data is good for conducting factor analysis.

The 12 items were subjected to Principal Component Analysis (PCA) with varimax rotation to test the suitability of data for factor analysis. The items having factor loading less than 0.50 should be eliminated (Hair et al, 1996) but factor loading for all items is above 0.50 suggesting that the data set is appropriate (Stewart, 1981). So, all 20 items are accepted and PCA revealed that these 20 items are grouped into 5 components with Eigen values exceeding 1, corresponding to 2.947, 1.346, 1.123, 1.062 and 1.022 respectively. The total percentage of variance is 70.509. The results of the Principal Component Analysis can be viewed in Table2.

Confirmatory Factor Analysis

SPSS Amos 18 is used to conduct Confirmatory Factor Analysis (CFA). According to Ahire, Golhar and Waller (1996) Confirmatory Factor Analysis provides enhanced control for assessing unidimensionality. Unidimensionality measure the extent to which the all items in a scale measure the same construct. CFA was conducted for each of the five constructs to determine whether the 12 variables measured the construct they were assigned to adequately. Some of the important validity tests generally considered includes construct validity and Convergent validity.

Construct Validity

In the present study, in order to check for unidimensionality, a measurement model was specified for each construct and CFA was run for the entire construct. If a Comparative Fit Index (CFI) is 0.90 or above for the model implies that there is a strong evidence of unidimensionality - Byrne, (1994). CFI values for this construct are specified in table3. This indicates a strong evidence of unidimensionality for the scale.

Convergent Validity

It is the degree to which multiple methods of measuring a variable provides the same results O'Leary-Kelly and Vokurka, (1998). Convergent validity can be established using a coefficient called Bentler-Bonett coefficient. The Bentler-Bonett Normed Fit Index (NFI) is 0.924 in this research which is obtained from CFA which can be used to assess convergent validity.

Table2: Factors Extraction Results of the Items in Questionnaire

Item	Component	Factor Loads	Eigen Value	% variance
Mobile Advertisement				
MA1	Acceptance : I will accept SMS or MMS advertisement to my Mobile Phone	0.550	2.947	26.559
MA2	Information : Mobile advertisements provide required and useful information	0.610		
MA3	Ad Time : I want Mobile ads need to be delivered only in specific time	0.542		
Mobile Phone Usability				
MU1	Location : I want sales promotions specific to a location(area)	0.562	1.346	13.220

MU2	Easy to Use: It is easy to use sales promotion offers through Mobile Phone	0.585		
MU3	Usability: Mobile Phone is a very useful device in daily life.	0.659		
Mobile Sales Promotions				
MP1	Technology: I have latest technology available in my Mobile Phone	0.626	1.123	11.357
MP2	Entertainment: I get lot of entertainment from my Mobile Phone	0.615		
Mobile Shopping				
MS1	Security: I am really not sure that I can do payments safely through my Mobile Phone for the product I want to purchase	0.561	1.062	10.852
MS2	Credibility: Do you think companies need to prove their credibility to Mobile users for doing Mobile Shopping?	0.519		
Mobile Marketing				
MM1	Personalization: Since Mobile Phone is personal, every communication to Mobile Phone must be personalized according to my needs.	0.711	1.022	8.519
MM2	Permission: I believe companies must take my permission for any Mobile communications	0.587		
Total percentage of variance		70.509		

Table3: Descriptive statistics for the questions in the survey

Item	Component	Mean	S.D
MA1	Acceptance : I will accept SMS or MMS advertisement to my Mobile Phone	3.80	0.958
MA2	Information: Mobile advertisements provide required and useful information	3.81	1.926
MA3	Ad Time: I want Mobile ads need to be delivered only in specific time	4.02	0.866
MU1	Location: I want sales promotions specific to a location (area)	3.78	0.876
MU2	Easy to Use: It is easy to use sales promotion offers through Mobile Phone	3.62	1.069
MU3	Usability: Mobile Phone is a very useful device in daily life.	4.09	0.932
MP1	Technology: I have latest technology available in my Mobile Phone	4.14	0.835
MP2	Entertainment: I get lot of entertainment from my Mobile Phone	3.96	0.929
MS1	Security: I am really not sure that I can do payments safely through my Mobile Phone for the product I want to purchase	3.77	1.068
MS2	Credibility: Do you think companies need to prove their credibility to Mobile users for doing Mobile Shopping?	3.89	1.050
MM1	Personalization: Since Mobile Phone is personal, every communication to Mobile Phone must be personalized according to my needs.	4.07	1.407
MM2	Permission: I believe companies must take my permission for any Mobile communications	4.09	1.926

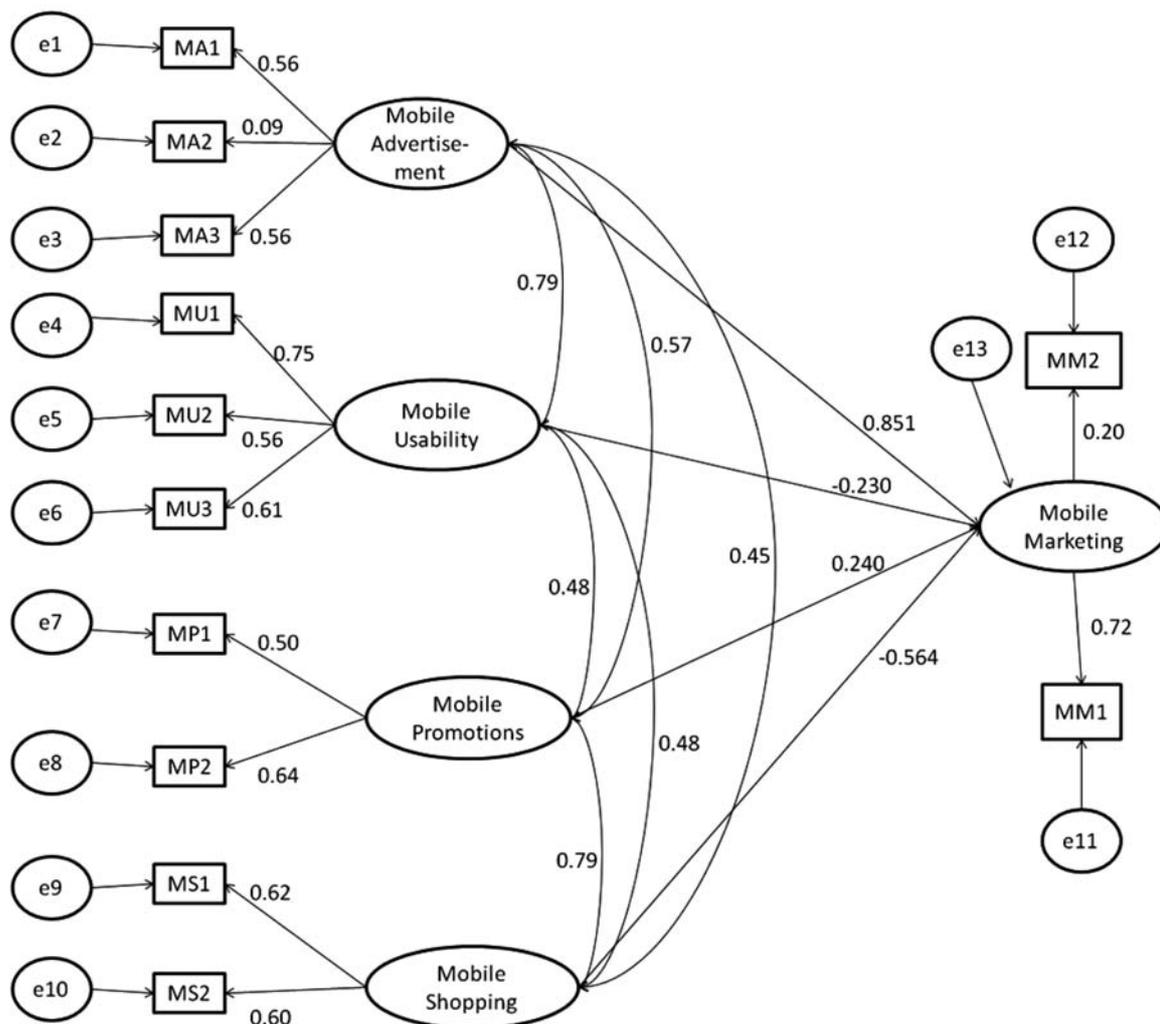
The following value are found in our study for each parameter to test model fit

Table4: Parameter value for model fit measures with SPSS Amos

Name of the Parameter	Value
Goodness of Fit Index (GFI)	0.953
Adjusted Goodness of Fit Index (AGFI)	0.916
Normed Fit Index (NFI)	0.914
Comparative Fit Index (CFI)	0.924
Tucker-Lewis Index(TLI)	0.991
Incremental Fit Index(IFI)	0.995
Relative Fit Index(RFI)	0.901
Root Mean Square Error of Approximation (RMSEA)	0.013

Based on various studies conducted by Bentler and Bonett (1980), Jöreskog, and Sörbom (1974), Bollen's(1989) and Bentler (1980) it was suggested that if the Index value is greater than 0.9 and if RMSEA values is less than 0.05 it indicates model is fit and accepted.

Figure 1: Structure Equation Model - The path diagram with standardized parameters estimate.



Structure Equation Model

SPSS Amos 18 software is used to perform confirmatory factor analysis using Structural Equation Model (SEM). Total number of variables in the model is 30, number of observed variables 12, number of unobserved variables 18. The data has no missing values. The model is over-identified, a preferable situation for SEM. According to the univariate and multivariate normality tests the data is not normally distributed. After the data was normalized, the Maximum likelihood (ML) estimation method is used. ML attempts to maximize the likelihood that obtained values of the criterion variable will be correctly predicted.

Model Fit

Based on Structure Equation Model using SPSS Amos 18 it is found that Chi-square(CMIN) = 45.158, Degree of freedom(DF) = 44 and probability level is about 0.423 which is evidence against the null hypothesis is not significant at the 0.05 level. CMIN/DF is called as the minimum discrepancy which is 1.026 Wheaton et al (1977) suggested that if the minimum discrepancy is less than 5 the model is reasonable fit.

Findings

SPSS AmosGraphics has specified path-diagram in figure1 specifies the relationship between the observed variables and unobserved variable. The portion of the model that specifies how the unobserved variables are related to each other is called structural model. In this present structural model Mobile Marketing is the dependent variable and the four variables mobile advertisement, mobile sales promotions, mobile phone usability and mobile shopping are independent variable. The regression weights estimates provides the relative importance. The estimates with the largest value represent the most important dimension in terms of its influence on mobile marketing. The findings of the regression weights estimates are summarized in table 5. The research has revealed that mobile users attitude towards Mobile Marketing is more influenced by mobile advertisement (0.851) and mobile sales promotions (0.235) where as mobile Shopping (-0.558) and mobile phone usability (-0.230) have a negative impact.

Table 5: Regression weights between factors:

Factors		Factors	Estimate
Mobile_Marketing	←	Mobile_Phone_Usability	-0.230
Mobile_Marketing	←	Mobile_Shopping	-0.558
Mobile_Marketing	←	Mobile_sales_Promotions	0.235
Mobile_Marketing	←	Mobile_Advertisement	0.851

The impacts of different Indicator on their factors are specified below.

Table 6: Regression weights between factors and Items:

Items		Factors	Estimate
Ad_Time	<←	Mobile_Advertisement	0.56
Information	<←	Mobile_Advertisement	0.09
Acceptability	<←	Mobile_Advertisement	0.56
Entertainment	<←	Mobile_Phone_Usability	0.61
Technology	<←	Mobile_Phone_Usability	0.56
Usability	<←	Mobile_Phone_Usability	0.75
Easy to use	<←	Mobile_sales_Promotions	0.64
Pro_Location	<←	Mobile_sales_Promotions	0.50
Credibility	<←	Mobile_Shopping	0.60
Security	<←	Mobile_Shopping	0.62
Permission	<←	Mobile_Marketing	0.20
Personalized	<←	Mobile_Marketing	0.72

The correlations between the factors are specified in table7. There is high correlation between Mobile sales promotions – Mobile Shopping (0.79) and Mobile Phone Usability - Mobile Advertisement (0.79) and less correlation between Mobile advertisements – Mobile sale promotions (0.45).

Table 7: Correlation between factors:

Factors		Factors	Estimate
Mobile_Advertisement	<—>	Mobile_Phone_Usability	0.79
Mobile_Advertisement	<—>	Mobile_sales_Promotions	0.57
Mobile_Phone_Usability	<—>	Mobile_Shopping	0.48
Mobile_Advertisement	<—>	Mobile_Shopping	0.45
Mobile_Phone_Usability	<—>	Mobile_sales_Promotions	0.48
Mobile_sales_Promotions	<—>	Mobile_Shopping	0.79

Discussion

The study investigates factors that affect mobile user's attitude towards mobile marketing in India and also the relation between factors and indicators. The empirical data reveals that four factors are important for mobile marketing in India: mobile advertisement, mobile sales promotion, mobile shopping and mobile phone usability. Confirmatory second-order factor analysis supports the conceptualized model and reveals that mobile marketing as a second order factors, relates to mobile advertisement, mobile sale promotions, mobile shopping and mobile phone usability.

From the analysis it can be concluded Mobile Users attitude towards mobile marketing in India is more influenced by mobile advertisement (0.851). However, advertisement companies need to take care of advertisement delivery time, user acceptance of the format in which the advertisement is delivered and its content. Companies need to focus on personalizing the adverts based on the need and requirement of mobile users.

Mobileshopping (-0.558) is having negative effect on mobile marketing because in India there are credibility and security concerns. Companies need to to address these issues for mobile marketing to start looking up.

Mobile Mobile sales p (0.235) have weak positive effect on Indian Mobile user's attitude towards Marketing because of less location based promotions and Usability of Mobile Sale Promotions to be increased by the marketing companies.

Phone sability (-0.230) has a weak negative effect on mobile users attitude since majority believe that they do not have the required technology to support video buffering. The reason for this is India has one of the lowest average mobile connectivity speeds. Consequently, most of the mobile marketing communication is done through text messages only (SMS). Mobile phone is more personal today in terms of high usage for personal communication and entertainment. Mobile users do not want to use it for mobile marketing the users consider it to be a disturbance.

Mobile sales promotions (0.235) have weak positive effect on mobile marketing because of which more location based promotions and technology needs to be improved by the marketing companies.

Conclusion

This study used the Structured Equation model to understand the impacts of various factors affecting mobile user's attitude towards mobile marketing in India. At present there is a very little research available to investigate the factors influencing mobile marketing in India. The result of this research predicts that mobile users attitude towards mobile marketing is more influenced by mobile advertisement and sales promotions where as mobile shopping and mobile phone usability have a negative impact.

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Role of Micro Finance in Boosting Women Entrepreneurship: A Study on Gandhinagar District

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Abstract

Traditionally women were cornered in the four walls of house, serving the family and upbringing the children. Her innate talent was often unnoticed, as her abilities were never given a reasonable chance of display, in the organized set up of economic activities. She was always overburdened with domestic chores and unending family responsibilities. A woman turning into entrepreneur was considered as a taboo in the Indian society. In other words women were deprived of economic independence and social empowerment. Women are hard workers who have played a dynamic role in 'green revolution' by assisting counterparts in agriculture. The credit of 'white revolution' is crowned on women, who domesticated milking animals and offered subsistence to society. The two revolutions displayed engagement of crop farmers and milk farmers in traditional activities, for earning livelihood. Cooperative movement appreciated the labourious efforts of women. Self employment oriented entrepreneurial actions were boosted through the movement of microfinance. Literary experiences have disclosed that Self Help Group (SHGs) model has proved to be a success, to boost women entrepreneurship. This paper tries to explore the reasons of women turning entrepreneurs and the role of microfinance in assisting women to start micro enterprises. The paper also looks at the reasons of usage of borrowed funds from SHGs for other than business activity. The paper exclusively appraises the working mechanism of SHGs to support women entrepreneurs. The paper brings out the fact that young women are enthusiastic to be a part of SHG. Based on the level of education they carry out conventional and non-conventional business. Some women have borrowed money for servicing their consumption needs. In order to know the true usage of loan, SHGs are recommended to segregate the loan exclusively for business (productive) purpose and loans for unproductive purpose. Some of the members are found parsimonious who prefer savings mechanism through SHGs, here SHGs can differentiate this service from its core activity, of making women self employed.

Key Words *Women Entrepreneurship, Self Help Groups (SHGs), Microfinance, Women Empowerment, Common Brand*

Introduction

Ancient India believed that entrepreneurial initiatives are exclusive reservations for men. The male dominated societies considered women as an instrument of bearing and rearing children and show pieces to be kept at home. Customarily women were engaged in household activities and agriculture. Women were perceived to be centerpiece of house with negligible contribution in economy and commerce. In such myopic ideology women were not allowed to be self independent in terms of finance and personal position. Cooperative movement truly recognized the endeavor of women. Rural women started becoming financially strong by significantly contributing to the 'the white and the green revolution'. The perception of self employment got momentum through microfinance mechanism, which boosted the morale of women to engage in entrepreneurial activity without neglecting their family responsibilities. Today's domestic engineer- the women has proved herself by breaking the age old glass ceiling syndrome. It is known that more than 94 percent of women are in the unorganized sector, contributing to the Indian economy (SEWA, n.d.).

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Microfinance (MF) refers to small scale financial services (primarily credit and savings) provided to people who engage in farming, fishing and operate micro-enterprise to gain subsistence income from these activities and subsequently support the rural economy. MF help low income people to reduce risk, improve business management, raise productivity, obtain higher returns on investments, increase their incomes and thus increase their quality of lives (Vonderlack *et al* as referred by Rena, 2008). According to government of India, woman entrepreneur is defined as, “an enterprise owned and controlled by a woman and having a minimum financial interest of 51 percent of the capital and giving at least 51 percent of the employment generated in the enterprise to women” (Singh and Sidhu, 2007). Microfinance holds a special credit of accelerating women entrepreneurship especially in rural areas. The forthcoming point examines the literary work on women entrepreneurship.

Literature Review and Need for Research

Women contribute to the building of home and nation. They are treated as counterparts of men in sharing the family responsibilities. To provide them equity in development process they need to be provided fair chance in education and training (Makar and Kalita, 2008). Factors like socio economic variables, financial stability and family support differentiates a non-profit and for-profit women entrepreneurship. The women entrepreneurs supported by non-government organizations (NGOs) are ideologist, and women running business for-profit purpose are professionals (Handy, Ranade and Kassam, 2007). Tamilmani’s (2009) study revealed that Dindigul district’s women entrepreneur belonged to the weaker section of the society who became active traders with the support of SHGs and upgraded themselves economically as well as socially. Easwaran’s (as referred by Tamilmani, 2009) study explained that women of Madurai district were motivated to be entrepreneur for the reasons like self employment, trained in particular activity, to earn money and run the family business. Manimegalai and Rajeswari (as referred by Tamilmani, 2009) highlighted the problems of women entrepreneurs of Trichy district like shortage of capital, non-availability of quality raw material and marketing problems. Mukherjee’s (2009) study too expressed the consensus on the problems of women entrepreneur. Joshi (2009) opined that women entrepreneurs were engaged in small enterprises which started with an initial meager capital of ‘20,000 or less. A striking fact was found that some of the entrepreneurially qualified women of Sikkim state entered male dominated businesses. MF helps in pursuing economic goals, enterprise development and supports the livelihoods of poor women. MF helps the women to reduce vulnerability and expand business (Rena, 2008).

Various researchers have examined that women of Northern India constitute to be a part of communities which are traditionally in business like leather, garments, engineering goods etc. Women in Southern India run micro enterprise like pickles making, bakery, handicraft, food processing unit etc. In states like Gujarat, Maharashtra and Karnataka women entrepreneurs either belong to business families or have service background. Government has played a catalytic role in providing training and other facilities to rural women entrepreneurs (Ghosh and Cheruvalath, 2006). Basargekar’s (2007) study pointed to the challenges faced by women entrepreneurs. Major set of barriers which forbid the women to become entrepreneurs where gender discrimination, fragmented education, socio-cultural barriers, psychological barriers, financial constraints, lack of access to technology, marketing facilities and managerial constraints. The study had also put forth the negative drivers which boosted entrepreneurial spirit in women viz., paucity of job opportunities in organized sector and pressure of handling dual responsibility of domestic work and career etc. Collective selling, common brand and group entrepreneurship concepts are adopted to sell the products of rural women. Popular organization working for collective selling is Marketing Organization of Women Entrepreneurs (MOOWES), Gramin Shilpa Mela organized by Consortium of Women Entrepreneurs in India (CWEI) and Self Employed Women’s Association’s (SEWA) Vendor Cooperatives, its Banaskantha Artisan’s Cooperatives, Kutch Artisan Cooperatives and “Ruddi Bazaar” (Basargekar, 2007).

A study by Rani and Rao (2007) concluded that women entrepreneurs contribute to diversity of economic activity, she supplements family income and shoulders responsibility by improving the living and economic

standard. Exploratory case based study by Jothilakshmi, Krishnaraj and Sudeepkumar (2011) explained that the SHGs should necessarily organize training for women to uplift their knowledge, production level and skill set. Rai and Srivastava (2011) made a notable remark at dormant role of women entrepreneurs in Varanasi district. The study of Mukherjee (2010) profiled the urban women entrepreneurs. The study highlighted young first generation women entrepreneurs who ventures in conventional and unconventional businesses to support their family's earnings. Study by Shiralashetti (2010) explained the linkage of SHG members (women entrepreneurs) and their empowerment. Study revealed that women of Bijapur district joined SHG to avail loan for business purpose and were empowered to take family decision. Patgaonkar (2010) brought out the common hindrances faced by women entrepreneurs of Ahmednagar district. Research concluded with a description that women entrepreneurs did not have former business or industrial background; she preferred sole proprietorship as the best option. Women were determined to achieve success despite multiple social handicaps and favoured clean business ethics (Dhameja, Bhatia and Saini, 2007). Educated women entrepreneurs were more informed on the marketing aspects and labour problems. Women should be trained before she ventures in the business (Singh, Dhillon and Sidhu, 2007). Highly educated, technically sound and professionally qualified women should be encouraged for managing their own business, rather than dependening on wage employment outlets (Goyal and Parkash, 2011). On the borrowed money if husband/head of the family share a full or partial control then very purpose of women empowerment through microfinance works out to be a weak model (Basu, n.d.). Providing training to women entrepreneurs in the realm of marketing and production will ameliorate her socio-economic and business status (Padala and Suryanarayana, n.d.).

From the above literary work one may segregate the study on women entrepreneurship in two parts. First set of researchers have focused on problems and prospects faced by the women entrepreneurs in different region. Case based researchers have expressed the necessity of area specific training. None of the study was explored to understand the factors that either encouraged or discouraged women entrepreneurship in Gandhinagar district. Based on this apparent need the present study was conducted.

Research Objectives

1. To study the factors influencing the women to become an entrepreneur.
2. To evaluate the role of microfinance in assisting women in starting micro enterprises.
3. To explore the reasons of usage of borrowed funds from Self Help Group (SHGs) for other than business activity.
4. To appraise the working mechanism of SHGs to support women entrepreneurs.

Research Hypothesis

It was believed that education is the key factor in determining entrepreneurial activity. Based on the level of education and her personal capacity women undertook the entrepreneurial activity in specific sector. A hypothesis (*first*) was framed to test whether there is any association between education and sector of business. It is a common conception that generation of additional income leads to satisfaction of all economic needs. A hypothesis (*second*) was framed to know if respondents with different level of business income were indifferent in terms of benefits generated due to additional income. A hypothesis (*third*) was framed to know if at least 50 per cent of the respondents were satisfied with respect to the support provided by SHGs. A hypothesis (*fourth*) was framed in order to identify if leaders of SHGs and members of SHGs share a common score on the assistance provided by SHGs to members. First three hypotheses are examined in Section-II (Analysis of women entrepreneurs) and the fourth hypothesis is evaluated in Section-IV (Analysis of SHG leaders).

Research Methodology

The study on demand side is based upon the descriptive research design to examine the factors influencing the women to become an entrepreneur and explore how a woman uses the microfinance funds. The sampling area consisted of four talukas namely Gandhinagar, Kalol, Mansa and Dahegam. Based on the guidance of district consultant, Ms. Kamla Shrimali eight villages of four talukas were selected. Here, non-probability judgemental technique and partially convenience of researcher was kept into account for short-listing the eight villages. From the selected eight villages aganwadi workers were contacted who gave the details of SHG leaders. SHG leaders gave the reference of SHG members. Snowball sampling technique was used to contact all the SHG members. Total 120¹ SHG members were contacted for the survey. The details of the villages and members of SHGs chosen for survey are mentioned in the table 1.

Table 1 Detail of Sampling Area and Sampling Element of Four Taluka

Gandhinagar		Kalol		Mansa		Dahegam	
Villages	No. of Members	Villages	No. of Members	Villages	No. of Members	Villages	No. of Members
Sonarda	16	Borisana	15	Aajol	23	Nadol	6
Randheja	20	Nardipur	17	Manekpur	19	Sanoda	4

(Source: Author's Compilation)

The household in the villages are referred as sampling unit and the women staying in the house, who is a member of SHG was chosen as sampling element i.e. respondent of the research. The method of primary data collection was done by using a Questionnaire. Students of Shri Jairambhai Patel Institute of Business Management and Computer Applications, Gandhinagar helped the researcher in the field work. These students were explicated the objectives of research and were educated for data collection. Secondary data were collected from various newspapers, internet, magazines, books and journals. They collected primary data through questionnaire by personally meeting the women. Considering the diverse literacy level of women, before data collection the questions were explained in local dialect and to ensure precision, the responses were duly filled by the researcher in the questionnaire. The entire survey was conducted from 10th January to 10th April, 2011. The questionnaire was divided mainly into three parts. These include information on demographic data of women, women who turned entrepreneurs herself or with the support of husband and women who did not turn as entrepreneurs. On supply side, non probability based convenience sampling technique was adopted for undertaking the survey of 20 SHG leaders from the chosen eight villages. Survey was executed to understand the operating mechanism of SHGs and the ways in which it assisted women in turning as entrepreneurs.

Different statistical packages were applied for data analysis like Excel sheets and SPSS 19.0. Data analysis was done through frequency distribution and descriptive statistics like mean, median, mode, standard deviation, frequency tabulation, percentage, weighted average mean (WAM), weighted score ranking and Garrett ranking were used for analysis. Nonparametric tests like Kruskal Wallis test, Binomial test, Fisher's Exact test and Mann Whitney U test were applied for analysis. The non parametric test was applied as women who started the enterprise either herself or with the support of husband were 78, women who did not venture into enterprise start up were 42 and the SHG leaders were just 20.

¹ Sample size of 120 is chosen using the formula $n = Z^2 * p * q / e^2$, i.e. $(1.96)^2 * (0.5) (0.5) / (0.09)^2$, where Z= value under normal curve, e = desired level of precision, p = Estimated proportion of an attribute that is present in the population and q = 1-p.

Findings and Discussion

The findings are divided into four sections. Section I represents the general analysis in table 2. Section II represents the analysis of women who turned entrepreneurs, Section III highlights the analysis of women who did not venture in entrepreneurship and Section IV narrates the analysis of SHG leaders.

Section I- General Analysis

Table 2 Details of General Analysis

Parameters	Observed Statistics in the Research	Implication
Member's Gender	All 120 respondents (i.e. 100 percent) were female.	Single gender presence of women respondent indicates the role of microfinance movement in boosting women's career. It proves that microfinance movement is credited with exclusivity for women entrepreneurship and women empowerment.
Age	Mean and mode age of respondents was 35 years. Junior most women respondent was of 20 years and the senior most respondent was of 59 years.	Maximum numbers of women respondents were of 35 years of age which indicates that young women were enthusiastic in joining SHGs. Joining SHGs will provide the option of becoming self employed as well as execute savings for future needs of the family.
Education	8 percent women respondents were illiterate, 75 percent women studied not above SSC and only 17 percent women pursued education up to SSC.	Ancient fact that rural women are illiterate still holds true in the present. Still women are devoid of the preliminary education. Low pinnacle of education (i.e. not even up to SSC) describes the myopic view of Indian rural families in educating women as well as her narrowed personal interest or may be the unfavourable circumstances keeping women away from books and bags routine. Out of own zeal and dedicated efforts rural women tried to complete the elementary level (i.e. up to SSC) of education.
Marital Status	91 percent women were married, 2 percent were spinster, 6 percent were widow and 1 percent was divorcee.	Large number of women respondents is found to be married. Indian culture recommends the tradition of tying knots i.e. marriage, which is densely practiced in villages. Lower divorce rate in village reflects women clinching in family after the wedding. Permitting women to join SHGs reflects that aspirations of women are valued and supported by families of rural India.

Parameters	Observed Statistics in the Research			Implication
Total yearly income	Mean income was found to be '68,175. Vast range was depicted in terms of minimum income of '15,000 and maximum of '2,50,000.			The meager mean income reflects the need of generating additional income to support decent living. The income was highly skewed with a standard deviation of '41,955. The variation in income may be attributed to the differentiated occupation taken up by the members in the family. Statistical mode of '60,000 indicated the maximum family's yearly total income. Lower level of income was a major cause for availing membership in SHG to benefit from the microfinance facility. Lower income might have motivated women to be self-employed and financially nurture the family.
Attractive Feature to Become the Member of SHG based on Weighted Score Ranking				
Statement	Weighted Score	% Rating	Rank	Implication
One can easily save	339	47.08	1	SHG member avail the benefit of petty savings which are like piggy banks as it offers any time money to rural women to serve the financial needs.
One can easily take a loan to start new business	261	36.25	2	Start up capital is a considered as an easy help for infant business but a difficult task to avail from sophisticated financiers. SHG members can avail startup capital in the absence of collateral security. Collateral free funding attracts rural women to become members of SHGs.
One can easily avail the benefits of insurance	120	16.67	3	Insurance is a cover against the eccentric events. A SHG member receives the coverage against risk and uncertainties which provides them a relief against the uncontrollable circumstances.
Engagement in Economic Activity				
Number of Women	Involvement in Economic Activity			Implication
10	Solely involved in the entrepreneurial activity			It reflects the exclusive entrepreneurial spirit in women.
68	Took the support of husband or head of the family (HOF)			These women entrepreneurs needed backing. Supplementary support of husband or HOF played a foremost role for women to venture in the business.
42	Dormant in entrepreneurial initiative			These women kept arm's length from involvement in economic activity may be due to huge family responsibility or lower personal interest in business or counterpart does not wish any interference in the business run by him.

(Source: Author's Compilation)

Section II- Analysis of Women Entrepreneurs

Total 78, women who turned as entrepreneurs either solely or with the support of the HOF were asked to rank the statements depicting the basic motivation to start the business. The most important statement was given 1st rank and the least important was given 6th rank. The mean scores were obtained using Garrett formula.

Table 3 Garrett Ranking on Basic Motivation to Start the Business

Statement	Total Garrett Score	Mean Scores	Garrett Rank
To earn money	5374	68.90	1
To shoulder, support and fulfill family’s responsibilities and needs	5086	65.21	2
Do not like to sit idle	4361	55.91	3
It is my passion	3380	43.33	4
To make money out of creativity	3003	38.50	5
To take it as a challenge and show people who made mockery	2040	26.15	6

(Source: Author’s Computation)

From the above table it may be inferred that money is the biggest motivator to start the business and ego to show people who made mockery is the smallest and the last cause to start own enterprise.

In order to check the association between education and sector of business a Fisher’s Exact Test was applied. The null hypothesis is set as follows:

(1) H0: There is no association between education and sector of business.

H1: There is an association between education and sector of business.

Table 4 Test Statistics for Fishers Exact Test

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	At 95% level of confidence~ Decision Rule
Pearson Chi-Square	13.48	1	0.00		
Fisher’s Exact Test				0.00	P<0.05, Reject Ho

(Source: Author’s Computation)

From the table 4 it can be learnt that there is an association between education and sector of business. Majority (40) of the women whose education is less than or up to SSC is primarily engaged in animal husbandry and agricultural activity. 27 women (education less than or up to SSC) were engaged in tiny businesses like tailoring, handy-craft, beauty-parlour, agarbati making, chula, khakhra and papad making. None of the educated (above SSC) women ventured into traditional business. Educated women (11) diversified into small provision store, katleri store, dairy parlour, canteen, seasonal business, saree business and photocopying business. Higher level of education provided them an understanding on accounting and record keeping.

A multiple choice question was asked to know the struggles faced before starting the enterprise. The positive response towards the struggle were financial problem (59 percent), lack of market knowledge (11 percent), problem of marketing the product (10 percent), lack of confidence (10 percent), lower level of education

(4 percent), lack of training and skills (3 percent) and opposition from husband (2 percent) and lack of family support (1 percent). A multiple choice question on source of funds was asked to the respondents to identify the most important borrowing source. The responses revealed that 92 percent borrowings was from SHGs, 4 percent borrowings was from banks under government approved schemes, 2 percent reverted to unsecured means of finance i.e. relatives, 1 percent each borrowed from conventional moneylenders and relied on family funds. It can be learnt that source of external borrowings are more compared to internal management of funds. SHGs are more preferred option over all the sources of finance.

Mode of ₹10,000 indicated the maximum borrowings by the respondents. A higher standard deviation of ₹23,236.19 showed that income is highly skewed and quite dispersed from the average income of ₹22,875. This represents differentiated needs of finance. SHGs have been instrumental in lending an amount as low as ₹2,000 and as high as ₹1,50,000 depending on the yearly income of the family and creditworthiness of the borrowers. Different SHGs discriminated on lending rate in the range of 6 percent to 24 percent based on the duration of loan (minimum of 2 months to maximum of 48 months) and amount borrowed. In the qualitative discussion it was noticed that respondents have been prompt enough to make either partial or full payment of the borrowed amount in the form of equated monthly installments (EMIs) with a minimum amount of ₹200 to maximum amount of ₹8,000.

Respondents who have borrowed money to venture into business earn different amount of yearly income. It is commonly believed that add-on (extra) income may help the respondent to be financially empowered. Kruskal Wallis test was applied to know if respondents were indifferent to the effect of generating additional income.

(2) H0: Respondents with different level of business income do not differ significantly in terms of benefits generated due to additional income.

H1: Respondents with different level of business income differ significantly in terms of benefits generated due to additional income.

Table 5 Test Statistic for Kruskal Wallis Test

Statement	Chi-Square	df	Asymp. Sig. (2-Sided)	Statement	Chi-Square	df	Asymp. Sig. (2-Sided)
Self Independence	3.105	3	0.376	Financial Support	6.291	3	0.098
Children's Education	9.561	3	0.023	Recognition	6.291	3	0.098
Petty Cash	3.105	3	0.376	Poverty Alleviation	4.931	3	0.177
Family Status	3.105	3	0.376	Children's Higher Education	12.21	3	0.007
Improved Creditworthiness	3.105	3	0.376	Debt Clearance	6.729	3	0.081
Improved living Standard	6.291	3	0.098	At 95% level of confidence, if $p < 0.05$, Reject H_0 , if $p > 0.05$, do not reject H_0 .			

(Source: Author's Computation)

From the above it may be inferred that in majority of the statements the $p > 0.05$, which means that respondents with different level of business income are indifferent to the qualitative benefits generated due to additional income. Respondents differ significantly in terms of quantitative (measurable) aspects of funding children's primary education and higher education. It means respondents with higher income (generated from

additional activity i.e. business) are in a better of position to meet the ever escalating education expense of children. Some of the respondents despite venturing in the business have not been able to satisfactorily meet the education expense of their children; they still struggle to provide good education. The basic reason for lacunae may be attributed to either low turnover of their business or huge family size or higher tutoring cost.

A multiple choice dichotomous question on empowerment was asked to the respondents. Women agreed to the fact that, after joining SHGs they have become more confident (20 percent), extrovert (20 percent) and powerful to face challenge (20 percent). 20 percent each, women expressed that after joining SHGs they have been independent decision maker and are participative in family’s decision. A dichotomous question was asked to know the satisfaction level for support received from SHG.

(3) H0: The proportion of satisfaction level for support received from SHG is 0.50 i.e. (p=0.50)

H1: The proportion of satisfaction level for support received from SHG is more than 0.50 i.e. (p>0.50)

Table 6 Test Statistic for Binomial Test

Asymp. Sig. (1-tailed)	N	Observed Prop.	Test Prop.	
Satisfied	77	0.99	0.5	0.00<0.05, Reject Ho
Unsatisfied	1	0.01		
Total	78	1		

Based on Z approximation (Source: Author’s Computation)

From the above table it may be inferred that 77 respondents are satisfied with the support provided by SHGs only one respondent is not satisfied at the effort of SHGs. Satisfied respondents appreciated the work of SHGs.

Section III- Analysis of Women Non-Entrepreneurs

In the survey it was found that 42 women personally did not venture into entrepreneurship. It was known that out of 42 women, 37 women borrowed money from SHG. 5 women who were member of SHG did not borrow any amount but joined SHG for making savings. A question was probed to know whether the husband or HOF used the borrowed money, for this, women replied positively. There was an inquisitiveness to associate the usage of borrowed funds with the occupation of the HOF, therefore, the details pertaining to occupation (of HOF) were asked. It was noticed that 5 HOF were involved in agriculture, 14 in business and 23 in other activities like tailoring, rickshaw driver, government job, private job, salesman, agent, daily wager etc.

It was learnt that HOF used the borrowed money for different purposes like to run their business (21 percent), to fulfill family’s need (41 percent), to service emergency needs (14 percent), for other social reasons (10 percent), to repay old debt (2 percent), usage of borrowed funds was not applicable option (12 percent) for those who joined SHG for undertaking only savings. In order to capture the problems associated with starting the enterprise an open ended question was asked. The qualitative information brought out the reasons for not starting the venture like they were either burdened with family responsibilities, or busy in bringing up the children, or they themselves were working as ‘aganwadi’ workers, or helping the husband in agriculture or his business, or ignorant on the fact of how to set up and run the enterprise, or loan amount was insufficient to commence the venture, or considered themselves too old to take up the entrepreneurial initiative. Some of the findings are in tandem with the literary work of Basargekar (2007) and Mukherjee (2009). To check the zeal for starting new enterprise a filter question was asked that if the professional problems associated with set up and running the enterprise are solved by SHG then would they be ready to venture in business. Only 14 percent women exhibited entrepreneurial zeal to start the enterprise if the problems were solved. These women suggested that SHGs should impart marketing training, tie up for bulk purchase and provide ample amount of loan per

group to start the business. 86percent women exhibited very low entrepreneurial initiative; they were redundant to start the enterprise, even if the start up problems were removed.

Section IV- Analysis of SHG Leaders

On the supply side 20 SHG leaders were surveyed for comprehending the ways in which SHG helped the members. All the members of SHG were women, indicating exclusive role of SHGs in empowering single gender. Different SHGs have different portfolio size. As on 31st March, 2011 the minimum portfolio size was of '10,000 and maximum was '1,50,000, describing the diverse set of businesses financed by the SHGs. SHGs borrowed from banks to finance the members. Minimum number of members in one SHG was 10 and maximum was 17. SHGs financed varied set of conventional business (animal husbandry and khakhra-papad making) and non-conventional business (provision store, milk parlour, potato chips making, pan parlour, spices, tailoring, saree selling and handwork).

It was learnt that SHGs provided loan principally for self employment purpose and subsequently for fulfillment of emergency needs. The most crucial criteria of choosing member were analyzed through WAM. The most important criteria were honesty of person (9.67), followed by active involvement in existing economic activity (6.17) and entrepreneurial skills of person (3.83). SHGs collect monthly contribution from members for enlarging their fund base. Maximum members on monthly basis contributed '50 to SHGs, which is in the reach of every member. SHGs sanction loan to the members as per the requirement of members, which reflects a customized approach. SHGs charged 1 percent, 1.5 percent and maximum of 2 percent rate of interest from its members, this indicates a discriminatory policy of SHGs.

Members and leaders of SHGs were asked to rate their opinion on a three point likert scale of agree to disagree, on the help received and provided by the SHGs respectively. The 12 statements based on likert scale were assumed to be ordinal in nature. The conventional business can run easily only if financial help is provided, but for non-conventional businesses apart from finance, assistance is required in terms of training, purchase of product, tie up with large buyers etc. The set of 12 statements can be divided into two parts viz., 6 statements comprising of personal factors like improvement in social status, solution of social problems, independence, empowerment, rising self confidence and increase in moral support; it was found that member as well as leaders positively agreed on these set of factors. Thus, SHGs helped the members in high scale personal achievement. The balance 6 statements were treated in the category of professional factors. Out of 78 entrepreneurs, 34 entrepreneurs who were engaged in non-conventional businesses were selected for administering the Mann Whitney U test (with respect to professional factors) to understand the significance of help provided by SHGs.

(4) H0: The leaders of SHG and members of SHG do not differ significantly in the scores of help provided by SHG to members.

H1: The leaders of SHG and members of SHG differ significantly in the scores of help provided by SHG to members.

Table 7 Test Statistic for Mann-Whitney U Test

	Training	Product Purchase	Tie with large buyers	Raw Material Sourcing	Solution of technical problems	Market Research
Mann-Whitney U	330	340	330	330	340	340
Wilcoxon W	540	550	540	540	550	550
Z	-0.767	0	-0.767	-0.767	0	0
Asymp. Sig. (2-tailed)	0.443	1.000	0.443	0.443	1.000	1.000

(Source: Author’s Computation)

At 95% level of confidence the p-values for all factors is greater than 0.05, which means that Ho is not rejected. SHGs and members disagreed on providing of the add-on professional assistance, required to boost the business. Thus, one can infer that SHGs contributed immensely in the personal development of members but its contribution is insufficient in professional development of members.

To make members more participative, accountable and responsible some of the SHGs have collected fines for late payment of saving, late payment of loan installment and non attendance in meeting. The fine amount collected is `2, `5 and `10, depending upon non compliance of the rule. The fine amount differs from SHGs to SHGs.

Conclusion and Recommendations

The empirical research highlights that microfinance supports the women of Gandhinagar district in entrepreneurial activity. Personal demographic characteristics of women members represented vast variation in age limit, education level and marital status. Lower level of family income necessitated women to be self employed and earn money. Principal reasons cited by women members to join SHGs were petty savings, availing start up capital and safeguard against risk. Women entrepreneurs ran the tiny business either herself or took support from husband of HOF. Some of the women members were just representative in entrepreneurial initiative of their counterparts. It was observed that such women merely joined SHGs to avail funds to either support the business initiative carried out by their family member or use the money for unproductive purpose. Preliminary educated women were empowered to venture in soft labour intensive business like provision store, saree business etc when compared to hard labour intensive business carried by less educated women. It can be concluded that business income was adequate to serve the personal needs but it was inadequate to finance the cost of higher education. Majority of the women members acknowledged the all time support provided by SHGs. SHGs vigorously contributed in the personal development of the women members. It was noticed that a strong need was felt to provide market intelligence and business development service to women entrepreneurs. Thus, microfinance positively contributed in the development of women.

As per the statistic of 2012 India’s population is 1.22 billion out of which 591.4 million are women (Population of India, n.d.). As per the data of 2011 total population of Gujarat is 60,383, 628 of which women is 28,901,346 (Population of India, n.d.). Women sector occupies nearly 45percent of the Indian population (Goyal and Parkash, 2011). Women are multitalented personalities; she does possess business acumen and a natural ability to face hardships. Her creativity should be given right platform and a fair chance. Women entrepreneurs can equally contribute in the development of our country.

Standardized approach should be adopted for sanctioning the loan. Proper credit appraisal system should be adopted. Common guidelines should be set for charging a standard rate of interest from members, irrespective

of the location of SHGs and members. SHGs must provide training, marketing intelligence support, tie up with larger buyers, strategic alliance for purchase of raw material etc., so that members can be provided professional assistance to succeed in their business. Personal loan, a new variant can be added in microfinance, which serves the consumption and emergency need of the borrower. Demarcation of personal loan and business loan will help to cease the misuse of loan given for entrepreneurial purpose being secretly used for consumption purpose.

Limitations

The present research is restricted to Gandhinagar district only. A comparison with other district would give better idea on the entrepreneurial initiative by women across the districts. A large sample size would give broader perspective of analysis. A comparative research can be made between women who borrow money and start their own enterprise and women who borrow money but use it for consumption purpose. Such comparative analysis would reveal the problems and prospects faced by the women entrepreneurs and hindrances faced by non-entrepreneurs.

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Achieving Competitive Advantage through the implementation of Six Sigma DMAIC Process in Service Sector in India

Y. Ramakrishna*

Abstract

Six Sigma, the buzz word of early 2000s in India and the world, shook corporate world by storm. It has brought dramatic changes in the strategic thinking of corporate managers towards competition. It's a philosophy of bringing continuous improvements in products, processes and services of an organization. The evolution of six sigma can be attributed to the fundamental principles of Quality Management and Systems thinking. Though the concept was more predominant in manufacturing sector, it gained its importance in service sector too. But, the contribution of six sigma concept was fairly less in service sector when compared with the manufacturing sector. Numerous reasons can be attributed to this. Some of them are lack of awareness among managers about six sigma applications in service sector, the intangibility factor of services, perception of six sigma as a manufacturing tool by the managers etc. But in practice, six sigma process can be applied equally well to all the service organizations also. The process of gaining competitive advantage through the application of Six Sigma DMAIC process is attempted here.

Key Words: Six Sigma, Quality Management, Systems thinking, DMAIC

Introduction

Every business needs to improve continuously by adopting new strategies, practicing and implementing new techniques, interacting and adapting to the environmental changes and updating the existing processes and systems of the organization. Improvement can be through better design of goods and services, reduction of manufacturing defects and service errors, reduction of wastage and lead times, more streamlines and efficient operations, faster customer response, better employee skills and so on. The only reason why a company like Wal-Mart stands in number one position in retail sector continuously for several years is because of the efforts towards improvement and successful implementation of plans.

The prerequisite for any business improvement is a systematic approach towards executing all plans perfectly with a systems thinking process which will enable the integration of all functions, all employees and strategies. The foundation for Six Sigma started with these prerequisites.

Literature Review - Six Sigma DMAIC approach

Companies can achieve competitive advantage through the implementation of Six Sigma. Several studies were conducted on how this is achieved. Competitive advantage can be achieved by the implementation of DMAIC and DFSS (Design for Six Sigma), powerful approaches to designing products, processes and services in a cost-effective and simple manner to meet the needs and expectations of the customer while driving down quality costs (Jiju Antony, 2002). James R. Evans and William M. Lindsay (2005) describe Six Sigma as a business process improvement approach that seeks to find and eliminate causes of defects and errors, reduce cycle times and cost of operations, improve productivity, better meet customer expectations, and achieve higher asset utilization and returns on investment in manufacturing and service processes. The statistical basis of Six Sigma represents a quality level of at most 3.4 defects per million opportunities. A six sigma quality level

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corresponds to a process variation equal to half of the design tolerance while allowing the mean to shift as much as 1.5 standard deviations from the target. The approach is based on a simple problem solving and process improvement methodology known as DMAIC. It stands for, Define, Measure, Analyze, Improve and Control

Many companies across the world have successfully implemented the above approach in manufacturing sector, but we find very few companies which have tried this approach in service sector. Literature review provides successful frameworks and their implementation. Sameer Kumar (2008) studied the process of credit initiation in financial services operations and suggested improvements using the DMAIC approach. Success Factors of Six Sigma in financial services industry were developed for continuous process improvement efforts (Diana Heckl, 2010). Personal burnout / stress and dissatisfaction from salary were found to be the vital few variables in the high turnover problem of doctors in medical emergency services and paramedic backup (Mehmet Tolga Taner, 2008). The DMAIC methodology was implemented successfully in academics. A three-tier framework to organize the six sigma improvement methodology and related academic performance indicators into a hierarchy fitting academic institution governance levels was proposed and tested empirically (Lawrence O. Jenicke, 2008). 12 key factors were identified in the six-sigma method to renovate library and information services with an emphasis on the information acquisition process (Yong Kim, 2009). Optimal resource utilization, reduction in the redundancies, waste and rework, diminishing the bottle-necks related to scheduling, improvement in the working conditions for health care personnel, increased patient and physician satisfaction as well as cost savings have been achieved in healthcare system using DMAIC methodology (Mehmet Tolga Taner, 2007). Improvement and streamlining the communication and information system within an infrastructure support service company with focus on transactional environment was achieved with the implementation of six sigma (Jiju Antony et al. 2012). Common myths on six sigma like, it is all about statistics, it is only for manufacturing companies, it works only in large organizations, it is same as TQM, it requires strong infrastructure and massive training and it is not cost-effective were studied and found to be insignificant (Maneesh Kumar and Jiju Antony, 2008). A pilot study was conducted to compare the characteristics of six sigma implementation in manufacturing sector versus service sector and the metrics used by the software businesses were measured (Jiju Antony and Craig Fergusson, 2004).

Service sector is, of late, increasing its contribution to the country's GDP when compared to manufacturing sector. The recent figures in the Annual Report of RBI (2009) indicate that the contribution of services industry is 62.6% and the growth rate in the workforce in services went up from 28% to 34%. Services sector enjoys the highest contribution in the GDP when compared to the other two major sectors, i.e., the manufacturing and agriculture sectors in India. Given these trends and the likely growth in service sector, it's very important for Indian companies to focus on Six Sigma in service industry too. Services Sector differs from manufacturing sector because of some of its unique characteristics like Intangibility, Perishability, Heterogeneity and Inseparability. These characteristics require the service sector to adapt varied Six Sigma DMAIC approach than that of manufacturing sector.

Research Methodology

The research is based on a conceptual study through literature survey. The five phases of DMAIC process were applied for service sector business activities. Each activity in DMAIC is considered separately for applying it to the service sector and a framework is developed by the author for implementation. The underlying assumption in the study was that all service sector companies were considered to be having almost similar characteristics with reference to their business processes.

Data Analysis - Application of DMAIC in Service Sector

Implementation of Six Sigma in a service sector company begins with Process Improvement (Rodney McAdam et al 2009). It is a structured problem – solving and process improvement technique of Six Sigma. It

provides all employees with a common language and a set of tools to communicate with each other, particularly as members of teams in a service sector. Its major focus is on quality aspects. Unfortunately, the term quality is more understood in manufacturing sector than in service sector. This is because, it's difficult to set benchmarks for quality in service sector and also because quality is highly relative in services than in manufacturing. In services industry, customer is vital at every stage of Six Sigma. The 'voice of customer' has to be an integral part of services design. A fundamental aspect of Six Sigma methodology is identification of *critical to quality* (CTQ) characteristics that are vital to customer satisfaction. The DMAIC approach in this article is developed focusing on the CTQ characteristics in all its five phases. CTQ characteristics are all the activities which control the quality of service right from the service design to the service delivery phases.

DEFINE Phase

Unique characteristics of services make this phase of Six Sigma to be crucial and meticulous. Communication is very crucial for a service organization, unlike a manufacturing organization.

In this phase, a service organization has to *define* the following aspects of the service for competitive advantage:

- Objective of the service provided
- Target customer group
- Impact of the service to the target customer group
- Potential benefits to the target customer group
- Communication required for the target customer group

The framework developed by the author for Define phase is presented in Figure – 1.

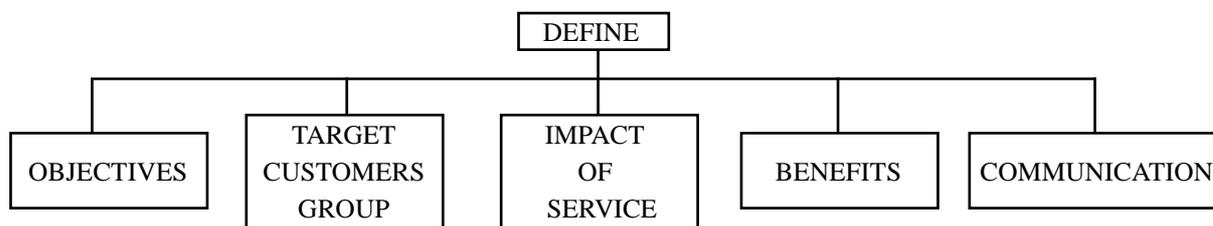


Figure-1: Define Phase

Service companies should define clearly their objective of service. This provides them clear vision and a path to reach the objectives. HDFC Bank¹ in India defines its objective as “building sound customer franchises across distinct businesses so as to be a preferred provider of banking services for target retail and wholesale customer segments, and to achieve a healthy growth in profitability, consistent with the Bank’s risk appetite. We are committed to do this while ensuring the highest levels of ethical standards, professional integrity, corporate governance and regulatory compliance.”

Keeping the objective in mind, the target customer group should be identified in their strategy. This ensures a competitive advantage for the company and allows the company to focus more on the targeted group. The next step is to identify the impact of services provided by the company on the focused target group. Here the need is to identify precisely the positive and negative impact of the service provided to the customers. Also, companies have to identify the value-added aspects of the service for a successful delivery of service. This enables the company to sharpen their strategies and minimizes their effort in all aspects of business and provides better results. Communicating with the customers is crucial for service companies (Peggy Athanassopoulou, 2002). A customer understands the service company only through the communication of the company and its employees, during the provision of service. Communication with the customer should be transparent, clear and

value-added. It should make the positive impact on the customer and should create a desire towards the service in the customer.

MEASURE Phase

Once the ‘define’ phase is completed, this is the second phase to gain the competitive advantage. Service (non-production) focused environments struggle with metrics identification as it is difficult to identify processes which can be measured in terms of defects per million and dealing with customer variability (Loay Sehwal, 2003). In this phase, the service organization has to focus on how to measure its internal processes that impact the Critical to Quality (CTQs) variables. Here the company needs to understand the linkage between process performance and customer value. It needs to identify its CTQ variables which directly and indirectly impact the service. The company has to determine how the current process is performing compared to the customer requirements. It should focus on how it can improve its present practices of measurement of *service design, service quality and service delivery*. The framework developed by the author is presented in Figure – 2.

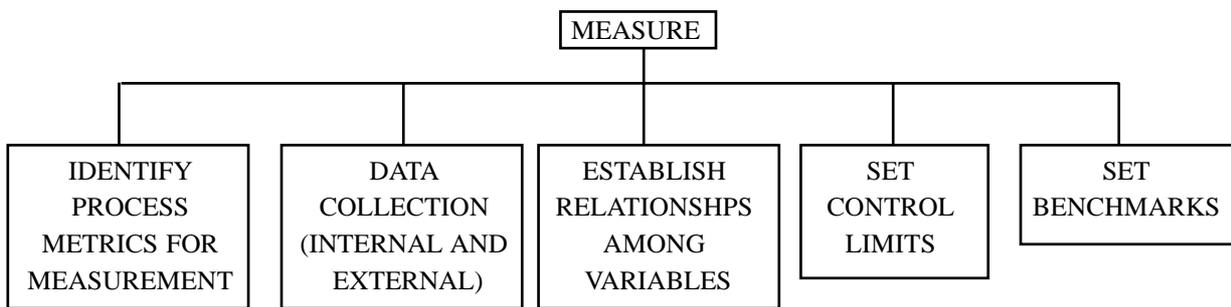


Figure – 2: Measure Phase

The *measure* phase should integrate with the Define phase and its CTQs. Service organization has to identify all customers of the system and determine their requirements and expectations. Data from all the stakeholders, both internal and external, has to be collected for arriving at answers to some of the critical questions which can provide solutions for improvement. Identification and establishment of relationships among the key variables which control the processes and are useful for measurement of outputs from the processes has to be done. Capability of service organization determines its upper and lower boundaries of service quality and acceptable variations in service. Finally, the organization has to compare and benchmark its measurements with the best companies available in the relevant sector and set the metrics to achieve the competitive advantage.

ANALYZE Phase

This phase of DMAIC refers to an examination of processes, facts, and data to gain an understanding of why problems occur and where opportunities for improvement exist. Service organization has to map its processes by preparing a Process Map and Value Stream Map. It has to *analyze* the processes using statistical techniques, identify sources of variations in the processes and modify them for improvement and enhancement. The framework developed by the author is presented in Figure – 3.

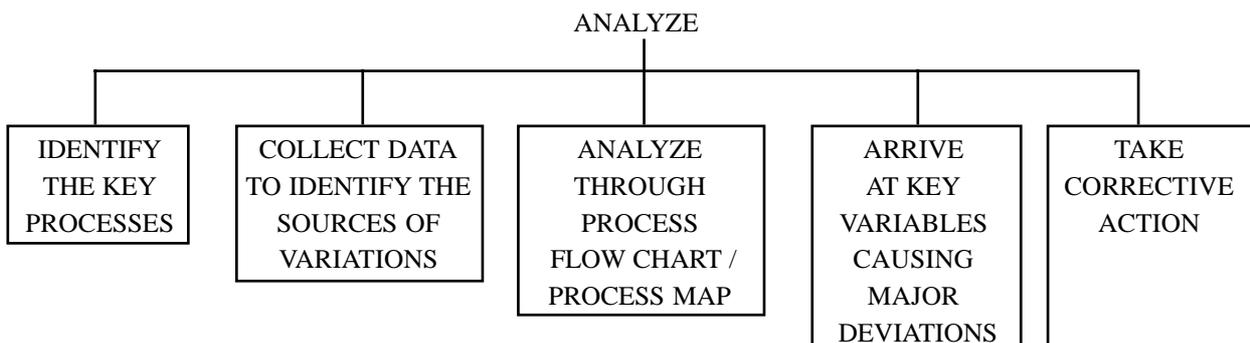


Figure – 3: Analyze Phase

Statistical techniques are very useful at this stage of Six Sigma for a service organization to gain the competitive advantage. The company can identify the key processes and the sources that cause variations in those processes. It can prepare a Flow diagram of its processes in the form of a Process Map or Value Stream Map and finally identify those major sources of variations. A corrective action has to be taken for rectifying the causes of errors.

IMPROVE Phase

This phase is a totally customer – focused one. The errors which cause customer dissatisfaction are identified in the Analyze phase. These errors become the inputs for improvement for the *Improve* phase. The service organization has to strive for process improvement through its creative efforts and transparent communication to all the stakeholders involved. Clearance of obstacles and bottlenecks for the effective performance of the processes is the objective of this phase. Factors like *intangibility, inseparability and perishability* play a significant role for a service organization in this phase of process improvement. As service activities are more intangible, and require the participation of customer, unlike in manufacturing, a systematic and creative effort is essential for this phase to be successful.

This philosophy of continuous improvement is called as ‘Kaizen’ by Japanese. Service organizations can also adopt Kaizen and gain the competitive advantage by enhancing all aspects of service processes. For any Kaizen to be successful, high flexibility, reduced cycle time and agility are the fundamental prerequisites. A service organization should be highly flexible in its operations and delivery to the customers. Reduced cycle time gives competitive advantage to the services. Today, customers expect service organizations to adhere to their promised delivery dates and quality oriented service delivery. *Who serves fast, gets the most number of customers.* This needs complete revamping of all the processes of the service and reduce the wastage and deviations in terms of time. In order to reach the customer first, total improvement in the processes is needed. Service organizations also need to be highly agile. A service organization which is highly flexible in its operations and can reduce its cycle times can easily be agile. Agility requires the organization to respond rapidly and flexible enough to change according the consumer demand. This requires a perfect understanding of consumer behavior and wants, creating a service quality consciousness among all the employees in the organization with clearly defined roles and their relationships. Often, service organizations lose the existing customers due to costly errors by human beings in service. The Japanese technique of Poke – Yoke (Mistake – Proofing) can be used by service organizations to reduce the mistakes using *prediction* and *detection* of mistakes in a planned manner. The framework developed by the author is presented in Figure – 4.

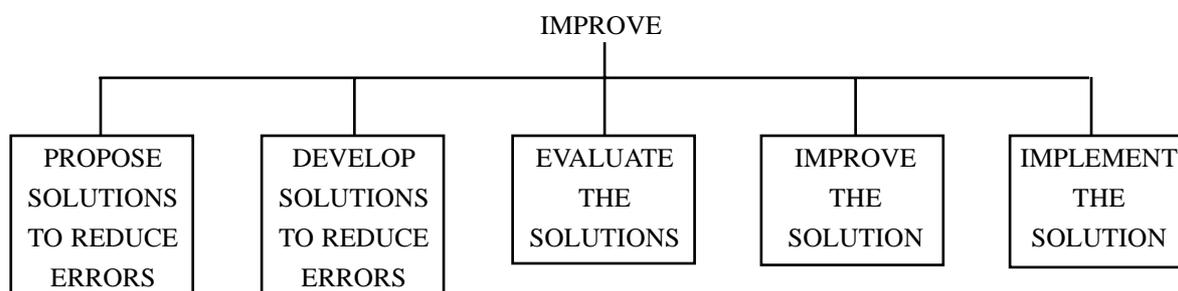


Figure – 4: Improve Phase

CONTROL Phase

This is the last phase of Six Sigma DMAIC approach for any service organization. Here, it should be seen that sustained efforts are in place for process improvements. A process improvement requires monitoring the process closely and continuously and observation of results from time to time to identify the deviations and again take the corrective actions.

Continuous process improvement is like always achieving a *state of equilibrium*, i.e. identification of sources of errors, designing mechanism to rectify the errors, taking corrective actions and bringing the processes back to stability.

The Control phase of DMAIC always tries to compare itself with the Define phase. The control phase ensures that the results obtained are always synchronized with the objectives defined in the Define phase. The framework developed by the author is presented in Figure – 5.

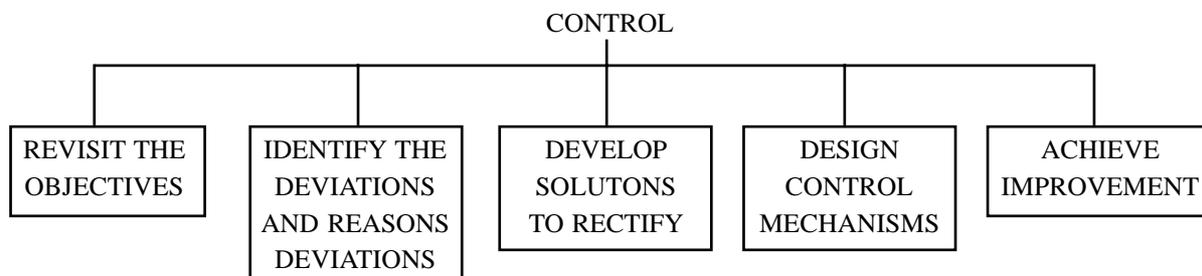


Figure – 5: Control Phase

A service organization can depend on audit mechanisms, documentation, statistical techniques like control charts and other diagrams to check for deviations and monitor them. The control phase is a crucial phase for the success of the Six Sigma process in the service organizations. Ultimate focus should be on the customer feedback and customer expectation. If a service organization can match with the customer perception, it can be assumed that its control mechanisms are in place and are working effectively.

Conclusion

In a journey to business excellence, an organization is successful if specific goals for critical processes of the organization are identified. It is predicted that six sigma will remain as one of the key initiatives for improving the process for many years into the future (Yahia Zare Mehrjerdi, 2011). Six Sigma DMAIC process for continuous improvement and performance enhancement has been a highly successful technique in manufacturing sector for gaining competitive advantage. But, its utility has not been fully recognized in the service sector in India. If service sector focuses on Six Sigma DMAIC process by recognizing the characteristics of services, it can completely achieve the competitive advantage. It has to define its objectives clearly, identify the metrics of measurement of service, analyze the sources of errors and deviations, and develop strategies to rectify the errors by improving the existing practices and device control mechanisms to achieve the stability and performance improvement. Finally, the service organizations can implement and execute the DMAIC process by keeping the customer in mind and matching the customer’s perceptions.

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Investors' Perceptions: A Study On Mutual Funds

B.Vishnu Kumar* and Kavith Loya**

Abstract

A mutual fund is a financial intermediary that pools the savings of investors for collective investment in a diversified portfolio of securities. A fund is “mutual” as all of its returns minus its expenses, are shared by the fund’s investors. A mutual fund serves as a link between the investor and the securities market by mobilizing savings from the investors and investing them in the securities market to generate returns. The important characteristic features of mutual funds are disclosure of facts, fund mobilisation, sharing of returns and expert financial management.

The main advantages of investing in mutual funds are professional management, diversification of funds, low transaction costs, continuous liquidity, variety of schemes, flexibility, affordability by all class of investors, higher return potential, tax benefits and well regulated. However it has few disadvantages as high promotional costs, high managerial costs, high operational costs, involvement in security scams & unfair trade practices and availability of few tailor made products.

A structured questionnaire was administered to the selected sample of 500 of which 240 were received in usable form, hence the sample size for the study is 240 respondents belonging to the tricity of Warangal, Hanamkonda and Kazipet of Andhra Pradesh. The sampling technique used is Stratified random sampling. Respondents were selected in such a way as to represent the different strata of the investing community. A non parametric test i.e. Chi-Square test (χ^2), perhaps the most commonly used test in dealing with social behavioural data, is used to evaluate whether or not the frequencies which have been empirically observed differ significantly from those which would be expected under certain set of theoretical assumptions.

Introduction

A mutual fund is a financial intermediary that pools the savings of investors for collective investment in a diversified portfolio of securities. A fund is “mutual” as all of its returns, minus its expenses, are shared by the fund’s investors. A mutual fund serves as a link between the investor and the securities market by mobilizing savings from the investors and investing them in the securities market to generate returns. The important characteristic features of mutual funds are disclosure of facts, fund mobilisation, sharing of returns and expert financial management.

Mutual funds collect funds from vast segments of society. The needs and expectations of different persons of society are different. Therefore, one type of mutual fund will not suit the requirements of all persons. Keeping this in mind, to attract all types of investors the mutual fund schemes of various natures are launched by the mutual fund organizations from time to time such as Open and Closed Ended Funds, Equity funds, Debt funds, balanced funds, tax saving funds, thematic funds and so on.

The main advantages of investing in mutual funds are professional management, diversification of funds, low transaction costs, continuous liquidity, variety of schemes, flexibility, affordability by all class of investors, higher return potential, tax benefits and well regulated. However it has few disadvantages as high promotional costs, high managerial costs, high operational costs, involvement in security scams & unfair trade practices and availability of few tailor made products.

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Review of Literature

Dube (1967) have emphasized the importance of personal selling in financial services especially in the rural areas. As the level of literacy and awareness is quite low in rural areas, the interpersonal communication is much vital than the mass media advertising. In his study he conclude that the financial service providers should use the services of opinion leader to impress upon the village clients the benefits and advantages of various schemes being offered.

Srivastava (1984) conducted a study at Chandigarh to find out the perceptions of the customers regarding the services offered by banks to their depositors. It was found out that customers generally faced two major problems with their banks viz. behavioural and procedural.

Ippolito (1992) opined that fund/scheme selection by investors is based on past performance of the funds and money flows into winning funds more rapidly than they flow out of losing funds.

K.D. Mehru (2003) studied the problems of mutual funds in India. He opined that greater transparency improved innovation, better services to the investors, liquidity and higher returns will make mutual fund schemes more popular and investor friendly.

Kavitha. R. (2007) analyzed the fund selection behaviour of individual investors towards Mutual Funds in Mumbai city during the period July 2004 – December 2004. She reported that there is a fair opportunity for mutual fund investments in future.

Objectives of the Study

- To understand the meaning, concept and importance of mutual funds,
- To determine the different investment objectives of the sample respondents,
- To measure the perception of the investors towards Mutual Funds.

Methodology

To realize the set objectives, a structured questionnaire was administered to the selected sample of 500 of which 240 were received in usable form, hence the sample size for the study is 240 respondents belonging to the triculties of Warangal, Hanamkonda and Kazipet of Andhra Pradesh. The sampling technique used is Stratified random sampling. Respondents were selected in such a way as to represent the different strata of the investing community. A non parametric test i.e. Chi-Square test (χ^2), perhaps the most commonly used test in dealing with social behavioural data, is used to evaluate whether or not the frequencies which have been empirically observed differ significantly from those which would be expected under certain set of theoretical assumptions.

Origin and the current Status of Mutual fund Industry in India

The Indian Mutual fund industry has come a long way since the inception of UTI in 1963. According to AMFI, the evolution of the industry can be broadly divided into four phases, which marks its transition from a period when UTI ruled the roost to a period of competition and increased awareness among investors.

Phase –I : July 1964 - November 1987 - UTI all the way

Phase –II: November 1987 - October 1993 – Entry of public sector Mutual Funds. Phase –III: October 1993 - February 2003 – Entry of Private sector Mutual Funds.

Phase –IV: Since February 2003 - UTI's restructuring and beyond.

The assets under management of mutual funds have been growing in value at a phenomenal rate. The details relating to the total assets under management in the beginning and ending of each phase and at present are given in Table 1.

India has been amongst the fastest growing markets for mutual funds, since 2004 it witnessed a CAGR of 29 percent in the five year period from 2004 to 2008 as against the global average of 4 percent. The increase in revenue and profitability however has not been commensurate with the AUM growth in the last five years. Low share of global assets under management, low penetration levels, limited share of mutual funds in the household financial savings and the climbing growth rates in the last few years that are amongst the highest in the world, all point to the future potential of the Indian mutual fund industry.

Table 1: Phases of development of Assets Under Management (AUM)

Year	Assets Under Management (AUM) (Rs. In crores)	
	Beginning Phase	Ending Phase
1964-1987	25.00	6,700.00
1987-1993	6,700.00	61,028.00
1993-2003	61,028.00	1,21,805.00
2003-2010	1,21,805.00	7,47,525.14

Source: Association of Mutual Funds in India.

The Assets Under Management (AUM) have grown at a rapid pace over the past few years, at a CAGR of 35 percent for the five year period from 31 march 2005 to 31 march 2009. Over the 10 year period from 1999 to 2009 encompassing varied economic cycles the industry grew at 22 percent CAGR. In four and half decades of its existence in India, the mutual fund industry has gone through several structural changes. From the days of UTI's monopoly, until 1987, when the industry was opened first to other public sector enterprises, and then to private sector players in 1993, it has come a long way. The entry of private players has galvanized the sector. Increased competition has forced industry players to focus on product innovation, market penetration, identifying new channels of distribution and last but not the least, improving investor service. These measures have helped the industry to grow significantly from having assets worth Rs. 47,000 crores under management in March 1993 to more than Rs. 7 lakh crores by March 2010.

Investors' perceptions towards Mutual Fund

With the industry moving up the learning curve, significant changes in the investment environment such as increased competition, ongoing reforms and increased integration of global financial markets present significant challenges to mutual fund industry in India. This scenario however, has presented the investors a wide choice with regard to institutions and the products. In this background collating and interpreting the perceptions of investors who have invested in the mutual funds becomes necessary in order to know the extent to which the Indian mutual fund industry has been able to meet and satisfy the risk – return profile of its clientele.

Age plays a vital role in making decisions and quality thereof. Investment habits of the people across the age groups will not be the same. Table 2 shows the age profile of the respondents. From the table it is observed that the maximum number of respondents belonged to the age group of 25-40 (53 per cent), followed by 40-50 (28 per cent) age category. The tendency to invest more is generally high in the age group of 25 – 40 as it is regarded as the risk taking and risk bearing age group in the human life cycle.

Table 2: Age-Wise Classification of the Respondents

Age Group	No. of Respondents	Percentage
Below 25 years	Nil	00
25 to 39 years	128	53
40 to 49 years	66	28
50 to 59 years	38	16
Above 60 years	08	03
Total	240	100

Source: Primary Data (Compiled from Tabulated Responses)

Ability to take informed decisions would largely depend on the education level. Investment decisions would undoubtedly be affected by the investor's ability to scan around and find the right opportunity. Table 3 presents the details relating to the educational qualifications of the investors. Of the total respondents 40 percent possess Graduate degree followed by Post - graduates (27 per cent) and 16 percent of the respondents are having professional qualification such as Chartered Accountants (C.A.s), Doctors, Company Secretary (C.S), and L.L.B's. A majority of the respondents are capable of understanding the return, risk and safety aspects of Mutual funds. They possess the necessary educational background to go through offer documents of mutual funds and understand the salient features of different schemes.

Table 3: Educational Qualification of the Respondents

Educational Qualification	No. of Respondents	Percentage
Schooling	Nil	00
Intermediate	42	18
Graduation	96	40
Post Graduation	64	27
Professional Course	38	16
Total	240	100

Source: Primary Data (Compiled from Tabulated Responses)

Table 4: Occupation/Profession – Wise Classification of the Respondents

Occupation	No. of Respondents	Percentage
Government Service	46	19
Private Service	22	09
Self employed	22	09
Professional	40	17
Business	110	46
Total	240	100

Source: Primary Data (Compiled from Tabulated Responses)

Not all individuals would possess same acumen to determine the portfolio of investment. People in different professions / occupations are endowed with different sets of skills for making decisions. The particulars relating to the profession of the respondents are presented in Table 4. An analysis of the table clearly indicates that out of 240 respondents as many as 110 (46 per cent) belong to the business community followed by government service (19 percent), professional (17 per cent) and private service and self-employed (9 per cent each). As business community respondents are very calculated in taking risk with the given amount of assured return the high proportion justifies the need for the present study.

Table 5: Annual Income of the Respondents

Annual Income (in Rs.)	No. of Respondents	Percentage
Less than 1.99 Lakhs	40	17
2 Lakhs – 3 .99 Lakhs	80	33
4 Lakhs – 5.99 Lakhs	62	26
6 – 7.99 Lakhs	50	21
More than 8 Lakhs	08	03
Total	240	100

Source: Primary Data (Compiled from Tabulated Responses)

Investment made in any avenue is a function of savings. Savings itself is influenced by income levels. Hence, an understanding of the income levels of the respondents becomes necessary. The particulars relating to the same are presented in Table 5. The table gives the break-up of the income of the respondents. The highest proportion of respondents are having an annual income of Rs 2 to 4 lakhs (33 percent) followed by Rs. 4 – 6 Lakhs (26 percent) , Rs. 6 – 8 Lakhs (21 percent), less than Rs.2 lakhs (17 percent) and More than Rs.8 Lakhs (3 percent).

Savings are an integral part of any household system. Table 6 reveals the savings habits of the respondents and it is observed that the majority of the respondents have savings of 20 to 30 percent (48 percent) of their income followed by above 30 percent (39 percent) the least percent of savings are found in the range of 5 to 9 percent indicating only 3 percent of the respondents under study.

Table 6: Classification of the Gross Savings per Month of the respondents

Percentage of Savings	No. of Respondents	Percentage
1 to 4 percent	12	05
5 to 9 percent	06	03
10 to 19 percent	14	06
20 to 30 percent	114	48
Above 30 percent	94	39
Total	240	100

Source: Primary Data (Compiled from Tabulated Responses)

Null Hypothesis H₀

There is no significant difference in the savings habits of the respondents among the various income groups.

Table 7: Classification of the Income and Gross Savings Habits of the respondents

Savings / Income (in Rs.)	1 to 4%	5 to 9%	10 to 20%	20 to 30 %	Above 30%	Total	Chi-square Value
Less than 1.99 Lakhs	12 (05)	02 (01)	04 (02)	10 (04)	08 (03)	36 (15)	122.60*
2 Lakhs to 3.99 Lakhs	Nil (00)	04 (02)	08 (03)	52 (22)	20 (8)	84 (35)	
4 Lakhs to 5.99 Lakhs	Nil (00)	Nil (00)	02 (01)	36 (15)	24 (10)	62 (26)	
6 to 8 Lakhs	Nil (00)	Nil (00)	Nil (00)	12 (05)	38 (16)	50 (21)	
More than 8 Lakhs	Nil (00)	Nil (00)	Nil (00)	04 (02)	04 (02)	08 (03)	
Total	12 (05)	06 (03)	14 (06)	114 (48)	94 (39)	240 (100)	

Source: Primary Data (Compiled from Tabulated Responses)

Note: Figures in parenthesis indicate the percentage value.

Yates correction is done for calculating the Chi-square value, as atleast one cell in the contingency table has expected frequency of less than 5.

Table 7 reveals the savings habits of the respondents based on their annual income. It is interesting that all the respondents in the range of 1 to 4 percent of savings habits are from less than Rs.2 lakhs income group and the savings habits of all the respondents with more than Rs.8 lakhs income is either 20 percent or more. In the income groups of Rs.2 – 4 lakhs and Rs.4 – 6 lakhs majority of savings are in the range of 20 – 30 percent whereas in the income group of Rs.6 – 8 lakhs majority of savings preferred are above 30 percent. The calculated Chi-square value (122.60) is more than the table value (26.296) with 16 degrees of freedom at 5 percent significance level, the null hypothesis is rejected. Hence, the savings habit of the respondents is dependent on their income.

Table 8: Various types of Investments in which the Respondents' have invested

Type of Investment	No. of Respondents	Percentage
Bank Deposits	84	35
Government Bonds	18	08
Equity (shares)	218	91
Property	60	25
Mutual Funds	240	100
Precious Metals	12	05
Insurance	216	90
Total	848	—

Source: Primary Data (Compiled from Tabulated Responses)

An attempt was made to find the various forms of investments the respondents prefer to invest their money. Table 8 gives an indication about the various options in which the respondents have investments. As purposive random sampling is used for the present study all the respondents (100 percent) have investment in mutual funds followed by equity shares (91 percent), insurance (90 percent), bank deposits (35 percent) and property (25 percent). It is found that only 8 percent of the respondents have investments in the form of government bonds and 5 percent in the form of precious metals such as gold and silver. It indicates that the respondents are willing to take higher risk to earn more returns.

Null Hypothesis H_0

There is no significant difference in the type of market preferred for investing in the stock market by the different income groups.

The respondents' preference about the kind of market while investing in the stock markets is tabulated in the Table 9. It is observed that the majority of respondents (44 percent) prefer primary markets as well as both primary and secondary markets where as only 12 percent of the respondents prefer only secondary market. As 44 percent of the respondents prefer both the markets and 12 percent prefer secondary market it offers a huge market for the mutual fund marketers to tap such investors since investment in the stock market through mutual funds is considered as less risky than the direct investment by the investors. As the calculated Chi-square value (41.02) is more than the table value (15.507) with 16 degrees of freedom at 5 percent significance level, the null hypothesis is rejected. Hence the type of market preferred by the investors is dependent on their income levels.

Table 9: Classification of the Investors Preference while Investing in the Stock Markets

Type of Market/ Income	Primary Market	Secondary Market	Both	Total	Chi-Square Value
Less than 1.99 Lakhs	18 (08)	12 (05)	10 (04)	40 (17)	41.02*
2 Lakhs – 3.99 Lakhs	28 (12)	16 (07)	36 (15)	80 (33)	
4 Lakhs – 5.99 Lakhs	28 (12)	Nil (00)	34 (14)	62 (26)	
6 – 7.99 Lakhs	30 (13)	Nil (00)	20 (08)	50 (21)	
More than 8 Lakhs	02 (01)	Nil (00)	06 (02)	08 (03)	
Total	106 (44)	28 (12)	106 (44)	240 (100)	

Source: Primary Data (Compiled from Tabulated Responses)

Note: Figures in the parenthesis indicate the percentage value.

Yates correction is done for calculating the Chi-square value, as atleast one cell in the contingency table has expected frequency of less than 5.

Table 10: Motivational factors of Investments

Recommendation Followed	No. of Respondents	Percentage
Stock Broker	84	35
Self Analysis	177	74
Friends & Relatives	145	60
T.V. / News Papers	161	67
Total	567	—

Source: Primary Data (Compiled from Tabulated Responses)

As indicated in the Table 10, 74 percent of respondents make self analysis while investing in the stock market whereas 60 percent depend on the suggestions of friends & relatives; 67 percent rely on T.V. / Newspapers and 35 percent on the recommendations of the stock brokers. The investors who make self analysis and depend on the suggestions of friends & relatives offer a potential market for mutual fund marketers. It is observed from the respondents that a majority of investors depend heavily on self analysis while investing in the stock market and rarely seek any advice/opinion of the experts which may be considered as an unwise investment many a times.

It is generally considered that any form investment should be for a longer duration to get the desired/ maximum return. Table 11 indicates the time horizon of the respondents' investments. It can be seen that 166 respondents (69 percent) out of the total of 240 respondents have a time horizon of 1 year to 3 years followed by 23 percent of the respondents having a time horizon of 6 months to 1 year. Only 5 percent of the respondents have a time horizon of more than 3 years and 3 percent of the respondents have it as less than 6 months.

Table 11: Time Horizon of Investments

Time Horizon	No. of Respondents	Percentage
Less than 6 months	08	03
More than 6 months & Less than 1 year	54	23
More than 1 year & Less than 3 years	166	69
More than 3 years	12	05
Total	240	100

Source: Primary Data (Compiled from Tabulated Responses)

The expected return on investment by and large is determined by the risk associated with the investment avenue. The universal dictum of science of finance has been: "higher the risk, higher will be the return". An investment in Mutual Funds is no exception to this universal rule. The expected return of the respondents is illustrated in Table 12. An analysis of the table reveals that the majority of the respondents (68 percent) prefer more than 20 percent return per annum. 29 percent of the respondents prefer a return between 15 – 20 percent whereas only 03 percent said their expected return to be in between 10 – 15 percent. Interestingly there is no respondent with an expected return of less than 10 percent; this may be due to the reason that the government bonds/deposits which have zero risk also guarantee more than or equal to such return. In all the income group levels the expected return of the maximum number of respondents is more than 20 percent. It suggests that the respondents/investors are ready to take risk to get a higher return. As the calculated Chi-square value (47.20) is more than the table value (21.026) with 12 degrees of freedom at 5 percent significance level, the null hypothesis is rejected. Hence the expected return of the respondents and their income levels are dependent.

Null Hypothesis Ho

There is no significant difference in the expected return (per annum) by the various income groups on their investments.

Table 12: Investors' Expected Return (per annum)

Expected Return / Income	< 10 %	10 -15 %	16 – 20 %	> 20 %	Total	Chi-Square Value
Less than 1.99 Lakhs	Nil (00)	06 (03)	16 (07)	18 (08)	40 (18)	47.20*
2 Lakhs – 3.99 Lakhs	Nil (00)	02 (01)	28 (12)	50 (21)	80 (33)	
4 Lakhs – 5.99 Lakhs	Nil (00)	Nil (00)	20 (08)	42 (18)	62 (26)	
6 Lakhs – 7.99 Lakhs	Nil (00)	Nil (00)	06 (03)	44 (18)	50 (20)	
8 – 10 Lakhs	Nil (00)	Nil (00)	Nil (00)	08 (03)	08 (03)	
Total	Nil (00)	08 (03)	70 (29)	162 (68)	240 (100)	

Source: Primary Data (Compiled from Tabulated Responses)

Note: Figures in parenthesis indicate percentage values.

Yates correction is done for calculating the Chi-square value, as atleast one cell in the contingency table has expected frequency of less than 5.

Respondents were asked to indicate their perceptions regarding the general factors which they consider while investing in mutual fund and their experience as a mutual fund investor on a five-point scale ranging from 'strongly disagree (-2)' to 'strongly agree (+2)'. The average perceptions of the respondents for various income groups are compiled in Table 13.

In the income group of less than Rs. 2 lakhs per annum, it is interesting to note that all the factors have positive average except for 'private sector ownership is very important' which have a negative average of -0.23 indicating that majority of the respondents in this income group do not prefer private sector mutual funds and have more trust in public sector mutual funds. The highest positive average is found for two factors 'past performance of the fund is very important' and 'portfolio of the fund is very important' with a value of 1.28 which indicates that they have very strong agreement about the past record of the fund performance as well as the allocation of funds in different asset classes. In the experience factors the highest average was found for 'Consider MF as the best investment for the people who do not have knowledge about stock market' indicating that they opine that mutual funds are best suited for the investors with little or no knowledge about stock market functioning.

In the income group of Rs. 2 – 4 lakhs per annum, all the general factors have a positive average except one factor 'Lock in period is very important' with a negative average of -0.29; it indicates that many of the investors want to have liquidity and ready market for their investments. The highest average for the general factor is observed for 'Portfolio of the fund is very important' indicating that the allocation of the funds plays an important role in the investment decision of the investors. Among the experiences of the respondents' factors, four factors have negative average indicating that the respondents are not highly satisfied with the returns they have received and do not consider mutual funds as first choice of investment. However, they opine that the mutual funds are suited as the 'best form of investment for the people who do not have knowledge about stock market' with an average of 1.28.

Similarly, amongst the respondents with annual income of Rs.4 – 6 Lakhs per annum, it is interesting to note that all the general factors have a positive average, representing all the respondents in this income category almost agree to the entire general factor. The highest average is found for the factor 'Portfolio of the fund is very important' with a value of 1.77 followed by 'Investment objective of the fund house is very important' (1.52), 'Capital Appreciation is very important' (1.23). These values denote that the investors in this income group are interested in the investment objectives of the fund and capital appreciation. The lowest average was found for the factor 'private sector ownership is important' (0.13) followed by 'public sector ownership is very important' (0.19) indicating that they are not bothered about the ownership of the fund management as they believe the regulatory mechanism for both the categories of the funds is same and is well regulated.

Among the experience as investor factors all have positive average except two factors 'Consider MF as best return giving investment' (- 0.06) and 'Highly satisfied with the MF as the best form of investment (- 0.03)'. These two factors have a marginal negative average indicating many of the investors are not satisfied with the returns from the mutual fund investment. Again in this income group too the highest positive average is observed for the factor 'Consider MF as the best investment for the people who do not have knowledge about stock market' with an average of 1.45.

An analysis of the responses of the income group between Rs. 6 – 8 lakhs per annum represents that all the factors in both the categories are having positive averages. Among the general factors the highest average is observed for the factor 'Portfolio of the fund is very important' (1.92) followed by 'Investment objective of the fund house is very important' (1.58) and 'Capital appreciation is very important' (1.48) the lowest average is observe for the factor 'Private Sector ownership is very important' (0.04) followed by 'Public sector ownership is very important' (0.16). These averages indicate that the investors in this income group are more interested in capital appreciation with tax benefits and are not worried about the ownership of the fund management.

Three factors in the experiences in the mutual fund investment have an average of zero. These factors are 'Consider MF as first choice of investment' , 'Consider MF as best return giving investment' and 'Highly satisfied with the MF as the best form of investment' the average value of zero for these factors indicate that half of the respondents are on either side of satisfaction and dissatisfaction.

In the income group of Rs more than 8 lakhs per annum, all the averages in this income group are observed to be positive. In the general factors the highest average is for the factor 'Portfolio of the fund is very important' (2.00), 'Fund rating from a rating agency is very important' (2.00) followed by 'Tax Saving is very important' (1.75), 'Lock in period is very important' (1.75) and 'Capital Appreciation is very important' (1.63). All these averages indicate that the investors in this income group are interested in the expert opinion and the rating of funds. They are less worried about liquidity and are more interested in the long term capital appreciation along with the tax benefits as this income group has high tax liability.

Among the experiences 'Consider MF as the best investment for the people who do not have knowledge about stock market' (2.00) has the highest average with strong agreement and 'Consider MF as first choice of investment' (00) has the lowest average with all the respondents being neutral for this factor.

Table 13: Mutual fund Investors level of agreement on various factors

S.No	Factors	Income Levels of the Respondents (in Rupees / Per Annum)									
		Less than 1.99 lakhs		2 lakhs – 3.99 Lakhs		4 lakhs – 5.99 Lakhs		6 lakhs – 7.99 Lakhs		More than 8 Lakhs	
		Scores	Avg.	Scores	Avg.	Scores	Avg.	Scores	Avg.	Scores	Avg.
A. General Factors											
1.	Awareness through advertisement is very important.	38	0.95	72	0.90	62	1.00	50	1.00	08	1.00
2.	Fund Management Reputation is very important	31	0.78	74	0.93	55	0.89	40	0.80	04	0.50
3.	Past Performance of the Fund is very important.	51	1.28	40	0.50	37	0.60	22	0.44	02	0.25
4.	Capital Appreciation is very important.	50	1.25	110	1.38	76	1.23	74	1.48	13	1.63
5.	Brokers or Agents advice is very important.	13	0.33	41	0.51	34	0.55	29	0.58	05	0.63
6.	Friends or relatives suggestion is very important.	20	0.50	28	0.35	23	0.37	25	0.50	06	0.75

		Less than 1.99 lakhs		2 lakhs – 3.99 Lakhs		4 lakhs – 5.99 Lakhs		6 lakhs – 7.99 Lakhs		More than 8 Lakhs	
		Scores	Avg.	Scores	Avg.	Scores	Avg.	Scores	Avg.	Scores	Avg.
7.	Service behaviour of the fund is very important	37	0.93	66	0.83	58	0.94	52	1.04	06	0.75
8.	Public Sector ownership is very important.	13	0.33	11	0.14	12	0.19	08	0.16	03	0.38
9.	Private Sector o wnership is very important.	-09	-0.23	02	0.03	08	0.13	02	0.04	03	0.38
10.	Tax Saving is very important.	31	0.78	45	0.56	58	0.94	62	1.24	14	1.75
11.	Lock in period is very important.	04	0.10	-23	-0.29	24	0.38	52	1.04	14	1.75
12.	Brand name of the fund is very important.	07	0.18	38	0.48	28	0.45	34	0.68	08	1.00
13.	Portfolio of the fund is very important.	51	1.28	132	1.65	110	1.77	96	1.92	16	2.00
14.	Net Asset Value (NAV) is very important.	34	0.85	50	0.63	34	0.55	42	0.84	06	0.75
15.	Investment objective of the fund house is very important.	41	1.03	116	1.45	94	1.52	78	1.56	10	1.25
16.	Minimum investment a mount required is very important.	29	0.73	18	0.23	30	0.48	38	0.76	04	0.50
17.	Fund rating from a rating agency is very important.	30	0.75	52	0.65	46	0.74	49	0.98	16	2.00
18.	Performance Measure technique is very important.	06	0.15	15	0.19	16	0.26	12	0.24	04	0.50
19.	Timing of the New Fund Offer (NFO) is very important	20	0.50	30	0.38	18	0.29	22	0.44	04	0.50

		Less than 1.99 lakhs		2 lakhs – 3.99 Lakhs		4 lakhs – 5.99 Lakhs		6 lakhs – 7.99 Lakhs		More than 8 Lakhs	
		Scores	Avg.	Scores	Avg.	Scores	Avg.	Scores	Avg.	Scores	Avg.
B.	MF Investors Experiences in Mutual Fund Investment										
20.	Continue to invest in MF	24	0.60	18	0.23	32	0.52	34	0.68	08	1.00
21.	Recommend Friends & Relatives to invest in MF.	18	0.45	08	0.10	22	0.35	12	0.24	06	0.75
22.	Say positive things about MF to other people.	18	0.45	12	0.15	16	0.26	16	0.32	04	0.50
23.	Consider MF as first choice of investment.	00	00	-24	-0.30	06	0.10	00	00	00	00
24.	Consider MF as best return giving investment.	12	0.30	-29	-0.36	-04	-0.06	00	00	04	0.50
25.	Consider MF as the best investment for the people who do not have knowledge about stock market.	47	1.17	102	1.28	90	1.45	82	1.64	16	2.00
26.	Highly satisfied with the MF as the best form of investment.	12	0.30	-04	-0.05	-02	-0.03	00	00	06	0.75
27.	The Agents of MF are more commission oriented than service.	34	0.85	-08	-0.10	38	0.61	40	0.80	04	0.50

Source: Primary Data (Compiled from Tabulated Responses)

Table 14: Sources of Information

Source of Information	No. of Respondents	Percentage
Friends & Relatives	40	17
Agents/Distributors	180	75
T.V. / News papers	184	77
Internet	06	03
Total	410	————

Source: Primary Data (Compiled from Tabulated Responses)

Information about a product/service plays an important role in its success or failure in any kind of market. The more informed product/service is more accepted in today's competitive environment. Table 14 gives an idea about the source of information through which the respondents come to know about the UTI mutual funds. T.V./Newspaper advertisement plays an important role in creating the awareness as they reach every nook and corner of the country/globe. T.V./Newspaper enjoys a high rate with 77 percent of the respondents getting information through this mass media. Agents/Distributors come in direct contact with the investors and are most instrumental in selling the product/service to the ultimate consumer/investor. A high rate of respondents with 75 percent feels that they are known about the mutual funds through agents/distributors. The fund houses needs to strengthen their agency services in order to penetrate in the rural masses of the country. Friends & Relatives also enjoy a strong source of information with 17 percent where as internet is the least preferred source with only 3 percent of the respondents come to know about mutual funds through internet. This may be mainly due to computer illiteracy in the country and the less use of technology by the people. However the fund houses should make use of the technology (M – Commerce) for better and faster service rather than creating awareness through this source.

An attempt is made to know the reasons for lack of awareness about mutual funds among the small investors. The various reasons for lack of awareness are tabulated in Table 15. Majority of the respondents feel that existence of improper distribution system/ agency services (28 percent) as the main reason for lack of awareness followed by the reason that the investors due to lack of knowledge about the operation of mutual funds consider it as risky investment (25 percent) and are not motivated to invest in the same. Lack of advertisement (08 percent) on the part of the fund houses is also one of the main reasons for lack of awareness. The fund houses should increase their advertisements and conduct investor awareness camps in the different parts of the country to overcome the problem of lack of awareness.

Table 15: Table showing the various reasons for the lack of awareness of Mutual Funds among small investors.

S.No	Reasons for lack of awareness of Mutual Funds	No. of Responses	Percentage
1.	Lack of advertisement	20	08
2.	No proper distribution network / agency services	68	28
3.	Consider it as risky investment	60	25
4.	No idea/knowledge about the working of Mutual Funds	30	13
5.	Lack of knowledge about Stock / Capital markets	22	09
6.	No assured returns	18	08
7.	The commission rate is low for Mutual fund distribution	12	05
8.	Others	14	06
	Total	244	————

Source: Primary Data (Compiled from Tabulated Responses)

Among the various suggestions the respondents suggested for improving the awareness of mutual funds among the small investors are tabulated in the Table 16. From the table it is evident that the majority of the respondents feel that the fund houses should organise frequent awareness camps/investor education (50 percent) followed by improving agency services/distribution network (28 percent), increase advertisement through various media (26 percent) and promise minimum assured returns (11 percent). One of the most interesting suggestions that have been suggested is to introduce the basics of investment management subjects in all the disciplines (03 percent) as the investors have different educational backgrounds and a minimum knowledge of investment management plays an important role for making investment decisions.

Table 16: List of various suggestions for improving the awareness about Mutual Funds among small investors.

S.No	Suggestion	No. of responses	Percentage
1.	Increase advertisement through various media	62	26
2.	Organise frequent awareness camps / Investor education	120	50
3.	Improve agency services / Distribution network	68	28
4.	Telecast exclusive Mutual Fund related programmes	10	04
5.	Exclusive Mutual Fund distributors should be appointed	12	05
6.	Promise minimum assured returns	26	11
7.	Introduce investment management subjects in all disciplines	06	03
	Total	304	—

Source: Primary Data (Compiled from Tabulated Responses)

A satisfied investor will not only be loyal towards the organization but also acts as a main source of getting new investors. Table 17 represents the experiences of the respondents in mutual fund investment and the majority of respondents feel that it is good for small and long term investors (30 percent). However, on the other side respondents feel that no proper after sales service (28 percent) by the fund houses/agents, investment in mutual funds is not generating expected/satisfactory returns (23 percent) are the negative experiences. The UTI mutual fund needs to improve their service especially after sales service to gain the loyalty of the investors.

Table 17: Table showing the experiences of the investors in Mutual Funds.

S.No	Experience	No. of Responses	Percentage
1.	No proper service by the fund houses / Agents after sales	66	28
2.	Not giving expected / satisfactory returns	54	23
3.	Good for small and long term investors	72	30
4.	Risky investment	37	15
5.	Useful for tax benefits	13	05
6.	Good for investors having no knowledge about stock markets	29	12
7.	Others	17	07
	Total	288	—

Source: Primary Data (Compiled from Tabulated Responses)

Table 18: Table showing the respondents opinion about the future of Mutual Funds

Future /Income	Very good	Good	Not Bad	Bad	Very Bad	Total
Less than 1..99 Lakhs	14 (06)	26 (11)	Nil (00)	Nil (00)	Nil (00)	40 (17)
2 lakhs – 3.99 lakhs	36 (15)	42 (18)	02 (01)	Nil (00)	Nil (00)	80 (33)
4 lakhs – 5.99 lakhs	40 (17)	22 (09)	Nil (00)	Nil (00)	Nil (00)	62 (26)
6 lakhs – 7.99 Lakhs	36 (15)	12 (05)	02 (01)	Nil (00)	Nil (00)	50 (21)
More than 8 Lakhs	08 (03)	Nil (00)	Nil (00)	Nil (00)	Nil (00)	08 (03)
Total	134 (56)	102 (43)	04 (02)	Nil (00)	Nil (00)	240 (100)

Source: Primary Data (Compiled from Tabulated Responses)

Table 18 presents the opinion of the respondents about the future of the UTI mutual fund. An analysis of the table reveals that a majority of the respondents (56 percent) feel that the future will be very good and 43 percent opine that the future will be good. Surprisingly there is no respondent who feels that the future of UTI mutual funds will be bad or very bad.

A Few important observations & Suggestions

The development of mutual fund industry in India, theoretically, would imply development of public sector, private sector and banks/financial institutions sponsored funds. The resources mobilised from the investors should be invested with a greater focus on return, of course, through proper compliance of the regulatory framework prescribed by the government. Orderly and sustainable development of institutional framework is useful for healthy growth of financial markets. Further rich domain experience and knowledge providing efficient services along with better corporate responsibility would go a long way in promoting efficient and vibrant financial markets of which mutual funds is an integral part. For toning up the performance of mutual funds in India some of the new initiatives and directions that can be experimented by the fund houses are as given here under:

- Normally mutual fund companies require a large distribution network, to distribute their products and to reach the investor base especially in a country like India, wherein 70 percent of its population reside in rural areas. The mutual fund houses should strengthen their own distribution network or utilise the well established networks such as postal department, banks for high penetration into the rural masses.
- Lack of awareness about the operation of mutual funds is one of the main reasons for the low level of participation by the retail investors in the mutual fund investment. The fund managers should concentrate on organising frequent awareness camps to spread the knowledge of mutual funds among the large investing community.
- It is found that there is lack of proper service rendered especially after sales service by the distributors / agents, due to which there is lot of dissatisfaction among the mutual fund investors. The mutual fund should improve the quality of their service and inform the investors about the status of their portfolio at regular intervals and also the right time to exit from their investments to gain higher returns.
- In the years ahead, the focus of the mutual fund houses should be on the following areas for the mutual funds to play a meaningful role in servicing the savers of the country: 1) Investor education, 2) High penetration and 3) Pull model competition. There is an urgent need for educating the advisers first in the nuances of financial planning. The battle is not won even after educating the advisers. The incentive structure on various products has to be aligned, and there should be stringent penalties for mis-selling of financial products.
- In a country like India advertisement plays a vital role in spreading the information of any product or service. The fund houses should focus on aggressive advertisement during the New Fund Offer (NFO) to generate more interest among the Indian retail investors. The major sources of advertisement should be the leading media such as television, regional newspapers and hoardings at the important junctions of the various cities.
- It is observed that in many mutual fund organizations except the top-level management and few officials, others are not well-equipped in financial activities. It is suggested that proper training in financial matters should be conducted for the employees and in future only those people should be recruited who are having some adequate qualification, expertise and experience in financial matters.
- The scope for marketing research in the Indian mutual fund industry is much wider and deeper, various areas of research like research on markets, research on products, research on promotion, research on market position of a mutual fund and research on market forces needs to be done by the Indian mutual fund houses. The

important areas upon which the Indian fund houses should focus are: 1) widening, broadening and deepening of the markets, 2) Product innovation and variety and 3) Strengthening the distribution network into rural masses.

The recent reforms in India and globalization offer tremendous opportunities to Indian mutual funds. While liberalization by itself does not guarantee growth, institutionalization of liberalization, achieved through changes in the managerial mindset, can definitely produce the desired results. The Indian mutual fund industry can emerge as one of the strongest players in the global capital market by absorbing investment in technology, and modifying managerial practices in the regional context, while thinking and acting with a global vision.

Mutual funds have a lot of potential for growth in India. Mutual fund companies have to create and market innovative products and formulate distinct marketing strategies. Product innovation will be one of the key determinants to success. The mutual fund industry has to bring many innovative concepts such as high yield bond funds, principal protected funds, long short funds, arbitrage funds, dynamic funds, precious metal funds and so on. The penetration of mutual funds can be increased through investor education, providing investor oriented value added services, and innovative distribution channels. Increased use of internet and development of alternative channels such as financial advisors can play a vital role in increasing the penetration of mutual funds. The Indian Mutual Fund industry has come a long way, but a lot more needs to be done.

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Case Study

Financial Distress Measurement of Kingfisher Airlines Ltd.

Paresh Shah¹

The investors, bankers, financial institutions, government agencies, and other social organizations, etc. are constantly try to evaluate the particular firm's financial success and probability of long term survival based on critical evaluation of financial statements. *Edward I Altman*, Professor of Finance at New York University has developed a model popularly known as "*Z-score Model*" to predict the financial health of the business concerns. Z score is based on the weighted five major financial ratios, i.e., working capital to total assets, retained earnings to total assets, earnings before interest and tax to total assets, market value of equity to book value of total liabilities and sales to total assets. The model applies the *Multiple Discriminant Analysis*. The study made use of Z-sore model to analyse financial distress of KFAL using its last six years data.

Key Words:: Z score Model, Altman Model, Bankruptcy zone, financial health, operating performance

Financial Distress Measurement of Kingfisher Airlines Limited

Introduction

The importance of financial management practices have excelled in every area of business as it is one of the core functional activity of the firm. The effective financial management practices starts with procurement of funds and ends with effective utilization of funds. Survival of the business requires that firm should provide quality products to satisfy the need of customers' and in additions should have sufficient funds. The financial requirements of a firm must be sufficient to meet its long-term and short-term commitments. The long-term commitment are fulfilled through the permanent capital while for short-term commitment, it needs working capital. Finance is a significant facet of every business; to satisfy the need of each other functional area. The excessive as well as shortage of funds are dangerous for the survival of firm. The financial analyst is responsible to monitor the financial position of the business regularly and cautiously.

The operational efficiency and financial position, performance can be judged through the analytical study of financial statements. Financial statements are the authorized, independently authenticated and legal accepted sources for financial information.

The profit and loss account provides data about the operating activities where as balance sheet provides the value of assets and liabilities of the business at a particular point of time. To understand and to infer the financial health of the firm, the need happens to establish the relative relationships between two or more variables of the financial statements. This in turn supports the reader of financial statements, and analyst to ascertain the strengths and weaknesses of the firm. The financial ratio analysis is one of the most powerful tools to ascertain and to infer the financial health of firm.

Solvency is defined as the ability of a firm to meet its long term fixed expenses and to accomplish long term expansion and growth. The better a firm's solvency, the better it is financially. When a firm is insolvent, it means it can no longer operate and is undergoing bankruptcy. Bankruptcy is a business failure that can be defined as "the condition in which a firm cannot meet its debt obligation".

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To work out the probability of financial distress and in turn financial insolvency; it is needed to combine the different ratios. To establish the relationship between different variables, Multiple discriminant analysis (MDA) is considered as a very useful tool. The use of MDA helps to consolidate the effect of all ratios. The present study is concerned with the analysis of financial health, i.e., financial distress of Kingfisher Airlines Ltd (KFAL).

About the Company

As on 15th June, 1995; Kingfisher Airlines Ltd. (KFAL) was incorporated as a private limited company in the state of Karnataka. The main object clause of KFAL is to pursue chartered aviation services directly and indirectly, both for commercial and non commercial purposes in India. Presently known KFAL was promoted by A) Capt. G.R. Gopinath, Capt. K.J. Samuel and Capt. Vishnu Singh Rawal as Air Deccan and B) King Fisher Airlines Limited was promoted by Mr. Vijay Mallaya belongs to UB Group. The KFAL has faced the financial distress in the year 2011-12.

Hence, the paper presenter has felt the need to analysis and validate the Z score model of Edward I. Altman for the academical purpose, and in turn to support the industry players and providers of funds to understand the depth of the same.

Altman I. Edward (1968) has developed the classical Multiple Discriminant Analysis technique with five financial ratios are to be used for predicting the risk of failure and developed a model (Z score) to work out a bankruptcy prediction.

Objective

The objective of this study is to know the efficiency of financial operations of KFAL and to validate the application of Z score model of Altman, which indicates the financial distress and in turn financial bankruptcy possibility.

The study was concerned with KFAL. This study was based on the secondary data which was obtained from the published sources i.e. Annual report for the period of 6 years (2005-06 to 2010-11). The collected data was analysed with the help of ratio analysis. The many traditional accounting ratios and ways of analysis used to predict the financial performance of the company, gives a warning only when it is too late to take corrective actions.

Measurement of Financial Distress:

Based on *Multiple Discriminate Analysis (MDA)*, the model predicts a firm's financial health based on a discriminant function of the firm. Z score combines five common business ratios using a weighing system calculated by Altman to determine the likelihood of bankruptcy.

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5$$

X_1 = Working capital to Total assets

X_2 = Retained earnings to Total assets

X_3 = Earnings before interest and taxes to Total assets

X_4 = Market value of equity to Book value of total liabilities

X_5 = Sales to Total assets

The Z score is calculated by multiplying the following accounting ratios, which is efficient in predicting bankruptcy.

X₁ (Working Capital to Total Assets)

This ratio expresses the liquidity position of the firm towards the total capitalization. Working capital is defined as the difference between current assets and current liabilities. Liquidity and size characteristics are explicitly considered. A firm which experiences repeated losses on operating cycle suffers a reduction in the working capital relative to its total assets.

X₂ (Retained Earning to Total Assets)

It indicates the amount reinvested out of the earnings. It reflects the extents of firm’s leverage with respect to assets financing. In other words, it indicates the level of extent assets are financed by firm profits. Those firms with high retained earnings relative to total assets have financed their assets through retention of profits and have not utilized much quantum of debt. It also highlights either the use of internally generated funds for growth (low risk capital) versus borrowed funds. This is measure of cumulative profitability over the time period and leverage as well.

X₃ (EBIT to Total Assets)

It is the measure of the firm’s operating performance and indicator of the earning power. In addition, this is a measure of the productivity of the firm’s assets, independent of any tax or leverage factors. Since a firm’s ultimate existence is based on the earning power of its assets, this ratio appears to be particularly appropriate for studies dealing with operating risks.

X₄ (Market Value of Equity to Book Value of Total Liabilities)

It is the measure of the long-term solvency of a firm. It is reciprocal of the familiar debt-equity ratio. Equity is measured by the market value of total equity shares of firm. While debt includes both current and long term liabilities. The paper presenter has found that, KFAL has the preference shares those are redeemable, hence covered under the definition of total liabilities. This measure shows how much firm’s assets value can decline before debts may exceed assets.

X₅ (Sales to Total Assets)

This is a standard turnover measure. It indicates the ability of firm’s assets to generate sales revenue. Unfortunately, it varies greatly from one industry to another. In addition to this, it is also the measurement of management’s capacity to deal with competitive conditions.

The table no. 1, of the paper indicates the zones of discrimination, as per Altman’s guidelines.

Table: 1 Altman Guidelines.

Situation	Z Scores	Zones	Remarks
I	Below 1.8	Bankruptcy i.e., distress zone	Its failure is certain and extremely likely and would occur failure probably within a period of two years.
II	Between 1.8 and 2.99	Grey Zone	Financial viability is considered to be healthy. The failure in this situation is uncertain to predict.
III	3.0 and above	Safe	Its financial health viable and not to fall in foreseeable future.

Data Set and Analysis

The table 2 indicates the variables used of KFAL to measure the Z score. The following data are providing in the nutshell, the financial information of the KFAL for the period under consideration.

Table: 2 “Z Score” variables of kingfisher Airlines Limited.

Rs. in crores

Year Ending	Mar-11	Mar-10	Mar-09	Mar-08	Jun-07	Jun-06
Period Covered	12 months	12 months	12 months	9 months	12 months	15 months
Working capital	1,734.76	1,343.35	329.19	491.59	607.59	118.85
Total Assets	8,631.86	7,978.97	7,400.39	1,830.09	1,757.49	1,115.78
Retained Earnings	-4,005.02	-4,268.84	-2,496.36	52.99	249.23	125.95
Earnings before Interest and Tax (EBIT)	822.60	-175.69	-87.50	-229.84	62.03	-67.14
Closing Market Price on the last trading day of the year	40.95	47.95	33.4	122.05	137.65	85.85
Equity Shares in issue (lakhs)	4,977.79	2,659.09	2,659.09	1,357.99	1,354.70	981.82
Market Value of Equity	2038.41	1275.03	888.14	1657.43	1864.74	842.89
Total Liabilities	12074.04	11927.63	9577.19	1621.69	1365.86	885.71
Net Sales	6,233.38	5,067.92	5,269.17	1,456.28	1,800.21	1,285.42

The table 3, below indicates the ratio between net working capital and total assets for the period covered under study.

Table : 3 Net Working Capital to Total Assets Ratio of KFAL

Rs. in crores

Year Ending	Mar-11	Mar-10	Mar-09	Mar-08	Jun-07	Jun-06
Working Capital (WC)	1,734.76	1,343.35	329.19	491.59	607.59	118.85
Total Assets (TA)	8,631.86	7,978.97	7,400.39	1,830.09	1,757.49	1,115.78
WC to TA	0.20097	0.16836	0.04448	0.26862	0.34571	0.10652

It may be observed from the table 3 that the working capital to total assets ratio of KFAL had been around 0.201 to 0.044. The mean value of WC to TA is 0.19 while the standard deviation is 0.11. The ratio of KFAL is fluctuating highly. The total assets increased year by year which shows the company had more concentration on the investments in fixed assets. The increase in investment in fixed assets over the study period shows the Cumulative Annual Growth Rate (CAGR) of 50%. The coefficient of variations of 57.5% indicates high volatility in the ratio of WC to TA.

The table 4, indicates the ratio between retained earnings and total assets of KFAL for the period from 2005-06 to 2010-11.

Table : 4 Retained Earnings to Total Assets Ratio of KFAL

Rs. in crores

Year Ending	Mar-11	Mar-10	Mar-09	Mar-08	Jun-07	Jun-06
Retained Earnings (RE)	-4,005.02	-4,268.84	-2,496.36	52.99	249.23	125.95
Total Assets (TA)	8,631.86	7,978.97	7,400.39	1,830.09	1,757.49	1,115.78
RE to TA	-0.46398	0.53501	-0.33733	0.02895	0.14181	0.11288

The ratio of retained earnings to total assets indicates that how much portion of total assets has been financed by retained earnings. Higher the ratio greater the financial stability of the company at times of lower profitability periods. And also it depicts that the company utilizing its own earnings as cheaper source of finance rather than debt finance.

From the table 4 it is observed that KFAL had negative retained earnings during the year 2009 to 2011. It indicates the negative cumulative profitability of company. From the above it is clear that on an average over the period of study, company has negatively used the accumulated funds to the extent of 17.55%. It can also be inferred from the same, that KFAL has been utilizing more debt rather than retained earnings. The decreasing trend of retained earnings during the study period indicates the unsustainable growth of the KFAL.

The earning powers of the KFAL has been indicated in relative terms with respect to total assets for the period under study, in table 5, hereunder.

Table : 5 EBIT to Tatal Assets Ratio of KFAL

Rs. in crores

Year Ending	Mar-11	Mar-10	Mar-09	Mar-08	Jun-07	Jun-06
Earnings before Interest and Tax (EBIT)	822.60	-175.69	-87.50	-229.84	62.03	-67.14
Total Assets (TA)	8,631.86	7,978.97	7,400.39	1,830.09	1,757.49	1,115.78
EBIT to TA	0.09530	-0.02202	-0.01182	-0.12559	0.03529	-0.06017

The operational performance and earning power could be accessed through EBIT to Total assets which lead to the business success or failure. The operational profitability of the sample company was very low. From the year 2005-2006 to 2010-2011; KFAL has reported two times only the positive EBIT, as indicated by Table 5. On an average, the EBIT to TA was negative 1.48%; with standard deviation of positive 7.62%; and in turn results in to negative coefficient of variations. It indicates that KFAL's capacity to use the assets in operating cycle is not efficient. In short, this ratio indicates that the operating profitability of the company was very low.

The relationship between market value of equity to total liabilities ratio for the period under study exhibited in table 6 below.

Table : 6 Market Value of Equity to Total Liabilities Ratio of KFAL.

Rs. in crores

Year Ending	Mar-11	Mar-10	Mar-09	Mar-08	Jun-07	Jun-06
Market Value of Equity (MVE)	2038.41	1275.03	888.14	1657.43	1864.74	842.89
Total Liabilities (TL)	12074.04	11927.63	9577.19	1621.69	1365.86	885.71
MVE to TL	0.16883	0.10690	0.09273	1.02204	1.36525	0.95166

The table 6 shows that, the market value of equity and total liabilities varied every year but not in the same proportion. Equity to debt ratio indicates the proportion of owner's fund to the long term debt. The ideal ratio is 1:1. Where debt is more, the company has an obligation to pay interest to the creditors and thereby the shareholders risk may be increased. From table no. 6, it was observed that compare to market value of equity, total liabilities was more. If debt is more than the equity, it will reduce the profit of the company, despite increases the profitability of the share holders. It will be a curse in times of bad performing.

The market value of equity to total liabilities moved from minimum 9.27% to maximum of 136.55%; and on an average it stands for the period under study to 61.97%, with standard deviation registered to the extent of 56.07%. In other words, the Coefficient of variations becomes 90.48%. This indicates that the firm was bad performing over the period under study, and can also be concluded that the financial health of the KFAL is quite bad. It cannot provide a margin of safety to its creditors in times of bankruptcy. Therefore it is advised the KFAL has to take an appropriate step to improve the equity portion as per its benchmark.

Sales revenue plays a pivotal role in overall performance of the firm because all the operations are more or less depend on the sales revenue. Sales to total assets ratio measure the power of the asset in generating the sales. Higher ratio indicates the better performance and while poor ratio indicates the poor asset management of the firm in the optimum utilization of its assets in generating the sales revenue. The table 7, below depicts the total assets turnover ratio for the period from June, 2006 to March, 2011.

Table : 7 Sales to Total Assets Ratio of KFAL.

Rs. in crores

Year Ending	Mar-11	Mar-10	Mar-09	Mar-08	Jun-07	Jun-06
Net Sales (NS)	6,233.38	5,067.92	5,26.17	1,456.28	1,800.21	1,285.42
Total Assets (TA)	8,631.86	7,978.97	7,400.39	1,830.09	1,757.49	1,115.78
NS to TA	0.72214	0.63516	0.71201	0.79574	1.02431	1.15204

Based on the information from table 7; it is clear that on an average the NS to TA for the study period is 84% with standard deviation of 20.3%. Against the CAGR of 50.56% of TA, the CAGR of net sales is 37.13%; indicates the Pearson's Correlation of coefficient of 99%. It was clear that KFAL has an opportunity to improve its sales capacity but had been totally failed to utilize their assets optimally in generating the sales revenue. It will have an adverse effect on its performance. It is suggested that company has to take appropriate steps in the optimum utilization of its assets in generating more and more sales revenue.

For determining the financial health of KFAL, the paper presenter has used Z score model, which provides the indication of the financial soundness of a business. The table 8 shows the Z score values of KFAL for the six years period.

Table : 8 Calculation of “Z Score” of KFAL.

Variable Code	Parameters of Variable	Weight Assigned	Mar-11	Mar-10	Mar-09	Mar-08	Jun-07	Jun-06
X ₁	WC to TA	0.012	0.20097	0.16836	0.04448	0.26862	0.34571	0.10652
X ₂	RE to TA	0.014	-0.46398	-0.53501	-0.33733	0.02895	0.14181	0.11288
X ₃	EBIT to TA	0.033	0.09530	-0.02202	-0.01182	-0.12559	0.03529	-0.06017
X ₄	MVE to TL	0.006	0.16883	0.10690	0.09273	1.02204	1.36525	0.95166
X ₅	NS to TA	0.999	0.72214	0.63516	0.71201	0.79574	1.02431	1.15204
Z Score			0.72149	0.62897	0.70728	0.80056	1.03877	1.15747

As per the testing of Z score model done in this paper, and Altman’s guidelines (refer table 1), the KFAL’s financial position is not healthy during the study period.

Lastly, I conclude that KFAL’s score value is below 1.8 for all years, and the mean Z score is 0.84; with standard deviation of 0.21; indicates the very unhealthy financial position over the period of time. For the all years under the sample study, KFAL stands in Bankruptcy zone.

Overall, it is clear that KFAL’s financial position is not healthy during the study period. The KFAL is considered to be in bankruptcy zone.

Year to Year KFAL’s investment in current assets was increase. It shows the inefficiency of KFAL in the matter of management of working capital; which in turn results in to unsatisfactory financial health. KFAL has been utilizing more debt rather than retained earnings to finance the assets.

EBIT to Total Assets ratio indicates that the overall profitability of the company was very low. The market value of equity and total liabilities varied every year but not in the same proportion. KFAL’s MV of equity to total liabilities ratio was bad. It cannot provide a margin of safety to its creditors in times of bankruptcy. KFAL still had an opportunity to improve its sales capacity but had been totally failed to utilize their assets optimally in generating the sales revenue.



Book Review

The Maruti Story: How a Public Sector Company put India on Wheels

K Suresh*

Authors: R C Bhargava, Seetha

Publisher: Collins Business

Year of Publishing: 2010

Authors' Profiles:

1. R C Bhargava: An IAS officer of 1956 batch, was deputed to Maruti Udyog Limited in 1981, from BHEL where he was posted as Commercial Director. Became Chairman of Maruti in 1990.

2. Seetha: Senior journalist, with over 25 years of experience spanning business publications and newspapers. Author of the book 'Backroom Brigade: How a Few Intrepid Entrepreneurs Brought the World to India'

Abstract

Co-authored by an insider, the well-researched book captures the exciting 25 plus years' journey of Maruti. The authors present multiple dimensions of the successful one-of-its-kind project involving a Japanese firm and the Indian government, capturing interesting nuances of politicians' quirky attempts to interfere, Suzuki Motors' deft management style, and Maruti's transformation of India's passenger car marketplace.

Much like Tata Nano's buzz but unlike its bumpy ride with its low-priced car in 2010, Maruti 800 had blazed a trendsetting path for the Indian automobile market in 1980s. Billed as Sanjay Gandhi's dream project, the Maruti story had a long history and interesting turns, extensively retraced by the authors in this riveting book.

As against the prevalent market price of ₹ 10,000 for a passenger car way back in 1950s, the then Indian government explored the feasibility of manufacturing one with a price tag of 6,000. A committee set up for this purpose submitted its report in 1960s. Though many proposals came from PSUs and private players, nothing concrete materialized. In early 1970s, Maruti Motors Ltd's car prototype failed to translate into commercial production. Its manufacturing capabilities were instead utilized for making roadrollers and bus bodies. By late 1970s, labour trouble and weak order book position drove Maruti to liquidation.

In 1980, Indira Gandhi was advised foreign technology collaboration and large scale production, for Maruti revival plans to fructify. A year later, it was incorporated as a 100% government owned firm Maruti Udyog Limited (MUL), with a mandate to produce one lakh cars and 40,000 LCVs per year and putting a car on road within three years.

MUL management scouted the global markets for players willing to partner as per the government stipulations¹. European car manufacturers' unease with the buyback clause made the Indian government replace it with exports of auto components. UK's *Metro* felt that its small car was too sophisticated for the Indian market. *Fiat* had reservations with the proposed location (Gurgaon) of the plant, 1,500 kilometres away from

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¹ The technology partner had to buyback 50% of the cars produced, to minimise forex outflow. Scale of production was one lakh cars per annum. The car was mandated to be launched within two-and-a-half years.

the nearest port. While *Renault's* offer of its model CC R-9 was costly, its CC R-5 model was old. *Peugeot's* new model 205 could not be launched in the specified timeframe in India. *Toyota* was not keen to partner with the Indian government. *Mitsubishi's* two-door model Minica was unacceptable as it wouldn't be popular. An alert senior Suzuki Motor Corporation (SMC) executive reported to his HQ that *Daihatsu* could walk away with the Indian project, which he had read in *India Today* magazine. Within ten days, SMC telexed a detailed commercial proposal, charging a royalty of 2.15%.

MUL and SMC inked an MoU in April 1982, with the former holding a 26 percent stake in the \$220 million project. After covering 10,000 kilometres of drive on the local roads, SMC's 800 cc car model SS80 underwent a few modifications to suit the Indian road conditions. These included sturdier shock absorbers and higher ground clearance. With tight review processes in place, cost overruns were avoided and deadlines were met. In December 1983, the first car rolled out of Maruti's factory, to an enthusiastic market response. This was preceded by roadshows across the country, display of model cars at outlets of Indian Oil and a launch campaign that highlighted that fuel efficiency. Priced ₹ 45,000 (fixed at 15 times the average entry level salary), the booking scheme with an initial payment of ₹ 10,000 garnered ₹ 140 crores. The interest earned on this amount contributed to MUL posting a profit of ₹ 1.7 crore in its very first year of operations.

Overcoming Hurdles

MUL did benefit from government support (reduction in customs duty on imported components) and autonomy, free from bureaucratic interference. Political attempts for a quota in release of cars for Members of Parliament were thwarted. As its plant was in Gurgaon, the Haryana government pressured in vain to reserve jobs for local people as part of sons-of-the-soil policy.

The authors describe painstaking efforts by MUL to instill a professional work culture. MUL was a public sector entity till 1992 (See Exhibit I – MUL's Milestones), when SMC's stake increased to 50%. Pulling strings, the top management firmly resisted any attempts to influence its decisions by vested interests. In many cases, such as financing projects, dilution of government stake or expanding capacity, the MUL board even disagreed with the government and could convince the latter successfully on its rationale.

The book extensively lists internal disagreements on several issues between Maruti and SMC. On most of them however, Maruti was able to prevail upon SMC, arguing and pursuing its case in the long-term interests of MUL. In 1991, MUL was keen on modifying its export models to comply with Europe's emission norms that were to be operational two years later. As it planned to launch a car of its own there, SMC discouraged MUL. Undertaking modifications on its own, MUL got its cars homologated in Netherlands as per the new norms. Despite SMC refusing to stand guarantor for the exports, MUL's Italian dealer stepped in to help MUL and offering to bear any costs. *Zen* was another bone of contention between the partners. In 1992, SMC wanted to replace 800 with *Zen*, as royalty payments for 800 would have ended. MUL wanted to continue 800, as *Zen* would be costlier, and not a mass market model. The compromise resulted in a royalty payment being worked out for SMC for an upgraded 800.

The Japanese Touch

The authors credit SMC's management style for integrated and fast-paced growth of MUL. SMC's tight controls on spending, for example, pruned the initial capital costs of the project from \$226 million to \$ 180 million. Project management entailed a holistic approach. Completion of a downstream facility was ensured before commissioning a new facility, so that nothing was kept pending for want of a facility in the upstream value chain. Negotiation with SMC was a lesson in patience for the Indian side of the venture, as it was very time-consuming. SMC's diligent homework always meant tough negotiations.

Cleanliness on the shopfloor, punctuality of the workforce and the importance of following strictly the standard operating procedures were stressed. SMC also brought in Japanese manufacturing processes into

India through the concepts (i) 5S, for organizing the workplace (*Seiri* - proper selection; *Seiton* - arrangement; *Seiso* - cleaning; *Seiketsu* - cleanliness; and *Shitsuke* – discipline); (ii) 3G, for resolving a shopfloor problem (*Genchi* - actual place; *Genbutsu* - actual thing; and *Genjitsu* - actually); (iii) 3M, for quality control (*Muri* - inconvenience; *Mudi* - wastage; and *Mura* - inconsistency). Physical exercises were mandatory for workers, those with consistently high attendance were rewarded, and workers and managers shared a common uniform and self-service canteen.

Revving up the Indian Auto Industry

Absence of vendors who could match SMC's technical specifications for auto components was difficult, especially in the initial years. Only the tyres and batteries in the first 192 cars to roll out of MUL's factory were sourced locally. Technically upgrading the vendors, training them, investing in them, forging JVs with them and promising buyback, MUL was able to meet its commitment of 95% indigenization of components within five years of its operations in India. Opting for a maximum of three suppliers per component, MUL held annual price negotiations with them.

Setting up a dealer network and instilling a sense of customer focus and service in them is another MUL initiative that helped prepare the market leader MUL for a more competitive landscape. To probe opportunities to increase its dealers' profitability, MUL commissioned consultancy firm A T Kearney.

For the Indian car customers, prior to MUL, service standards at car service centres were almost non-existent. MUL ensured that its service centre executives informed customers in advance if there was a delay in servicing their car. In case of an increase in the estimated cost of service, the executives had to not only intimate customers and take their consent but also record the telephonic conversation. It set an internal upper limit of ten complaints per 10,000 vehicles on the road. No wonder, despite subsequent entry of many MNCs in this sector, Maruti continues to top J D Power's Customer Satisfaction Surveys.

Exhibit I – Milestones of MUL's Journey	
April 1982	- MoU between SMC and the Indian government
April 1983	- Bookings open for customers
August 1983	- Assembly of the first car
November 1983	- The first car rolled out of the factory (coinciding with Indira Gandhi's birthday)
December 1983	- Cars handed over to the first ten allottees (drawn through a lottery)
December 1984	- Manufacture of van
December 1985	- Launch of <i>Gypsy</i>
June 1986	- Model II of Maruti 800 car
1987	- SMC hikes stake to 40%
1987	- First exports (to Hungary)
1990	- Launch of <i>Maruti 1000</i>
1992	- SMC hikes stake to 50%
1993	- Launch of 1298 cc <i>Esteem</i>
1997	- Manufacture of gears in India begins
1999-2000	- Emerges as the largest Asian car company outside Japan and South Korea
2001	- Launch of scheme to have a service station every 25-30 km on express highways
2003	- IPO

Abstract of Doctoral Dissertation

A Critical Study of Customer Satisfaction Levels with specific reference to Maharashtra State Electricity Distribution Company Ltd., in Pune city

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Electricity distribution is a monopoly business. Customer satisfaction has little impact on distribution companies profit or market share as it would have in case of regular products and services in competitive market. **Therefore the need has emerged to conduct a market survey to protect customers of MSEDCL's domestic and industrial customers in Pune city.** In future, once the consumers are given a chance to choose their own suppliers, as is the case in many countries, MSEDCL will lose its market share and profits unless proactive measures are taken now by increasing the customer satisfaction of present customers. MERC, a regulatory body has made a public paper in operationalising parallel distribution licensees (PDL). If PDL is allowed in future then it will end monopoly of MSEDCL and will be facing competition from other players who will come out with strategic plan of better customer satisfaction levels. **This study will help MSEDCL to improve performance so that they can build sustainable competitive advantage as and when the competition will be set in future.**

Objectives

- 1) To study the satisfaction levels of MSEDCL's domestic and industrial customers in the Pune city.
- 2) To compare satisfaction of domestic and industrial customers for electricity distribution companies in Mumbai and Pune city and carry out benchmarking.
- 3) To find out scope for improvements for MSEDCL's domestic and industrial customers in Pune city.
- 4) To review problems faced by MSEDCL in Pune city with regard to domestic and industrial customers.

Hypothesis

Hypothesis 1

MSEDCL's efforts to improve operations have not lead to satisfaction of its domestic customers in Pune city

Hypothesis 2

MSEDCL's efforts to improve operations have not lead to satisfaction of its industrial customers in Pune city.

Research Methodology

1. Research Design- Descriptive.
2. Type of Universe- Domestic Customers 10,10,989
Industrial Customers 29071
3. Sample Design- Non-probability. Convenient.
4. Sample size Domestic Customers 270, Industrial Customers 30, Benchmarking 48 Domestic Customers, 12 Industrial Customers, Reviewing problems faced by MSEDCL 05.

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5. Research Instrument- Questionnaire and personal interview.
6. Method of Data Collection-Secondary-Book reviews, journals, newspapers, research papers. Websites and interaction with MSEDCL officials.
7. Tools used for data analysis- Z value for one tail test at 5% significance level.

Major Findings

1. In comparison with electricity distribution companies in Mumbai and Pune, least gaps between satisfaction and importance are observed in case of Tata Power for both domestic and industrial customers.
2. Customer satisfaction level study of utility sectors-The customer satisfaction levels of both domestic and industrial customers are low as compared with other utility sectors.
3. Based on gaps analysis, the following attributes indicate higher scope for improvement for domestic customers in Pune city.
 - H. Power tariff.
 - J. Measures taken by MSEDCL in detecting and control of power thefts.
 - D. Reliability of power supply/service.
 - A. Criticality of service.
4. Based on gaps analysis, the following attributes indicate higher scope for improvement for industrial customers in Pune city.
 - L. Impact on business performance.
 - D. Reliability of supply/service.
 - A. Criticality of service.
 - J. Measures taken by MSEDCL in detecting and control of power thefts.