

# SECOM

## Management & Technology Review

Occupational Stress among Employees of LIC and ICICI Prudential Life Insurance Sector

**Shazia Tabassum**

Buying Behavior of Children (6-12 Years) in Retail Sector related to confectionery products in Gwalior area

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A Study of Academic Motivation and Academic Achievement of students studying in Senior Secondary School affiliated to H.B.S.E And C.B.S.E Board

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Factors Influencing Home Loan borrowers In Anand City-A Study

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Financial Management as a determinant of business success: A study of engineering industry

**Subhash Joshi**

E-commerce and HR Challenges

**Nikhil Zaveri Sarvesh Trivedi**



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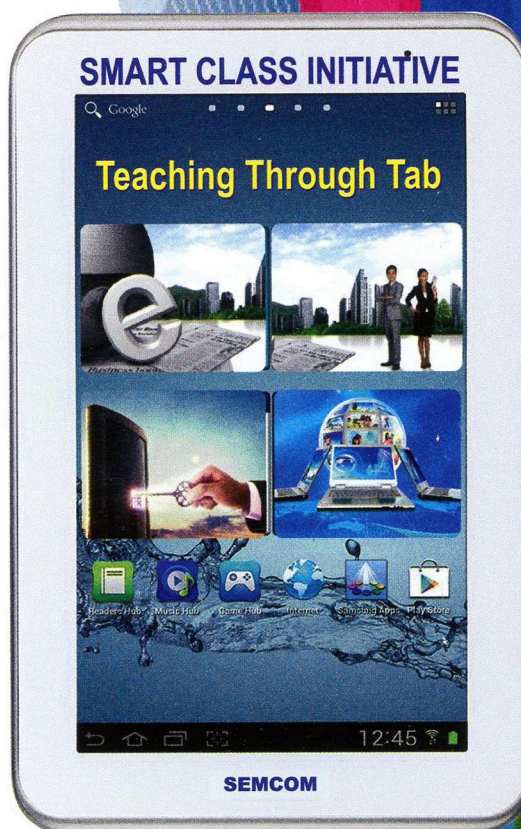


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## Inaugural Editorial

In recent decades, higher education has expanded at remarkable growth. In this process every person involved, directly or indirectly; in education, to have latest acquaintances with the academic world. This becomes indispensable for teachers in a way that they have got straight implications to the regeneration of the society. The development of any society largely depends on how the new generation is being educated and trained. In my opinion, for this, it is the sole responsibility of educational institutions.

Standing at the brink of a knowledge era, a teacher must involve him in the kinds of activities that comprise lot of research and innovations. Up-to-date content creation and techniques to disseminate knowledge using innovative pedagogy becomes handy when a teacher himself has gone for “Creation of Knowledge”, which is called research. It will not only equip teacher for some challenges but also orient the minds of students towards research. It is the research capabilities of academicians at higher education which will decide the human and social development at large.

SEMCOM has always promoted research by involving teachers and students in various research oriented activities like Faculty Symposium and Best Business Idea Contest.

I am sure this journal will bring forth many such creations by which entire society will be benefited.

I bless the editorial team of SEMCOM for publishing best of the research work in the area of Management and Technology in the coming years.

C L Patel  
Chairman  
Charutar Vidya Mandal  
Vallabh Vidyanagar

## Special Editorial

A changed world is demanding a new and innovative way of teaching – learning process. The quality of our education will determine the future of our country and our people.

Twenty first century is characterized by explosion of knowledge and dominance of knowledge. Communication and technology revolution are influencing the way we learn and disseminate knowledge. An institution is known by its ability to generate knowledge bank through innovative thinking and sustained creation of new vistas of knowledge. It should be acknowledged that innovation and knowledge creation consists largely of rearranging what we know in order to find out what we do not know. Therefore to think creatively and write creatively the teaching community must be able to look a fresh at what we normally take for granted .The biggest challenge of an educational instituti9on is to convert innovation and knowledge bank into social goods and economic wealth for all the stake holders in the society.

The future of the society depends largely on its ability to generate new ideas, processes and solutions .By bringing out Management and Technology Review Journal the college is making knowledge available to the larger society. I am sure research work form academicians, research scholars and industry will enrich the journal. I am confident that the ideas, concepts and knowledge at large will stimulate creative minds and challenge them to take on the studies further. The journal may be a small step but certainly is a pioneering step in the direction of crating knowledge bank.

I wish that the college brings out more such journals in future. I convey my best wishes for the publication of the first issue of the journal- SEMCOM Management and Technology Review.

S. M. Patel  
Secretary  
Charutar Vidya Mandal  
Vallabh Vidyangar



## Editorial

It gives me immense pleasure to present before you the maiden issue of SEMCOM Management and Technology Review, a blend of prevalent practices in the world of business, management, technology and education and e-Commerce. Our aim is to provide a platform to researchers where new ideas flourish and the gap between expectations and realizations is zeroed down.

The article on critical review of use case-based approach for OOAD is very informative. On the other hand, dynamics of children's buying behavior and the impact of brand on them and what is the effect of corporate branding on consumers' product evaluation give some more insights into business.

The service markets like home loans and factors affecting home loan borrowers, awareness and perceptions among users for certain value added mobile services offer marketing facts on consumer perception. Extensive studies done in the financial sector on how innovations are essential to help venture capital funds in India and make Indian venture capital industry potential and vibrant by analyzing the problems and issues of financing new venture. At the same time analysis of working capital management is a focused study on an Indian tyre industry whereas financial management as a determinant factor for business success is study on engineering companies. Management practices which are crucial in an organization as well as for self-management and the impacts of HR practices on employee effectiveness and occupational stress among employees give practical inputs in the area of Human Resource Management particularly in an E-Commerce era.

I am sure our attempt to make research – oriented deliberations of teachers recognized and contemplated by the academic world gets its right course.

Nikhil Zaveri  
Chief Editor

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# Occupational Stress among Employees of LIC and ICICI Prudential Life Insurance Sector

Ms Shazia Tabassum

## Abstract

The aim of this study is to explore the differences in job-related stress or occupational stress, if any, between public and private life insurance sector employees, based on twelve occupational stressors. A sample of 100 respondents from different insurance organizations in the public (LIC) and private (ICICI Prudential) Life Insurance sectors participated in this study of Uttar Pradesh, India, whose responses are measured according to an Occupational Stress Index Scale. For meeting the objectives Occupational Stress Index (OSI) constructed by Srivastava and Singh was used in the study. We also use secondary data provided by the literature review. The sample was collected through convenience sampling. On applying the t-test and ANOVA test to the data, we find that both public (LIC) and private (ICICI Prudential) Life Insurance sector employees face moderate to high levels of stress. While there is no significant difference overall between public and private sector employees in terms of total stress levels, certain individual stressors—such as age and educational qualifications—do yield differences.

## Introduction

Stress emerging as a leading health risk of the 21st century, it refers to the physical, mental and emotional wear and tear and as a serious hazard in the workplace. Many employees feel some sort of work-related stress at some point in their working lives, particularly when deadlines are looming. Employee stress can take many forms and significantly impact on both individuals and organizations. It can manifest as anxiety, aggression, irritability, dependency, withdrawal or depression. This study aims to investigate the level of stress among insurance personnel in both public as well as private sector of insurance business. Previous studies suggests that job in the service sector are more stressful than comparable jobs in other sectors. In fact, any job that involves interactions with people is likely to be more stressful than jobs that involve dealing with “thing”. Stress in the insurance sector is rising rapidly to bring in pressure and strain on the mind of the employees.

Occupational stress is an increasingly important occupational health problem and a significant cause of economic loss. Occupational stress may produce both overt psychological and physiologic disabilities. However it may also cause subtle manifestation of morbidity that can affect personal well-being and productivity (Quick, Murphy, Hurrell and Orman, 1997). A job stressed individual is likely to have greater job dissatisfaction, increased absenteeism, increased frequency of drinking and smoking, increase in negative psychological symptoms and reduced aspirations and self-esteem (Jick and Payne, 1980).

Over the last decade, numerous changes have occurred in the insurance industry due to international expansions and stiff competitiveness. As a result of these changes, employees are suffering from stressful work conditions such as pressure to perform and work-life conflict. Tracking and addressing the work wellness of these employees are important to improve their work-related performance, as well as the quality of their service. In order to measure these constructs it is important to have valid and reliable instruments (Lelani Brand, 2006). It is readily apparent that increased concerns about job stress have stimulated numerous studies that have helped to identify important sources of stress in the workplace (Quick et al., 1997). It should be noted, however, that the theories that guided this research have differed from study to study, resulting in diverse goals of investigation, conceptual confusion and inconsistent and often conflicting research findings (Kasl, 1978; Schuler, 1980). While some investigators have focused on the pressures of a particular job, others have been concerned primarily with the behavioral and health consequences of work-related stress (Schuler, 1991). Consequently, in order to clarify and interpret research findings on occupational stress, it is essential to understand the conceptual framework of stress among insurance personnel that have guided this research.

Different studies have classified occupational stress in terms of physical environment; role stressors, organizational structure, job characteristics, professional relationships, career development, and work-versus-family conflict (see Burke, 1993). Cooper and Marshall (1976) add to this list factors intrinsic to a job, the management's role, and professional achievements. Based on these complexities, stressors can be grouped into two main categories: (i) job-related stressors, and (ii) individual-related stressors.

Stress is measured using a number of instruments. Our focus, however, is occupational stress index (OSI), which measures total occupational stress. We use Srivastava and Singh's (1981) scale, which evaluates respondents' quantum.

## A REVIEW OF THE LITERATURE

### STUDIES AT THE NATIONAL LEVEL

Sharma (1987) focuses on the managers and supervisors of public and private pharmaceutical organizations to ascertain the role of a motivated climate on four psychological variables: (i) job satisfaction, (ii) participation, (iii) alienation, and (iv) role stress. The study's sample comprises 150 respondents, including 75 managers and 75 supervisors. Sharma's findings indicate that employees of public sector organizations score lower than and differ significantly from those of private sector organizations. However, public sector employees score significantly higher in terms of role stagnation.

Srivastava and Bhatt (1971) and Crown and Crisp (1966) in his study noted that the correlation analysis of Occupational stress and mental ill health of the public sector employees. Results revealed significant positive relationship between all the dimensions of occupational stress, excepting the stress of responsibility of persons and various symptoms of mental ill health. The obtained coefficient of correlation indicates that overall occupational stress experience by the public sector employees explained 17.64 percent variance in their mental ill health. The results also indicate that employee's occupational stress. Job stress has also been found to be positively related to job satisfaction of the managers of private sector organizations.

Ahmad, Bharadwaj, and Narula (1985) assess stress levels among 30 executives from both the public and private sector, using an ORS scale to measure ten dimensions of role stress. Their study reveals significant differences between public and private sector employees in three dimensions of role stress—role isolation, role ambiguity, and

self-role distance. The authors also establish the insignificant effect of several background factors, such as age, level of education, income, marital status, and work experience.

Jha and Bhardwaj's (1989) empirical study of job stress and motivation among 120 frontline managers from both the public and private sector finds that the latter score more than the former in factors such as the need for achievement and total motivation. Chaudhary (1990) probes the relationship between role stress and job satisfaction among bank officers. The author's results indicate that role erosion and resource inadequacy act as dominant stressors while role ambiguity and role expectation conflict are remote contributors to role stress in the sample population.

Srivastava (1991) surveys 300 employees of the Life Insurance Corporation and reports that there is a significant positive correlation between various dimensions of role stress and symptoms of mental ill health. Stress arising from role ambiguity and role stagnation is the most intensively correlated with anxiety. Finally, Dwivedi (1997) assesses the magnitude of trust, distrust, and ORS to determine the extent of this relationship among public and private sector organization. Surveying 55 executives from the public sector and 62 from the private sector participated in this study.

Bushara & Rajiv (2012) in their research paper entitled "Organizational Role Stress Among Public and Private Sector Employees: A Comparative Study" carried out a study to explore the differences in job-related stress between public and private sector employees, based on ten role stressors. This study also examines the role of demographic variables on the stress levels of both public and private sector groups. This study entails a survey of 182 public and 120 private sector employees in Uttar Pradesh, India. The sample was collected through convenience sampling. On applying the t-test and ANOVA test to the data, study found that both public and private sector employees face moderate levels of stress.

Preshita & Pramod (2013) in their research paper entitled "Influence of Organizational Stress on Service Quality of Bank Employees: A Study" carried out a survey to understand the influence of Organizational Stress on quality service among the private and public sector bank employees in Dhanbad. The sampling frame comprised employees of two major banking organizations of Dhanbad viz. State Bank of India and ICICI Bank. The Sample size was 70, that is, 35 each from SBI and ICICI. The study can be best explained through Yerkes-Dodson Inverted U Model given

by psychologists Robert M. Yerkes and John Dillingham Dodson in 1908. It is found that work life imbalance is the major source of stress for private sector bank employees whereas technology is the major source of stress for public sector bank employees.

## STUDIES AT THE INTERNATIONAL LEVEL

Lewig and Dollard (2001) find that public sector employees are subject to greater work-related stress than private sector employees. Dollard and Walsh (1999), however, report that private sector workers in Queensland, Australia, had made twice as many stress claims as public sector workers. Macklin et al. (2006) survey 84 public and 143 private sector employees to assess any significant difference in their stress levels. They conclude that there is no significant difference between employees on the basis of sector, but that there is a significant difference between genders, i.e., female employees are subject to greater stress than males.

Coetzer and Rothmann (2006) in their research paper entitled "Occupational Stress of Employees in an Insurance Industry" carried out a study to assess the internal consistency of the ASSET, to identify occupational stressors for employees in an insurance company and to assess the relationships between occupational stress, ill health and organizational commitment. In this study cross-sectional survey design was used. An availability sample ( $N = 613$ ) of employees in an insurance company was used. An Organisational Stress Screening Tool (ASSET) was used as measuring instrument. The results showed that job insecurity as well as pay and benefits were the highest stressors in the insurance industry.

D'Aleo, Stebbins, Lowe, Lees, and Ham (2007) examine a sample of 559 public and 105 private sector employees to assess their respective risk profiles. They find that public sector employees face more stress than private sector employees. Malik (2011) collects data on 200 bank employees in Quetta, Pakistan, of which 100 work in public sector banks and the remaining 100 in private sector banks. Gert Zülcha, Patricia Stocka and Daniel Schmidta (2012) undertook a study to many companies currently strive to support their employees' work-life balance through appropriate measures in order to improve employees' loyalty towards the company and to recruit new employees. In this study, flexibility in the area of working times is a measure that can influence employees' private lives. In this questionnaires were handed out to around 1,200 employees, 593 of whom returned completed questionnaires, which gave a return rate of 49 %. The author finds

that there is a significant difference in the level of stress to which both groups are subject, and that public sector bank employees face a high level of occupational stress.

It is clear that different studies have generated different results on the basis of their particular contexts. Some studies argue that public sector employees are subject to greater stress while others argue the opposite. The literature review shows that work-related stress is almost equal in both the public and private sector, and that research on this topic remains a popular field of enquiry.

## OBJECTIVES AND HYPOTHESES

This study's aims are to (i) examine the difference in stress levels between public and private sector employees, and (ii) assess the impact of socio-demographic factors on employees' stress levels. To do so, we propose the following hypotheses:

- H01: There is no significant difference in OSI among different age groups of employees.
- H02: There is no significant difference in OSI among employees of different marital status.
- H03: There is no significant difference in OSI among employees with different levels of work experience.
- H04: There is no significant difference in OSI among employees with different educational qualifications.
- H05: There is no significant difference in OSI between public and private sector employees.

## RESEARCH METHODOLOGY

### RESEARCH DESIGN

The present study is exploratory as well as descriptive in nature in context of insurance sector. Here the researcher on the one hand, has attempted to lay down the theoretical ground for occupational stress and tried to explore its theories, and various studies related to it. On the other hand he has tried to describe the psychological situation of insurance employees through the mode of a scale called OSI (Occupational Stress Index).

### SAMPLE

Employees working in the different branches of LIC and ICICI Prudential specifically located in Northern part of India from Aligarh and Agra form as subjects. In total researcher contacted 125 employees to whom the questionnaires were distributed, out of which 100 were received



complete in all respects. Therefore, the exact sample was 100.

### TOOLS USED FOR DATA COLLECTION

The Occupational Stress Index (Srivastava, A.K., and Singh, A.P., 1981) was used for data collection. The scale consists of 46 items, each to be rated on the five point scale. Out of 46 items 28 are 'True – Keyed' and last 18 are 'False – Keyed'. The items relate to almost all relevant components of the job size which cause stress in some way or the other, such as, role over-load, role ambiguity, role conflict, unreasonable group and political pressure, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic, impoverishment, low status, strenuous working conditions and unprofitability.

### RELIABILITY OF THE SCALE

The reliability index ascertained by Split Half (Odd Even) method and Cronbach's alpha – coefficient for the scale as a whole were found to be .935 and .90 respectively. In general, in psychology researches, a good measure should have a Cronbach's Alpha of at least .60 and preferably closer to .90. Therefore, in the present study the scale can also be considered reliable. The reliability indices of the 12 sub-scales were also computed on the Cronbach's alpha method. The (Table No. 2) records the obtained indices.

### DATA ANALYSIS AND RESULTS

The results obtained from 100 subjects on occupational stress on 12 subscales of OSI were analyzed using descriptive statistics. In the present study effect of occupational stress was investigated. The Descriptive Statistics, ANOVA t-test is measuring the effect of various dimensions on each other.

### BACKGROUND OF THE STUDY

"Faith in God is the best insurance when you are faced with personal tragedy or a natural disaster. An insurance company can reimburse your financial loss, repair your home or car, and help you start again in business, but only god can mend your broken heart".

(Anonymous)

### INSURANCE

Insurance is a legal contract that protects people from the financial costs that result from loss of life, loss of health, lawsuits, or property damage.

Insurance provides a means for individual and societies to cope with some of the risks faced in everyday life. People purchase contracts of insurance, called policies, from a variety of insurance organizations. In other words we can say that Insurance is a contract between insurer and insured under which the insurer indemnifies the loss of the insured against the identified losses. For this service, mutually agreed upon premium are being paid by the insured. The contract lays down the time frame within which the losses will be met by the insurer.

### INSURANCE INDUSTRY IN INDIA

Insurance is a countrywide subject in India. The insurance sector has gone through a number of phases and changes. Since 1999, when the government opened up the insurance sector by allowing private companies to solicit insurance and also allowing foreign direct investment of up to 26%, insurance sector has been a booming market. However, the largest life insurance company in India is still owned by the government. The Indian economy registered an impressive GDP growth rate of 7.4 per cent in 2009-10 following 6.7 per cent in 2008-09. Indian economy is the 12<sup>th</sup> largest in the world, with the GDP of \$1.25 trillion and 3<sup>rd</sup> largest in terms of purchasing power parity, Fifth largest life insurance market with US\$ 41-billion. According to IRDA, the insurers in the year 2009-2010 sold 10.55 million new policies with LIC selling 8.52 million and private companies 2.03 million policies. With factors like a stable 8-9 per cent annual growth, rising foreign exchange reserves, a booming capital market and a rapidly FDI inflows. Insurance is one major sector which has been on ascent since the revival of Indian economy. Taking into account the huge population and growing per capital income besides several other driving factors, huge opportunity is in store for the insurance companies in India. Nearly 80% of Indian population is without life insurance covering.

### PROFILE OF LIFE INSURANCE CORPORATION (LIC)

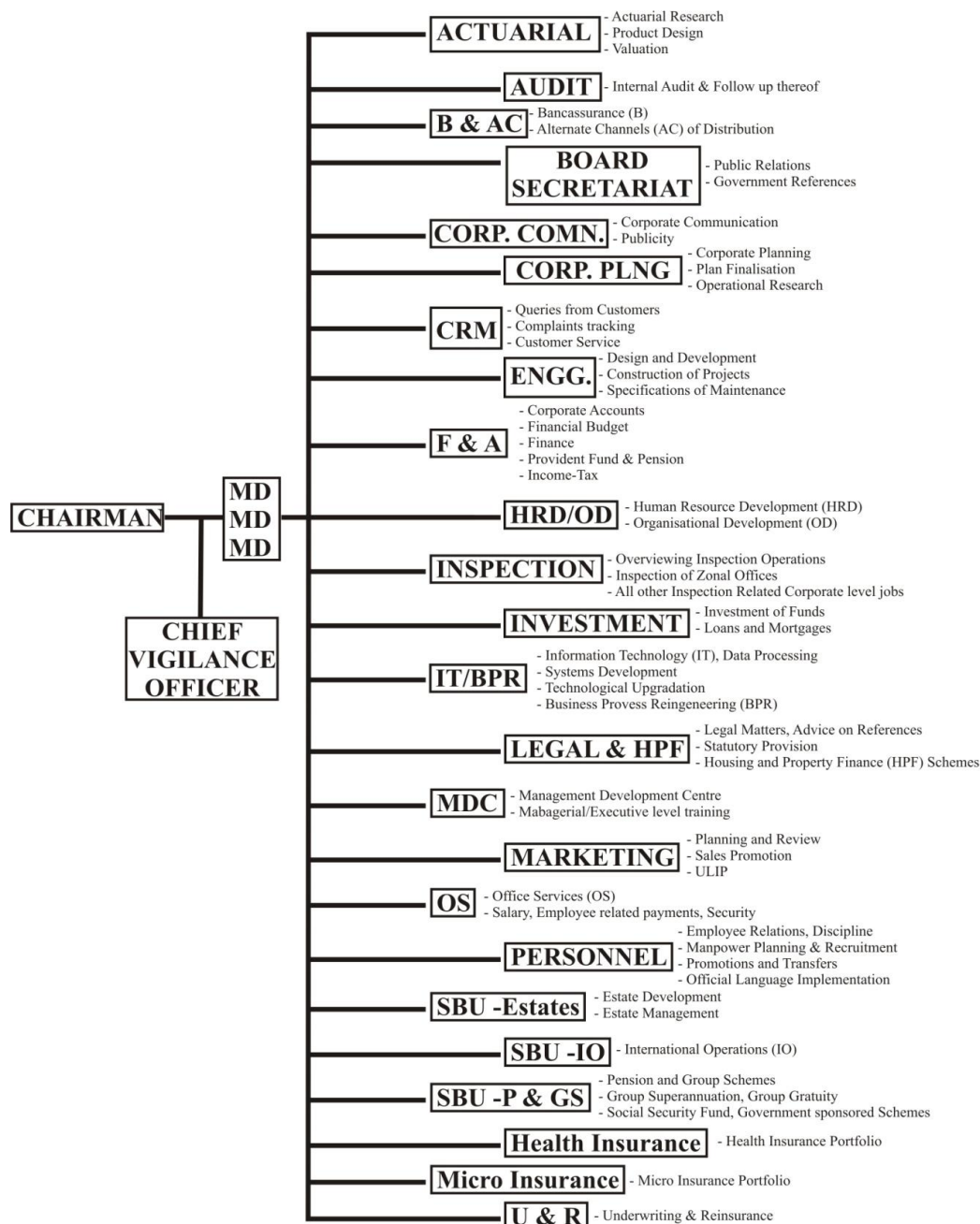
LIC was formed in 1956 with the merger of more than 200 insurance companies and provident societies. Since then they have been among the most trusted brands in India providing insurance solutions to even the remotest corners of India through their huge network of agents and distributors. It was only in 2001 that the private sector was allowed into the insurance sector in India. LIC has maintained its dominant leadership status even with the presence of 22 other life

insurance companies. LIC is the largest life insurance company in India with a huge presence in both urban and rural markets. Its distribution is unmatched and has a strong agent force which reaches out to every small town in India ensuring that their products are being offered to one and all in the country. The insurance products of LIC are often the most simple and consumer friendly and it is displayed by the enormous response it gets to

the launch of any new product. LIC has an insurance product for almost any need - from protection, savings and investments, micro-insurance plans to special plans for women and even for handicapped individuals. The insurance agents of LIC have been the backbone of the company for long and their agent network keeps getting bigger by the day.

**Figure: 1.1 Shows the Organizational Structure of Central Office in LIC of India**

## ORGANISATION OF CENTRAL OFFICE IN LIC OF INDIA



## PROFILE OF ICICI PRUDENTIAL LIFE INSURANCE

ICICI Prudential Life Insurance Company is a joint venture between ICICI Bank, a premier financial powerhouse and prudential plc, a leading international financial services group headquartered in the United Kingdom (UK). The company was granted a certificate of Registration by the IRDA on November 24, 2000 and eighteen days later, issued its first policy on December 12. ICICI Prudential was amongst the first private sector insurance companies to begin operations in December 2000 after receiving approval from Insurance Regulatory Development Authority (IRDA). From its early days, ICICI Prudential seemed to have the wherewithal for a large-scale business. By March 31, 2002, a little over a year since its launch, the company had issued 100,000 policies translating into premium income of approximately Rs. 1,200 million on a sum assured of over Rs.23 billion. When the company began its operations, the need was to build a brand that was relatable to, symbolized trust and was easily recognized and understood. ICICI Prudential Life's capital stands at Rs. 4,780 Crores (as of March 31, 2010) with ICICI Bank and Prudential plc holding 74% and 26% stake respectively. For the period April 1, 2009 to March 31, 2010, the company has garnered total premium of Rs 16,532 Crores and has underwritten over 10

million policies since inception. The company has assets held over Rs. 57,000 Crores as on March 31, 2010. For the past eleven years, ICICI Prudential Life has retained its leadership position in the life insurance industry with a wide range of flexible products that meet the needs of the Indian customer at every step in life.

ICICI Prudential seemed to have the wherewithal for a large-scale business. By March 31, 2002, a little over a year since its launch, the company had issued 100,000 policies translating into premium income of approximately Rs. 1,200 million on a sum assured of over Rs.23 billion. When the company began its operations, the need was to build a brand that was relatable to, symbolized trust and was easily recognized and understood. It launched a corporate campaign ICICI Prudential also made using the theme of 'Sindoor' to epitomize protection, trust, togetherness and all that is Indian; endearing itself to the masses. The success of the campaign, 'the calling card of the company' saw the brand awareness scores almost at par with its 40 year old competitor. The theme of protection was also extended to subsequent product and category specific campaigns –from child plans to retirement solutions –which highlight how the company will be with its customers at every step of life.

## DATA ANALYSIS AND INTERPRETATION

Table 1.3: Item Statistics							
sDimension	Code	Mean Score S.D. and Rank					
		LIC			Prudential ICICI		
Role Overload	RO	3.1152	.51332	8	3.2634	.53092	4
Role ambiguity	RA	2.5669	.55661	12	2.7648	.64576	12
Role Conflict	RC	3.0166	.54213	10	3.0419	.62917	8
Unreasonable group & Political pressure	UGPP	3.2197	.60802	5	3.1626	.74441	7
Responsibility for persons	RFP	3.3280	.74866	3	3.3584	.83933	3
Under Participation	UP	3.2627	.70359	4	3.1707	.80208	6
Powerlessness	PL	3.1253	.64327	7	2.9516	.65991	11
Poor peer Relations	PPR	3.5518	.45164	2	3.5161	.52737	1
Intrinsic impoverishment	IIMP	3.7261	.46806	1	3.4583	.52756	2
Low status	LS	2.7898	.72315	11	2.9803	.57909	10
Strenuous working conditions	SWC	3.1409	.58352	6	2.9987	.56443	9
Unprofitability	PT	3.0748	.97491	9	3.2285	.79028	5
Overall Occupational Stress	OS	3.1598	.33897		3.1580	.36581	
Total Number of Respondents: 100							

Table: 1.3

Comparison between the Mean Scores, Standard Deviation and Rank of Employees in Public (LIC) and Private (ICICI Prudential) Life Insurance Sector on the Dimensions of Occupational Stress



In order to rank various stressors, we calculate their mean values and standard deviations, followed by those of the total OSI scale. (Table 1.3) shows that all twelve individual stressors give rise to moderate levels of stress among the employees sampled. The mean value of total occupational stress is (3.1598), implying that employees face moderate levels of total OSI. The highest mean value of 'Intrinsic impoverishment' is (3.7261), implying that employees are subject to this stressor the most. The highest standard

deviation value of 'Unprofitability' is (.97491) in Public (LIC) Life Insurance sector. On the other hand, the value of 'Poor Peer Relations' is (3.5161) and standard deviation value of 'Responsibility of Persons' is (.83933) in Private (ICICI Prudential) Life Insurance Sector, indicating that some groups experience stress due to 'Responsibility for Persons' and 'Poor Peer Relations' more than others. While the lowest mean scores computed is (2.5669) and (2.7648) in 'Role Ambiguity' in both the sectors.

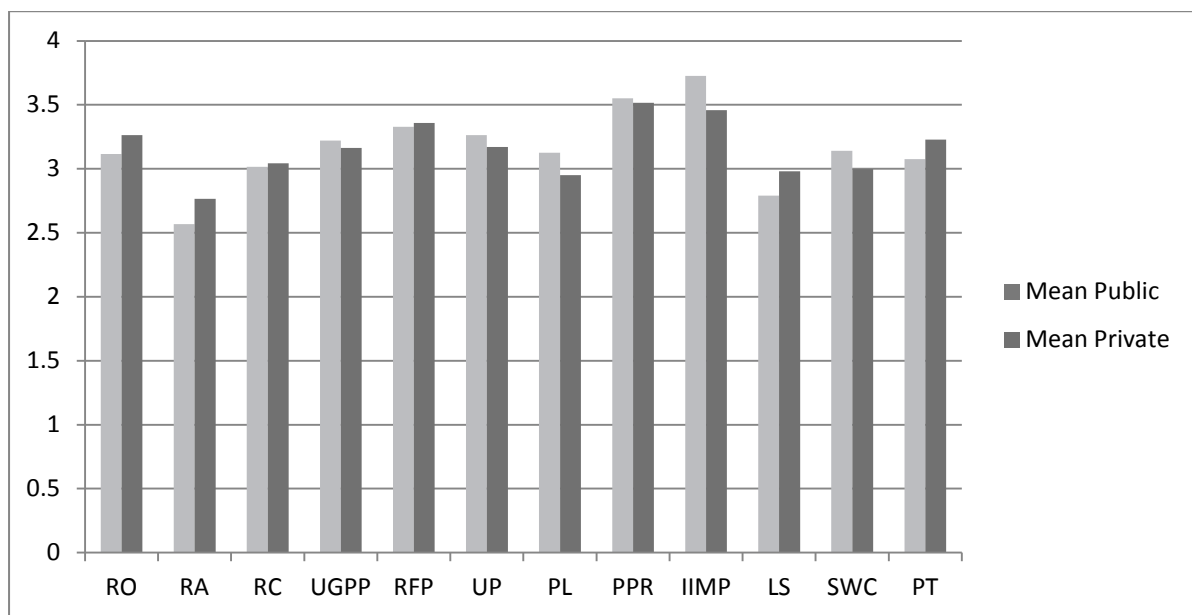


Figure 1.2: Shows the Bar Diagram of Dimensions of (OSI) in Public (LIC) and Private (ICICI Prudential) Life Insurance Sector

## RESULTS AND DISCUSSIONS

In order to analyze the role of socio-demographic factors on employees' stress levels, we run a t-test and ANOVA test on the sample. The latter helps assess the difference in total stress between age groups. (Table 1.4) indicates that the age factor is not significant. H01, which states that there is no significant difference in the stress levels of employees of different age groups, is therefore an acceptable hypothesis.

We use the t-test to analyze the stress of marital status on employees' stress levels, and, again, find no significant value. (Table 1.4) also shows that there is no significant difference in OSI among employees of a different marital status. Thus, H02, which states that there is no significant difference in OSI among employees of a different marital status, is an acceptable hypothesis. Work experience, the third socio-demographic factor, does, however, affect employees' stress levels.

Running an ANOVA test on the sample reveals that there is a significant difference in OSI between groups with different degrees of work experience. This implies that H03, which states that there is no significant difference in OSI among groups with different levels of work experience, is not an acceptable hypothesis.

Table: 1.4  
Impact of socio-demographic factors on OSI

Hypothesis	Demographic	Significance value	Remarks
H0 1	Age	0.280	Accepted
H0 2	Marital status	0.282	Accepted
H0 3	Work experience	0.005**	Not accepted
H0 4	Qualifications	0.002**	Not accepted

Note: \*\* = significant at 99-percent confidence level.

Similarly, we use the ANOVA test to analyze the impact of educational qualifications on employees' stress levels. As (Table 1.4) shows, there is a significant difference in OSI among groups with different levels of educational qualification groups. Thus, H04, which states that there is no significant difference in OSI among groups with different qualifications, is not an acceptable hypothesis.

## CONCLUSION

Our study has led us to conclude that employees in both the public and private sectors face moderate levels of stress, of which they are subject to poor peer relation the most and role ambiguity the least. Further, there is no significant difference in total occupational stress among public and private sector employees. These results support the findings of a number of earlier studies, e.g., Macklin et al. (2006), although we have noted that private sector employees facing slightly more stress than those in the public sector. Our analysis of the impact of various socio-demographic factors on stress level reveals that educational qualifications and work experience have a significant impact on employees' stress levels.

In the light of above findings it can be concluded that insurance personnel in India are exhibiting clear signs of moderate to high level of work related stress. *Intrinsic Impoverishment*, *Poor Peer Relations* and *Responsibility for Persons* emerged as three key stressors among insurance personnel. On the basis of these reasons a study is to be conducted to understand the main reasons behind the level of stress and how these can be removed for the employees. This study is an attempt to provide suggestions to improve upon the existing sources of employee stress which is an inherent part in both public (LIC) and private (ICICI Prudential) life insurance sector, and to make it manageable in the light of analysis of findings and conclusions there from.

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## Author's Profile

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## Buying behavior of children (6-12 years) in retail sector related to confectionery products in Gwalior area

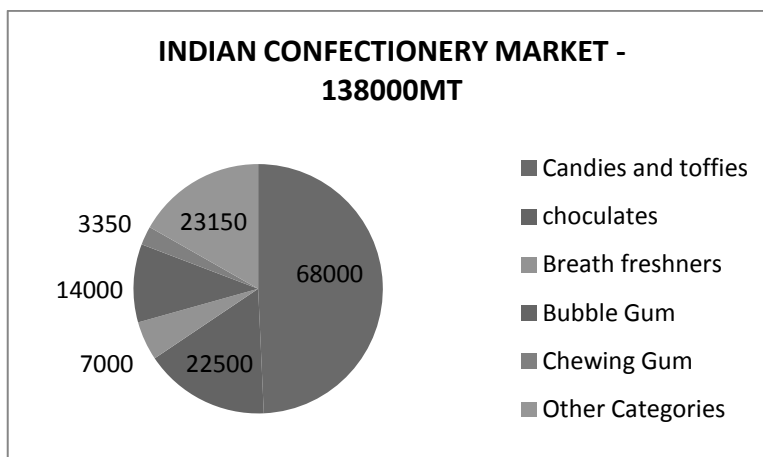
Syed Mushahid Hussain, Huma Khan, Sonam Singh, Sanjay Sharma

### Abstract

Buying Behaviour is a dynamic phenomenon which varies with Age, Sex, Economy and Culture. This aspect requires a deep study of an individual to gauge the actual position to stay up in the market.

Purchasing behavior of Children do have altogether a different approach and is based on their own criteria of selecting based on economy, Brand, Packing and taste, Market observed a healthy competition between foreign market players like Cadbury, Nestle and Indian players like Parle and Nutrient with the need to grow in expenditure of advertisement confectionery industry observed a decline in the share of non-branded products. Children today are extremely aware of the various brands in the market and are conscious of the products they use or consume. This research has different findings related to the buying behavior of children (6 – 10 Years) and will further open doors for researchers to study further seeing the requirements of market which works on changing dynamics. We had used bar charts to present the outcomes of the research.

### Introduction



Source: Industry experts and leading manufacturers estimates, Promar's trade interviews

Confectionery is related to the food items that are rich in sugar and often referred to as a confection. Confectionery refers to the art of creating sugar based dessert forms, or subtleties (subtlety or sotelty), often with pastillage. From the Old French confection, origin of Latin confection (n-), from confiner, to "put together". The confectionery industry also includes specialized training schools and extensive historical records. Confections include sweet foods, sweetmeats, digestive aids that are sweet, elaborate creations, and something amusing and frivolous. Confectionery items are commonly consumed by our society. Confectionery items are generally used for taste and small hunger but the people or children should consume confectionery items seeing the quality aspect because its excessive use can harm body like any other sweet and it should use as a snacks in little quantity. The confectionery products are available in wide range and are consumed by all the age groups. The companies have started selling in small packages keeping in mind the utility and economic aspect. Modern usage may include substances rich in artificial sweeteners as well. The Words Candy (North America), sweets (UK and Ireland), and lollies (Australia and New Zealand) are also used for the extensive variety of confectionery. Generally, confections are low in micronutrients but rich in calories. Specially formulated chocolates have been manufactured in the past for military use as a high density foods energy source. The confectionery market of India includes sugar boiled confectionery, hard-boiled candies, toffees and other sugar-based candies. Sugar boiled confectionery had penetrated an estimated 15% of the households only further suggesting a large potential for growth. Considering the 22%



penetration in the urban market, the confectionery industry could hope to be in for great times. In India the annual per capita consumption of branded confectionery is still under 100 gms. Hard-boiled candy is reserved for the small-scale sector. There are about 5,000 units catering to the local markets. The total contribution of the sugar boiled confectionery market in the organized sector, comprise plain, hard-boiled candies, toffees, éclairs and gums is around Rs. 20 billion. Add to this the unorganized sector and the market for all types of confectionery is Rs. 50 billion. However, in terms of value the organized sector commands 60% of the market share. With the exit of MNCs and other established organized players from very low priced (25 Paise) category, the unorganized sector has grown very fast. MNCs and high-powered advertising support substitute products like chewing and bubble gums. With Rs 3,250 million market shares, the gum and mint market is growing at a rate 10 to 15% annually. Fruit and mint rolls being marketed by companies with sound strategies are going ahead rapidly. The organized market is a dominated giant player like Parry and Nutrine. The Perfetti India (Alpenliebe), Warner Lambert, General de Confiteria has made their presence felt. The MNC chocolate majors like Cadbury India (Googly, Gollum and Frutus) and Nestle (Polo Mints) have also jumped into the confectionery competition. Cadbury India has had a limited success. Nestle, known best for its Polo mints, has also had only a limited success in the confectionery market under Allen's banner. Perfetti India's Alpenliebe, however, has made it big in the recent couple of years. Indian brands like Maha Lacto with the production of 15,000 tonnes, Aashay 7000 tonnes, Coca Naka 4000 tonnes, Dishum 3,000 tonnes, Honey Fab 1,500 tonnes and Eclairs are the prominent offerings in the Indian confectionery market. Several global players like Bassetts'; Maynards, Pascall and Trebor were trying to enter the Indian market. The initial entry-level brands are: Maynards' Wine Gums; Bassett's Liquorice of all sorts; Trebor Extra strong mints, mighty mints and softy mints. Polo, Alpenliebe, Pan Pasand, Melody, Poppins, Hajmola, Kismi and Coffy Bite have been quite successful in the Indian market. Each one has its USP and, perhaps, sells because of it. Ravalgaon's Pan Pasand was the first candy with 'paan' flavour. Parle's Melody is a toffee-chocolate- éclair hybrid. The same company's Poppins has a unique form and sells in a variety of

colour. Dabur's Hajmola Candy tastes like a churan, a sweet and sour mixture of assorted traditional digestives Parle's Kismi entered as a unique toffee slab. Parry's Coffy Bite came with a mixed taste of its own. Some of the more recent successes are Nestle's Polo, which is a mint with a hole. Interestingly, the hole, it is claimed, is the USP. Perfetti's Alpenliebe is a caramel candy. Alpenliebe, priced at Rs 5 for a 35 gm roll, is a success in urban areas. At the lower end of the market, the movement from unbranded to local brands is evident. There have been three large operators, Nutrine Confectionery, Parry's Confectionery (PCL) Parle Products and Ravalgaon Sugars. With de-reservation, the large organized sector can look forward to a big potential for expansion. A fascinating market phenomenon emerged. When brands like Coffy Break, Eclairs, Coffee Bite, and Coconut Cookies hit the market in the mid-1980s, Parle's Poppins started disappearing from urban stores. But Poppins re-appeared and is selling well. There has been a location shift. Poppins is found in rural and semi-urban general stores and the pan-beedi shops. A strategic decision to position itself in a different market saved the brand. Chewing gums and mints are a preferred worldwide with the new-style- living, but in India, the category did not boost for quite a while. It has now caught on: from Rs 500 million to Rs 3000 million in just three years and is currently placed at Rs 3,500 million. It must be due to product quality and effective marketing - which includes brand equity. In chewing gum, Perfetti leads, followed by Warner Lambert and then Wrigley's, which came late and has a distribution alliance with Parry's. In bubble gum, Perfetti leads with Big Babool, followed by GDC's Boomer. Italian parent Perfetti entered the country in 1994. Agrolimen of Spain followed it, which is a 51:49 joint venture between General de Confiteria and Dabur India. Dabur has since withdrawn from the joint venture; General de Confiteria launched bubble gum with the brand, Boomer, which is targeted at kids for sale. Perfecta also introduced three products, Center Fresh, Big Babool and Brooklyn, with designed segmentation: Center Fresh, available in three flavours, targeting the entire market; Big Babool targeted at children in the age-group up to 5 years; Brooklyn, a stick chewing gum, meant for the teenagers. Warner Lambert has reinforced its interest, which launched

Clorets chewing gum positioned as a mouth freshener while Chiclets is targeted at teenagers.

The role of Children between age group (6-12 Years) is vital as they are aware about the confectionery products and are the maximum users. They have their own decision while purchasing the products and do involve parents also in the purchasing process. The frequency of purchasing varies from place to place and depends on other factors also. The companies have changed their strategy while going for small packing as to meet the economic aspects. Some companies go for innovative products also to attract the customers

Products have to appeal to the conflicting agendas of child and parent, while fighting off increasing competition. Marketers also have to recognize that children are moving into new markets. This has a knock-on effect.

The Children do have their own decision also while opting for the products whereas they do go for the influencers and recommenders also. This market is vast and is growing day by day in all fronts. This research will help the researchers to understand the Pre-Purchase and Post-Purchase behavior of the children.

## Literature Review

**According to Dr Raju M. Rathod & Bhavna. J. Parmar(Nov,2012)**

From survey, it has been found that more number of children (64%) watch television for 1-2 hours a

day. There are very less number of children (2 %) who watch television for less than 1 hour a day. Around 33 children watch television for more than 3 hours. There are less than 1 per cent children who watch television for more than 4 hours.

- As far as watching any particular program on television is concerned, children like to watch cartoon movies or cartoon serials on television. Children also like to watch movies on television
- Majority of children are familiar with the advertisements of Chocolates. Five Star and Cadbury chocolates are their favorite brands.
- After watching advertisement of confectionary products majority of children demand to purchase that confectionary product.

- Majority of children like to buy confectionary products because it gives free tattoo and other promotional things. There are some children who like to buy confectionary products just because his/her favorite celebrity is associated with the advertisement of that product.

- After watching advertisement of confectionary products children sometimes insist their parents to purchase that product for them.

- When children insist their parents to purchase confectionary product after watching its advertisement, parents generally do agree with them.

- TV watching habit of children and Gender are independent of each other. It means that TV watching habit does not dependent on gender

- Children of both the medium watch the television with same duration. Therefore, it can be concluded that TV watching habit does not dependent their medium of study.

- Gujarati medium students more like to watch cartoon programme while English medium student like to see more movies on television.

- There is no significant different in case of impact of advertisement on buying of English and Gujarati medium students (refer table-7). Both medium students are moderately influenced by television advertisement for buying chocolate

**Maithili R. P. Singh\* & Tika Ram\*\*(June,2010)**

In the age group of 2 to 5 years, vast majority (89%) of children starts buying confectionary products in the age group of 2 to 5 years. Approximately 43 per cent respondents have preference for all brands of confectionaries, which is an indicative of the fact that children are fewer brands conscious. National brands of confectionaries are way ahead of both local and international brands.

Wafers are the most liked whereas Chips are least liked among the types of confectionary products by the children. About 48 per cent respondents do not consider after effects of consuming confectionary products seriously.

## Need of the study

It is seen and observed that the Children between 6 to 12 Years do have a significant role in purchasing confectionery items and this particular segment is growing and has a vast scope. Children are recognized as a primary market and spend their own money. Today child's evolvement as consumers is rapid and as one popular term describes this "Kids grow up young" The companies do work out their strategy in bringing new products after studying the market feedback. The study shows that this particular segment is growing in all dimensions and has become the subject of research. This will dig out vital information about the behavior of the market which will also help the promoters of the products and the researchers.

## Objectives

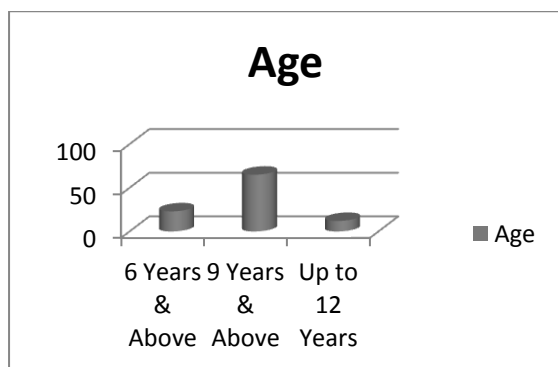
- 1) To study the Buying behavior of Children (6to 12 Years) related to Confectionery products.
- 2) To gather the Market information necessary for making informed decisions regarding market opportunities for the confectionery product.

## Methodology

The core of the study has been based on questionnaire with Children in different localities considering the Age Group (6-12Years) in Gwalior City (M.P.) India. We have used the simplest Form of questionnaire seeing their understanding. This covers a sample of **150** respondents as to cover the maximum aspects. This has been done in a random manner as to dig out the maximum information covering the entire area. This being a primary research will dig out vital information. The data of the same has been analyzed using bar charts for findings.

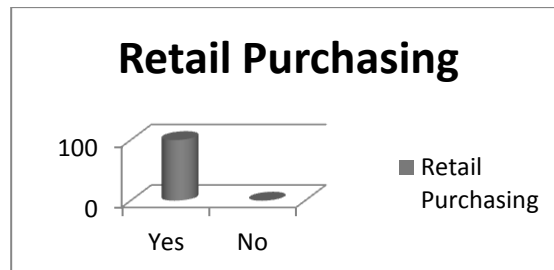
## Data analysis

**Question: How old are you?**



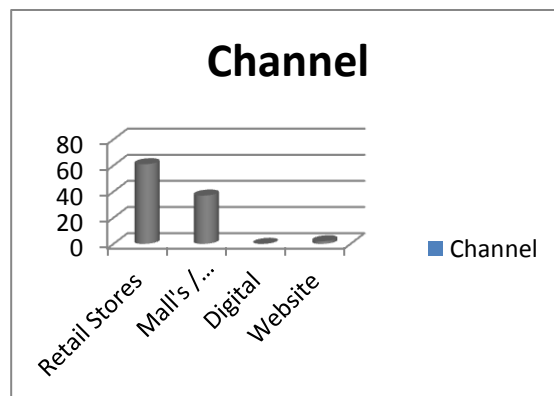
**Interpretation:** 23% children are having the age of 6 years and above, 65% children are having the age of 9 years and above and 12% are up to 12 years.

**Question: Do you go for retail purchasing?**



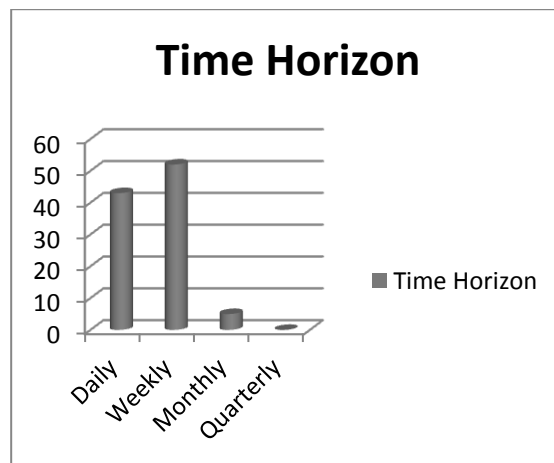
**Interpretation:** 100% children said yes regarding the retail purchasing.

**Question: Which channel you prefer?**



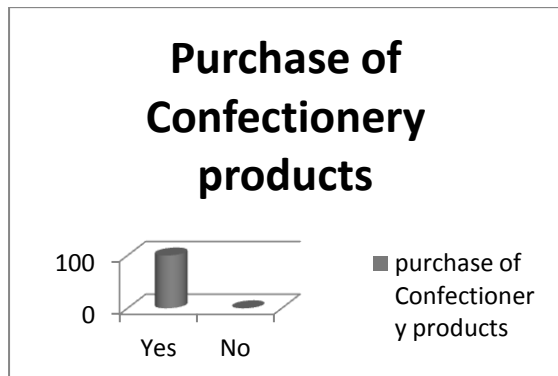
**Interpretation:** it has been observed that 61% children go for retail purchasing, 37% children go for mall/mart purchasing and 2% children go for website and 0% for digital.

**Question: How often you go for purchasing?**



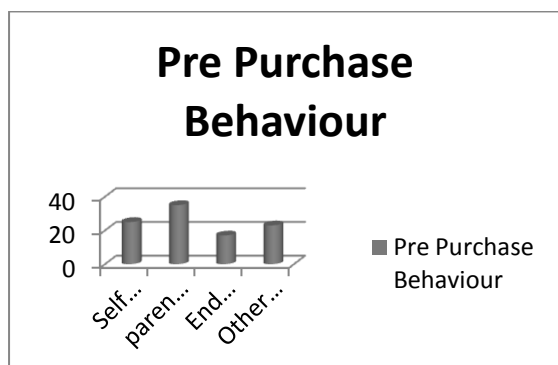
**Interpretation:** it has been observed that children purchase confectionery product 43% daily, 52% weekly, 5% monthly and 0% quarterly.

**Question:** Do you purchase confectionery product?



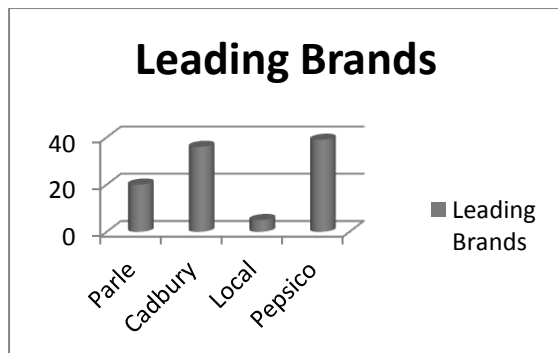
**Interpretation:** 100% children purchase confectionery product.

**Question:** What action you do before going for purchasing?



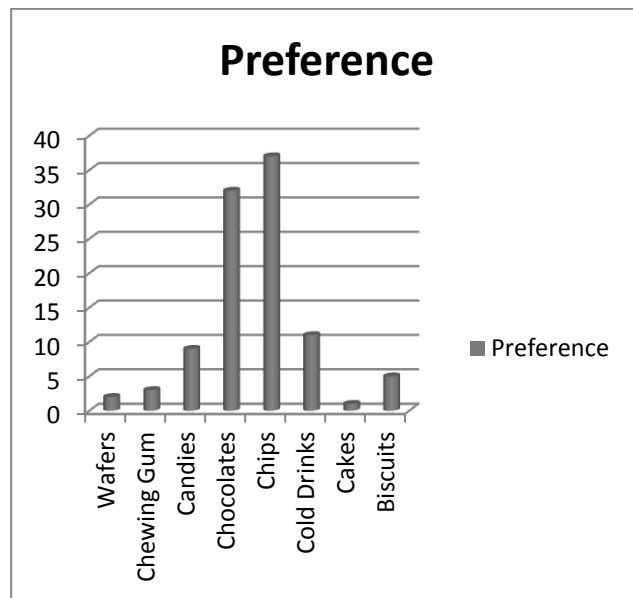
**Interpretation:** 25% children take self initiative regarding the purchase, 35% children take reference from their parents & others, 17% children take advice of the end users and 23% children of the other sources for their purchasing.

**Question:** Which are the leading brands in confectionery product?



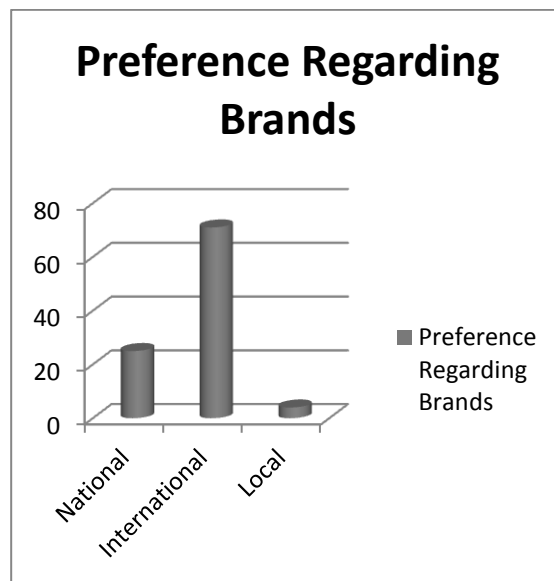
**Interpretation:** 20% children think that Parle is the leading brand of the confectionery product, 36% children said Cadbury, 5% children said local Brand and 39% children said Pepsico.

**Question:** Which confectionery product you like the best?



**Interpretation:** it has been observed that 2% children gave preference to wafers, 3% for chewing gum, 9% for candies, 32% for chocolates, 37% for chips, 11% for cold drinks, 1% for cakes and 5% for biscuits.

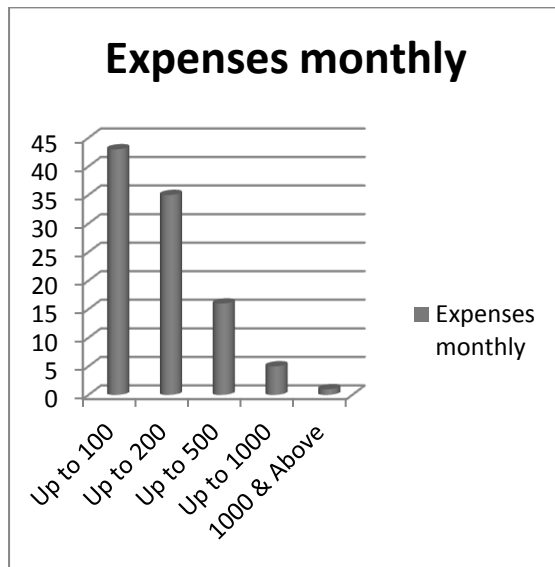
**Question:** Your preference in regard to brand.



**Interpretation:** it has been observed that 25% children gave preference to national brand, 71% children for international brand and 4% children for local product.

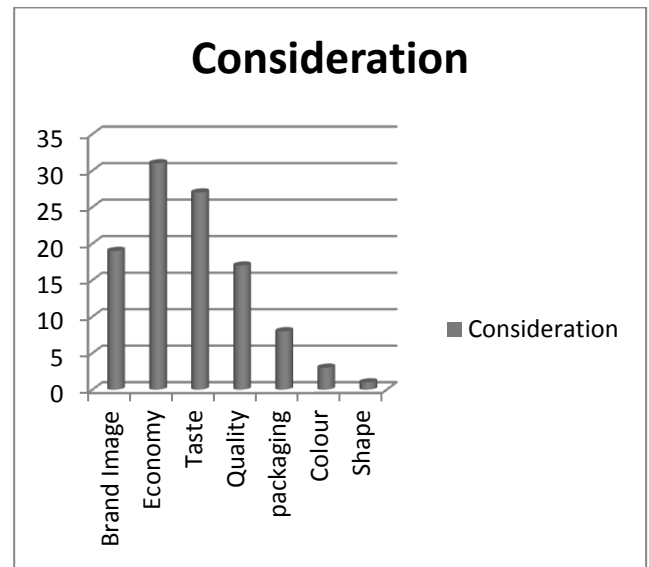


**Question: How much expenses monthly you incur in purchasing confectionery?**



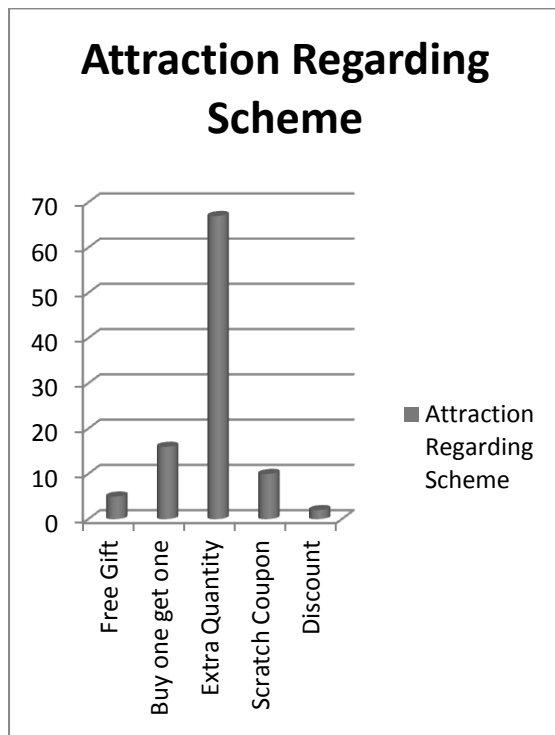
**Interpretation:** it is observed that 43% children do expenses up to 100 monthly, 35% up to 200, 16% up to 500, 5% up to 1000 and 1% 1000 & above.

**Question: What do you keep in mind while purchasing?**



**Interpretation:** it has been observed that 19% children consider brand image for purchasing the product, 31% children consider economy, 27% taste, 17% quality, 8% packaging, 3% colour and 1% shape.

**Question: Which purchase scheme attracts you?**



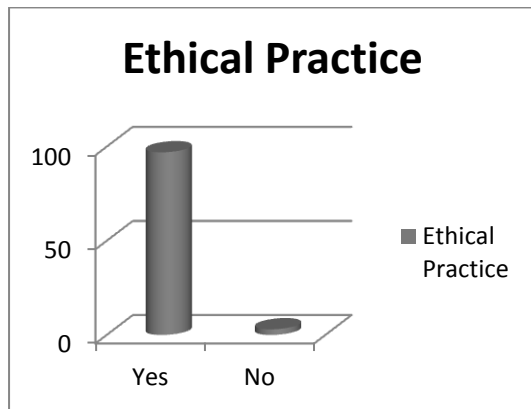
**Interpretation:** it is observed that 5% children attract with the free gift scheme, 16% children with the buy one & get one free, 67% with the extra Quantity, 10% with the Scratch coupon and 2% with the discount scheme.

**Question: What action you do once you purchase the product?**



**Interpretation:** it has been observed that 40% children do continuation with existing product and 60% children search other product/make.

**Question: Do you observe practice of ethics by the retailers?**



**Interpretation:** it is observed that 97% children's opinion that retailers do ethical practice while providing the product and 3% children do not think the same.

## Findings

- The children between age group (6 to 12 years) are less aware about the websites and digital as this is in the initial stages and other sources are well accessible in the present trends whereas the retail market are easily accessible and have the traditional values and is in maximum practice.
- It is observed and seen and that the children are much aware about the international products due to the global advertising and display which attracts them in all fronts whereas in the current scenario the national brands does not attract them due to poor display, packaging etc.
- Children do have a strong opinion about the economy followed by taste and brand image while considering for a confectionery items.
- Children in strength in Gwalior area do have a very meager amount (Rs. 100) per month spending in confectionery products. This is due to poor economic condition prevailing in this particular area and less purchasing power.
- It is observed that in regards to the product the children do have opted maximum for the chips and chocolates while they have paid less interest among other products.
- In regard to the scheme the children normally goes for extra quantity in the products which attracts the masses and justifies its utility.

- It has been observed that retailers do follow ethics while providing the products to optimum level.
- Children in age groups (6 years to 12 years) in most of the cases prefer to buy the product through their parents (35%) while only 25% do take their self initiative.
- It is seen that normally after purchasing the product the children do have the tendency to search for other products make to satisfy their needs.

## Limitations

The research was carried in Gwalior in random way to dig out the vital information from children age group (6 to 12 years). It was observed that the researchers found that the children were not easily accessible due to their school timings which vary from place to place. They were practically not in the position to answer each and every question without the help of their parents and other limitations.

## Practical implications

This research basically digs out information something related to the pre purchase and post purchase behavior which can help the promoters of the products to work out their future strategies in developing the products and services which could satisfy their needs to the optimum level. This will save their money and time in promoting their products in particular area. This will also solve the purpose of academicians of the business schools to update their students in providing the latest data base on primary research above the purchasing behavior of children age group (6 to 12 years). This will further act as reference for the researcher to carry forward their study for updating themselves and the society for foreseeable future.

## Social implications

Society as whole will be benefited by this research as this will help them to streamline the working mechanism in which the children will come out of the nut to share their feeling and to satisfy their own needs based on their individuals study about the product and its utility. This will also update all of us in the ethical sense in building the society to have the better moral values and better effects. This research will give a lesson to a society to adopt the best of practices for last long effects.

## Originality/ value

This research was carried out keeping an objective of digging out the vital information through primary research by way of having personal interviews with the children in the front of their parents for having a clear cut picture about the purchasing behavior of their kids. Each and every aspect related to the questionnaire was prepared in a simple and understandable form with a clear objective of narrating it very clearly to the interviewee as to have the authentic information. It was done honestly keeping in mind the objective of primary research. This will carry more weightage and will have a better utility and value.

## Conclusion

Behaviour is a dynamic aspect which changes depending upon the circumstances. Researchers have carried this research to dig out the Pre and Post behaviour of the children related to the confectionery products in Gwalior region. This will be useful for the academicians as well as for the Corporate world. To achieve the objective, we have used percentage method to analyze the results and found that children do not purchase the same product at all times and go on changing their preferences in products and brands. Usually, they

are more attracted towards the Colours, Packaging etc. They moreover look into the economic factor. However, they go on changing their choice depending upon various factors in which they are comfortable. They are also sometimes influenced by their parents and colleagues. They prefer multinational products as the packing and the contents as innovative ingredients attracts them in all sense. The purchasing power of children are usually low as they spend between 100 to 200 Rs. Per month in this particular segment. They normally expect ethical practices from the market and are well aware about the working system of the market.

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# Impact of HRM Practices on Employees Efficacy and Engagement

**Dr. Babita Agarwal, Ms. Namrata Kapoor, Dr. Deepa Joshi**

## Abstract

In a rapidly changing competitive environment, human resources are one important source of competitive advantage. Human resource systems can contribute to sustained competitive advantage through facilitating the development of competencies that are firm specific. Strategic human resource management concerns with the creation of a linkage between the overall strategic aims of business and the human resource strategy and implementation. The study reports positive statistical relationships between the greater adoption of HR practices and business performance in terms of employee's performance. This study investigated the impact of four HRM practices namely compensation practices, extensive training, performance evaluation and promotion practices on employee performance in corporate. The causal linkage between HR and organizational performance will enable the HR managers to design programmes that will bring forth better operational results to attain higher organizational performance.

## Introduction

Success in today's competitive market depends less on advantages associated with economies of scale, technology, patents but are more derived from organizational human resources and high involvement of human resource management practices. For an organization to be more effective it should have skillful and innovative employees to work and should also try to retain them.

Human Resource Management is the management of an organization's employees providing and maintaining necessary balance of human resource for smooth operations of organization is a primary function of HRM. Now HR work is not only concerned with traditional activities of recruitment and selection, training and development but its scope has been widened to many new and distinguished areas.

Organizations having qualified and experienced manpower gives competitive edge and it is said to be most sustainable source of competitive advantage. Human resource management aims to ensure that the organization obtains and retains the skilled, committed and well-motivated workforce it needs. There is not a single HR Practice which a company aspires to retain its employees. There are different HR Practices which a company combines to manage its HR system. A company should always combine "Number of Best HR Practices" which they should implement for the survival and sustainability of the organization. "Best practices" in HR are subjective and transitory. This means taking steps to assess and satisfy future people needs and to enhance and develop the inherent capacities of people – their contributions, potential and employability – by providing learning and continuous development opportunities. Strategic human resource management represents a relatively new transformation in the field of human resource management. Strategic human resource management is concerned with the role human resource management systems play in firm performance, particularly focusing on the alignment of human resources as a means of gaining competitive advantage. Organizations are becoming aware that successful human resource policies and practices may increase performance in different areas such as productivity, quality and financial performance. Good HR practices also energize people working in the organization. The commitment and motivation built through good HR practices can lead to hard work. The culture so built can help to create a sustainable and lasting capability of the organization.

Nature and mechanism of performing various operations have been changing with rapid pace. World is now a global village where globalization is a major entity. Countries with proactive approaches have identified globalization as a major element in business world and



business world is now more dynamic. Previously it was considered that allocating resources to HR activities like training and development, organization development and human resource development is a major expense but now people call it as an investment. One of the common emerging beliefs is that “employees are capital” and are considered most valuable assets.

Organizational commitment is the extent of employees’ willingness to exert their effort for the organization’s success and the degree of fit between the employees’ values and the organization values. According to Wright, McMahan and MacWilliams, HRM practices are the ways that organizations use to mould employee behavior, perception and attitudes. This implied that if HR policies are properly formulated and implemented, the organizations should be able to achieve their objectives that are mainly dependent on human capital. Because human capital nowadays becomes the central asset in organizations, managing them in ways that are able to make them behave, act and think in the manner that employers want is pertinent. The question is what kind of employees’ perception and behavior that can significantly affect business results. Yeung and Berman stressed that company performance is highly influenced by HR practices that can directly influence organizational commitment among employees. This view is in line with the earlier proposition made by Hiltrop and Despres that HR practices has a strong impact on organizational commitment and they viewed it as an important criterion to measure HRM effectiveness. Good management of employee performance, career, training, compensation and promotion and selection will be interpreted positively by employees and in turn, they will reciprocate with high commitment to the organizations.

## Review of Literature

Allen and Meyer (1990) defined the commitment in three different perspectives: affective commitment as the extent of an employee’s emotional attachment to, identification with, and involvement in the organization, continuance commitment as judgment of costs related with leaving the organization and normative commitment as the degree to which an employee believes some sense of obligation to stay with the organization.

Wasti (2003) discovered that fulfillment with work and special offers were the most effective predictors of business investment among individualists, whereas fulfillment with manager was an important forecaster of business investment

among collectivists. Evaluating acquired outcomes with the research conclusions in the individual European societies would allow us to comprehend whether or not the worker of a collectivist life style displays the same design in their business investment.

A K Paul (2004) has made a research on Influence of HRM practices on organizational commitment among software Professionals in India which revealed that HRM practices such as employee-friendly work environment, career development, development oriented appraisal, and comprehensive training show a significant positive relationship with organizational commitment.

The HRM practices were measured on a scale for recognition, competence development, fair rewards, and information sharing and study showed that competence development, fair rewards has impact of HRM practices on Organizational commitment and other factors doesn’t show an impact on organizational commitment (Nicole Renee Baptiste, in 2008).

Affective commitment mediates the proposed relationship between HRM practices and turnover intention among the private university faculty members. HRM Practices mainly; Job Security, Compensation, Job Autonomy, Working Condition, Training & Development, Supervisory Support were conducted and found that compensation, supervisory support and job security were highly significant and negatively related to turnover intention (Mohd H. R. Joarder in 2011).

Komal Khalid Bhatti et. al. (2011) has shown that direct participation has effect on organization. Commitment has significant and positive impact among Banking Sector Employees of U.S.A and Pakistan. Furthermore, research on the Impact of Human Resource Management Practices on Organizational Commitment in the Banking Sector was conducted across permanent, full-time, and part-time employees (managers and non-managers) of five large private banks in Kuwait.

## Objectives of the Study

Based on the above arguments, this study intends to achieve the specific research objectives:

1. To analyze employees’ efficacy and engagement in Service sector.
2. To examine the HRM practices.

3. To study the impact of HRM practices (compensation practices, extensive training, performance evaluation and promotion practices) on employees' efficacy and employee engagement.

## Research Methodology

After comparing two research approaches in this study, both quantitative approach and qualitative approach has been chosen. In the pre-testing and pilot testing phase qualitative approach was adopted to find out what are the factors and customizing the existing dimensions of HRM while in empirical analysis (final analysis) stage quantitative approach was adopted. A theoretical analysis was done by reviewing the related literature and thereby building our research hypotheses. In fact, the study focused to measure employee performance in terms of efficacy and engagement.

### Collecting Primary Data

Primary data were collected through the responses of the employees through questionnaire which was specially prepared for this study. A sample size of 200 respondents is taken for detailed study because it is not possible to cover the whole universe consisting of all the employees.

### Collecting Secondary Data

There was extensive use of secondary information in the form of books, articles published in magazines, journals, newspaper, reports, websites, circulars, pamphlets of the banks, clippings etc.

### Sampling Method

Random sampling (judgemental)

### Sampling Unit

Middle level managers of service sector.

### Data Collection

For the proposed research a questionnaire was framed comprising two parts. Items of the questionnaire were extracted through extensive literature review. Five points Likert scale ranging from Strongly Agree (5) to Strongly Disagree (1) was used for gauging the perception of respondents. The structured questionnaire was distributed among 200 managers and the scope of the study was limited to Indore city.

## Reliability Analysis

A reliability 0.60 and 0.70 or above is considered to be the criteria for demonstrating internal consistency of new scales and established scales respectively (Nunnally, 1988; cited by Gounaris, 2005). In this study, the Cronbach's alpha is 0.842 which shows that the factor scales are internally consistent.

## Statistical Techniques

The collected data were scrutinized and edited. The edited data were analyzed using the software "Statistical Package for Social Sciences" (SPSS) and meaningful conclusions were arrived by applying Correlation and Multiple Regression.

## Hypothesis of the Study

**H<sub>0</sub>:** There is no interrelationship between HRM practices (compensation practices, extensive training, performance evaluation and promotion practices), Employees' Efficacy & Engagement.

**H<sub>1</sub>:** There is an interrelationship between HRM practices (compensation practices, extensive training, performance evaluation and promotion practices), Employees' Efficacy & Engagement.

## Result Analysis and Discussion

To carry out the multiple regression analysis, the independent variables, HRM Practices (compensation practices, extensive training, performance evaluation and promotion practices), were regressed on employees' Efficacy and Engagement using the Enter method. In the analysis, HRM Practices were entered first since this variable was found to have a larger correlation coefficient (**refer to Table 1**) than Employees' Efficacy and Engagement which were entered later. **Table 2** presents the result of the multiple regression analysis. As shown in **Table 2**, HRM Practices were able to explain significantly 50.4% of the variance in organizational performance ( $F = 69.67, p = .000$ ). This finding appears to support the hypothesis that both of these variables are contributors to Employees' Efficacy and Engagement, albeit in a small way.

## Conclusion

The result indicates that the association between performance and the attitude is contingent on HRM practices; that is, the way firm performance

influences employees' overall perceptions of work is by the use of HRM practices. The study results which are consistent with prior findings give stronger evidence that HR practices should be well managed because employees would reciprocate in the form of higher commitment and lower intention to quit. The conclusion builds on previous researches shows that HRM practices such as Extensive Training & development, compensation and promotion activities based on performance evaluation motivates the employee to work more efficiently and has significant effect on Organizational commitment. The study depicts the result from the various employees of service sector viz. Banking, Academics, IT software industry, high tech Innovation Industries, Manufacturing Industries etc. However, it is very difficult to achieve customer-centric strategic management without first achieving employee satisfaction as it will lead to increase the profitability and goodwill of the firm. Therefore, it is proved in the study, HRM practices have significant impact on the efficacy of the employees and which is further related to engagement or the commitment of knowledgeable and skilled employees.

**Table 1: Results of Multiple Regression Analysis (n=200)**

**Modal Summary**

R	.715 <sup>a</sup>
R Square	.511
Adjusted R Square	.504
Std. Error of the Estimate	.690

**Table 2: ANOVA<sup>b</sup>**

	Sum of Squares	Df	Mean Square	F.	Sig.
Regression	43.3	2	21.67	69.	.000
Residual	61.6	198	.311	67	<sup>a</sup>
Total	104.9	200			

**Table 3: Coefficients<sup>a</sup>**

	Unstandardized Coefficients	Std. Error	Standardized Coefficients	T	Sig.
(Constant)	1.056	0.219		4.882	.000
Compensation Practices	0.121	0.070	0.115	1.718	.017
Extensive Training	0.553	0.097	0.551	8.246	.000
Promotion based on Performance Evaluation	0.560	0.089	0.554	7.678	.000

**a. Predictors: (Constant) Compensation Practices, Extensive Training, Promotion based on Performance Evaluation**

**b. Dependent Variable: Employees' Efficacy & Engagement**

### Suggestions and Recommendation

In today's environment the human resources is also important as the financial assets, technologies, etc. So organizations have to consider the human resource because these are very important for betterment of the organization. And as the results of this research show that the better(friendly) working environment, career development opportunities, rewards are more important factors that affect the retention of employees with organization; therefore the organization should be focused and try to improve them.

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# A study of awareness and perceptions about mobile value added services among selected mobile users in Anand and Vallabh Vidyanagar

Dr. Kamini Shah

## Abstract

Rise in disposable income has revolutionized consumer's buying and spending trend towards PC, mobile devices, communication equipment and services. It has catalyzed the trend of smartphone which enhances the scope for MVAS with mobile apps and rich mobile content. Value Added Services (VASs) have become one of the major revenue generators in the telecom industry. Most of the telecom subscribers have started using VAS and it has become an important service for the customers. The purpose of this research is to examine awareness and usage of mobile value added services in Anand and Vallabh Vidyanagar. The findings of the study reveal that the SMS, email and ringtones are the most favorite MVAS while mHealth and mCommerce are yet to be accepted by people. MVAS providers are required to have strategies for making these and many other VAS popular and increase the ARPU in the coming years.

## Introduction

India houses 811.6 bn cellular subscribers. This huge subscriber base is split in 66:34 between rural and urban users respectively. With falling prices of mobile voice calls and text messages, telecom operators are turning to additional services which are offered to customers; such services are called Mobile Value Added Services or MVAS. With diverse demography, lifestyle and consumer preferences amongst urban, sub-urban and rural consumers across the country, MVAS are destined to generate high returns, if deployed correctly. World's third largest sector, Indian Telecom sector is betting big on MVAS segment with wide variety of products in variable price range. MVAS adoption is poised to increase by manifold with increasing numbers of mobile devices and rising demand for mobile contents across India (Mobile Value Added Services in India 2012). **If PWC is to be believed, the mobile VAS market in India has the potential to generate Rs 55,000 crore by 2015.** These estimates have been published in PWC's report titled Value Added Service: The Next Wave which assesses the VAS ecosystem in urban India (12Se1). The future of MVAS industry is dependent on a direct relationship between the user and the provider. The role of the telco gets redefined in this relationship and they become enablers rather than being controllers (12Fe).

## MVAS in India

Trai thoughtfully has also asked the question as to of the measures that are required to boost the growth of utility MVAS like m-commerce, m-health, m-education & m-governance etc. in India and has probed that if the tariff for utility services provided by government agencies through MVAS platform be regulated. While there are plenty of challenges that face the utility MVAS space today, the opportunities are enormous, says the Trai paper given the increasing proliferation of mobile phones even in rural and remote areas and the rapid development of technology including the foray of 3G (Singh). The MVAS market in India is currently valued at \$5 billion, and is expected to cross well over \$6 billion by 2013. The Indian telecom saw a three- fold increase in the subscribers since 2008, the overall wireless subscriber base stands at 933.7million with the BhartiAirtel as the market leader. On the contrary the wire-line segment stands at 31.4 million connections, with government owned BSNL dominating this sector (Prasad, 2012).

## Conceptual Framework of MVAS:

Initially mobile telephony only provided voice based service, although even this caused a revolution in the field of telecommunications. After a period of time, service providers began to transmit data on the same channel as voice, hence better exploiting the available channel resources. As a result any additional

non-voice service is called a **Value Added Service (VAS)**. More formally value added services refers to non-core services which are offered to the customers apart from the core or basic services being offered, such as voice calls and fax transmission. MVASs are constantly evolving with the introduction of new mobile applications beyond the basic services, i.e., voice and text messaging (short message service - SMS).

According to Department of Telecommunications, Unified Access Services License (UASL) of India, VAS is defined as follows- **“Value Added Services are enhanced services which add value to the basic teleservices and bearer services for which separate license are issued”**.

MVAS are mainly based on three different delivery platforms: SMS, interactive voice response (IVR), and Wireless Application Protocol (WAP) Portals. Each VAS has its own characteristics and relates to other services in a unique way.

The four components of VAS are;

- (1) A **content/application owner** who develops and owns the original copyrighted contents and applications that are provided to the customers as VASs,
- (2) **Aggregators** aggregate contents and aggregate the application from the owners (or smaller boutiques) and distribute an application adapted to suit the customer's needs while also managing IVR, quality control, billing, and accounting for the aggregated contents and applications,
- (3) **Software developers develop** the applications (including in-house quality checks and integration with third party developers for parts of the complete process), and
- (4) **Technology enablers** who provide a platform that connects to the network and acts as a bridge between the aggregator and the network operator. These technologies also manage and maintain this platform according to service level agreements (SLAs) and handle integration of diverse applications, reconciliation of accounts, and also provide billing data which is passed on to the network operator. Each of the four main components of VAS has their own major role to play in the industry in order to provide complete VAS solutions to customers (110)

The declining share of voice in ARPUs has necessitated a focus on MVAS opportunities. Following are the various MVAS categories (I-, 2012 ) highlighted:

**M- health:** Leading telcos such as Vodafone, Airtel and Aircel are partnering healthcare companies to deliver m-health services. Typical m-health services include provision of locating hospitals, fixing appointments, registration of patients, getting medical advice, facilitating treatment, and seeking blood donation.

**M- governance:** Many Indian states such as Kerala, Gujarat, Bihar, Goa and Andhra Pradesh have initiated m-governance practices primarily through SMS-based platform.

**M-education:** Major telecom players are enabling mobile as a platform for imparting education. For instance, Aircel and MTS are partnering NGOs for educational initiatives aimed at underprivileged children. Reliance Communications is delivering interactive, real-time courses across 105 cities. Airtel is imparting education through IVR (interactive voice response) which includes English-speaking courses at basic level.

**M-commerce:** Telecom carriers are increasingly taking interest in m-commerce services. Reforms are encouraging telcos to offer services such as m-microfinance, m-retailing, and mobile-wallet services. Some of the recent government initiatives include increasing mobile payment limit to INR 50,000 (US\$901.8) by RBI, and the creation of Interbank Mobile Payment Service (IMPS).

**M-agriculture:** These services bridge the information gap between farmers and market conditions. Key services include commodity prices, local info, weather updates, multiple language support, and so on. Reliance communication provides its service, called Grameen VAS, while Airtel has a service it named, BahtarZindagi, for the rural farmer.

**M-infotainment:** Almost all leading telecom companies provide information and entertainment-related services. Infotainment is the largest contributor to overall MVAS revenue. This segment covers categories such as sports, travel, news, ringtones, music, and videos.

<b>M-Infotainment</b> <ul style="list-style-type: none"> <li>Entertainment content focused on current trends in media, Bollywood, etc. delivered to the user through music, mobile TV, gaming, books, etc.</li> <li>Examples of existing players: <ul style="list-style-type: none"> <li>OnMobile</li> <li>Spice</li> <li>Hungama Mobile</li> <li>Mauj</li> <li>Onyx Mobile</li> <li>Rediff Mobile India</li> <li>UTV new media</li> </ul> </li> </ul>	<b>M-Connectivity</b> <ul style="list-style-type: none"> <li>Communication related applications for audio, video, communication, integration with social networks, etc.</li> <li>Examples of existing players: <ul style="list-style-type: none"> <li>Nimbuzz</li> <li>Facebook</li> <li>LinkedIn</li> <li>Spice</li> <li>Tekriti Software</li> </ul> </li> </ul>	<b>M-Enterprise</b> <ul style="list-style-type: none"> <li>Business related applications for mails, ERP solutions, corporate utilities, etc.</li> <li>Examples of existing players: <ul style="list-style-type: none"> <li>One97 Communications</li> <li>Earlysail</li> <li>Spice</li> <li>RIM (blackberry)</li> <li>Nokia (mail for exchange)</li> <li>IMI Mobile</li> </ul> </li> </ul>
<b>M-Commerce</b> <ul style="list-style-type: none"> <li>Retail, banking, and transactions over the mobile phone</li> <li>Examples of existing players: <ul style="list-style-type: none"> <li>Spice</li> <li>Oxicash</li> <li>mChck</li> <li>NGPay</li> <li>ICICI's iMobile</li> </ul> </li> </ul>	<b>M-Health</b> <ul style="list-style-type: none"> <li>Mobile Health or M-Health is the use of mobile devices in health solutions such as personal apps, patient monitoring systems, updates and alerts, etc.</li> <li>Examples of existing players: <ul style="list-style-type: none"> <li>AIIMS</li> <li>Apollo</li> <li>Dr. Batras</li> <li>Maestros Mediline Systems</li> </ul> </li> </ul>	<b>M-Education</b> <ul style="list-style-type: none"> <li>Training and learning related content for organizations, educational institutions, etc. pushed to users through mobile applications over SMS, WAP, USSD, etc.</li> <li>Examples of existing players: <ul style="list-style-type: none"> <li>Spice</li> <li>EnableM</li> <li>Deltics</li> <li>G Cube Solutions</li> </ul> </li> </ul>

Source:<http://yourstory.in/2012/10/understanding-the-inr-48000-crore-9-6-billion-mobile-vas-industry-in-india/>

## Literature Review

According to a study conducted IMAI and IMRB (2012) MVAS market in India is estimated to reach INR 33,280 cr by 2013 with the growth rate of 28%. Conventional MVAS services like Astrology, Bollywood, Cricket, Ringtones, SMS etc. continues to dominate the market with 63% share. Besides this modern VAS like mHealth, mEducation, mFun etc. has gathered 37% market share. The average MVAS spent per month has risen by INR 9 to stand at INR 24 per month in 2012.

According to a study conducted during January and February 2011 via online research done by global consultancy firm **Deloitte** Value Added Services (VAS) will provide a huge fillip to the mobile industry which is expected to be USD 4 billion industry by 2013, The key drivers for utility MVAS include: government mandate for inclusive growth, increasing penetration, need for differentiation among telcos and device manufacturers, increasing consumer demand and awareness and business need of service providers such as hospitals and banks. The study says that 87% respondents having internet access through their smartphone, while 62% respondents are ready to pay a premium for connecting devices. With 3G services, the Indian telecom industry is set for a second telecom revolution in wireless space. It will also benefit those sectors in which these services will be offered, by providing better infrastructure and

services. The major impact of VAS is going to be on Banking (for better banking facilities, penetration), Healthcare (for better infrastructure in rural areas), and Education (for better access to knowledge), the study says (12Se).

Narayanan Anandpadmanabhan (1101) of **Royal Institute of Technology of Sweden** conducted a survey on Value Added Services in India and different services provided through VAS is taken among few of the VASs users in India. The thesis analysis results are very important in the modern telecommunication industry as VAS plays a major role in generating huge revenue and currently many industries are focusing on to provide mobile commerce services to its customers. It gives insight on the analysis of the VAS (M-Commerce), Ringback tones provided by OnMobile, role of content providers in the Value chain and the survey results.

As per the report on Future of Value Added Services (VAS) Market in India 2009-13 (/Future of Value Added Services (VAS) Market in India 2009-13 - Research and Markets.htm; Markets.htm) The Indian telecom industry is one of the fastest growing in the world. The mobile VAS market has grown by around 60% year on year. This trend is expected to increase in future, as VAS will become a major revenue source for telecom operators in India. This becomes critical, as the Average Revenue Per User (ARPU) for telecom operators is decreasing despite the overall increase

in consumer base. The growth in tier 2-3 cities has helped increase the overall consumer base of mobile services in India but this has created problems of its own. Currently companies working in VAS segment are facing challenges like high cost of VAS, limited availability of content in local language(s) and non-availability of enough high-end mobile phones. This report forecasts VAS Market size over the period of 2009-13. This report maps VAS under various categories. The report also profiles two major industry players and has a comprehensive list of all well known players in this segment.

A Study of the Mobile Value Added Services (MVAS) Market in India conducted by BOSTON Analytics (<http://>). It threw a light upon requirement of the systematic and transparent revenue sharing arrangement that needs to be established and practiced by the operators / content owners/ application providers / handset manufacturers / end users. The study report mainly insisted on the transparent framework that clearly sets out balanced revenue sharing arrangements, with a fair system of payouts to different stakeholders across the VAS chain.

Management consulting firm **Zinnov** released a study titled "Indian Telecom Market Overview 2012" on Tuesday. The study evaluated the Indian telecom market for 2012 which included the overall industry growth, key technology trends, and the government policies which have helped in the growth of the Indian telecom sector, reports ZDNet. According to the study the Indian mobile value added services (MVAS) is in the phase of transition from SMS- based services to internet-based and application based services.

According to a study conducted by **Limeasia**, a regional ICT policy and regulation capacity-building organization active across the Asia Pacific region, the low awareness of value added services restricted the growth of value added services in rural India there is a mere 10% awareness of the mobile voting applications (competitions, real time polling, live participation in TV/radio programmes, etc.) and the usage of value added services in rural areas to just 1%. Apart from voice, most use their mobiles for missed calls, while some use it for messaging and checking balances (Upadhyay, 2009).

Harvinder Singh (2005) in his study, "Mobile Telephony Need to Knock Multiple Doors" concluded that mobile telephony in India has seen tremendous growth in terms of subscriber base, tele-density, and usage, in the past six years, but it

has not translated into a high Average Revenue per User (ARPU). This indicates that profits have not been increasing, in spite of incremental connections. The reason for this being, mobile operators have drastically slashed down rentals and call rates because of competition and regulatory pressure. It has resulted in commoditization of mobile services. There is an urgent need to promote innovative and creative value-added services that herald an era of non-price competition and generate an alternative stream of revenues (Singh H. , 2005)

Dr. P. Rengarajan and T.Kavipriya concluded that Maximum number of mobile phone service provider users are availing the value added services. But now everyone frequently uses some Value Added Services like SMS, ring-tone downloading, internet connection and gaming, etc. Majority of mobile phone service provider users are satisfied with charges for value added services and very few of mobile phone service provider users are neutral, dissatisfied and highly dissatisfied with internet connection, activation time for value added services, free sms and guaranteed delivery of notification (Kavipriya).

## Research methodology

### Research problem

To study awareness and perceptions and usage of Mobile Value Added Services (VAS) provided by various telecom service providers in Anand and VallabhVidyanagar.

### Objectives of the study

1. To study the awareness of Mobile Value Added Services (MVAS).
2. To study the usage of Mobile Value Added Services (MVAS).
3. To study the perceptions of customers for the use of MVAS in future.
4. To study reasons which prevent customers from using mCommerce.
5. To study the usability of Mobile Value Added Services (MVAS) in day to day life.

### Scope of the study

An attempt has been made in this research to review available literature on MVAS and have



carried out an empirical study. In order to address the research problem and fulfill the research objectives various sources of information on MVAS have been used as follows:

[a] **Secondary Data:** have been collected using various articles and information from magazines and visit to relevant websites.

[b] **Primary Data:** The primary data has been collected through a customer survey to examine the awareness and acceptance of various MVAS among the customers in Anand and Vallabh Vidyanagar.

### Sample Selection

The Mobile VAS is completely driven by Indian consumers and hence the future growth of the Mobile VAS industry will be projected based on the survey among Indian consumers/VAS users. In this context, Data is collected using a purposive convenience sample of customers in Anand and Vallabh Vidyanagar using structured questionnaire for identifying the usage of Mobile VAS.

The customer survey was conducted between February 2011 to April 2011. A total of 750 people in the age group of 20 to 65 years responded. Out of that 42 questionnaire were incomplete. Hence for the purpose of the analysis of data 708 respondents are considered.

### Data Analysis & Findings

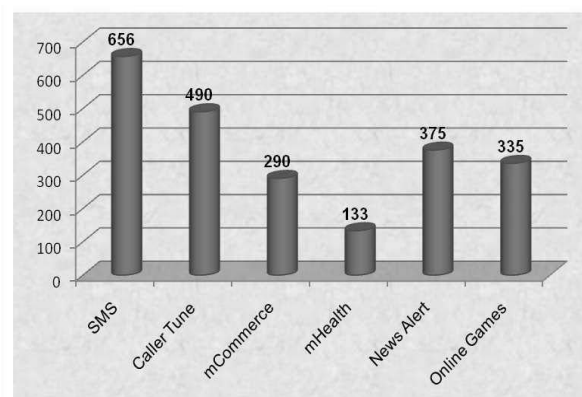
Age (Years)	%	Educational Qualification	%	Occupation	%
Below 15	0.71	Under graduates	21.0	Officer/Executive	3.81
15-25	10.8	Graduates	46.8	Self Employed	4.38
25-35	85.8	Post Graduate	28.1	Businessmen	3.95
35-50	1.8	Professional	3.9	Student	87.1
Above 50	0.7			Others	4.38

The survey participants were asked about their personal attributes like age, Level of Education, Occupation etc. so as to identify potential customers. The data is analyzed in a descriptive, multi-dimensional manner so as to illuminate various aspects of MVAS.

As one can observe in the table given above the maximum number of respondents are students 87.10% representing the age group of 25-35 years and majority of the respondents 78.95% are having good educational background.

### Awareness of Mobile Value Added Services:

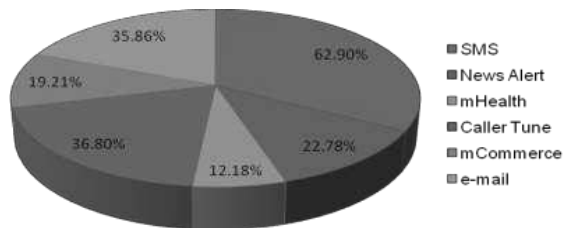
In order to understand the need to launch the awareness program such as advertisement campaign, VAS at discounted price for a specific period etc., MVAS include wide range of services and mobile users were asked to mention their awareness of various mobile value added services. The figure below indicates that SMS seems to be favorite MVAS among customers followed by caller tune because 93% of the mobile users are aware about SMS while 70% of them are aware about caller tune service but very few respondents (only 19%) are aware about mHealth. Thus, there is a good business opportunities available in this category of MVAS. As increasing the awareness directly increases the market growth potential for the VAS industry, the MVAS providers need to focus their attention on creating awareness which will act as channel to convey the advantages of the untapped market.



### Use of Mobile Value Added Services on day to day basis:

The respondents were asked to mention actual use of following MVAS on day to day basis.



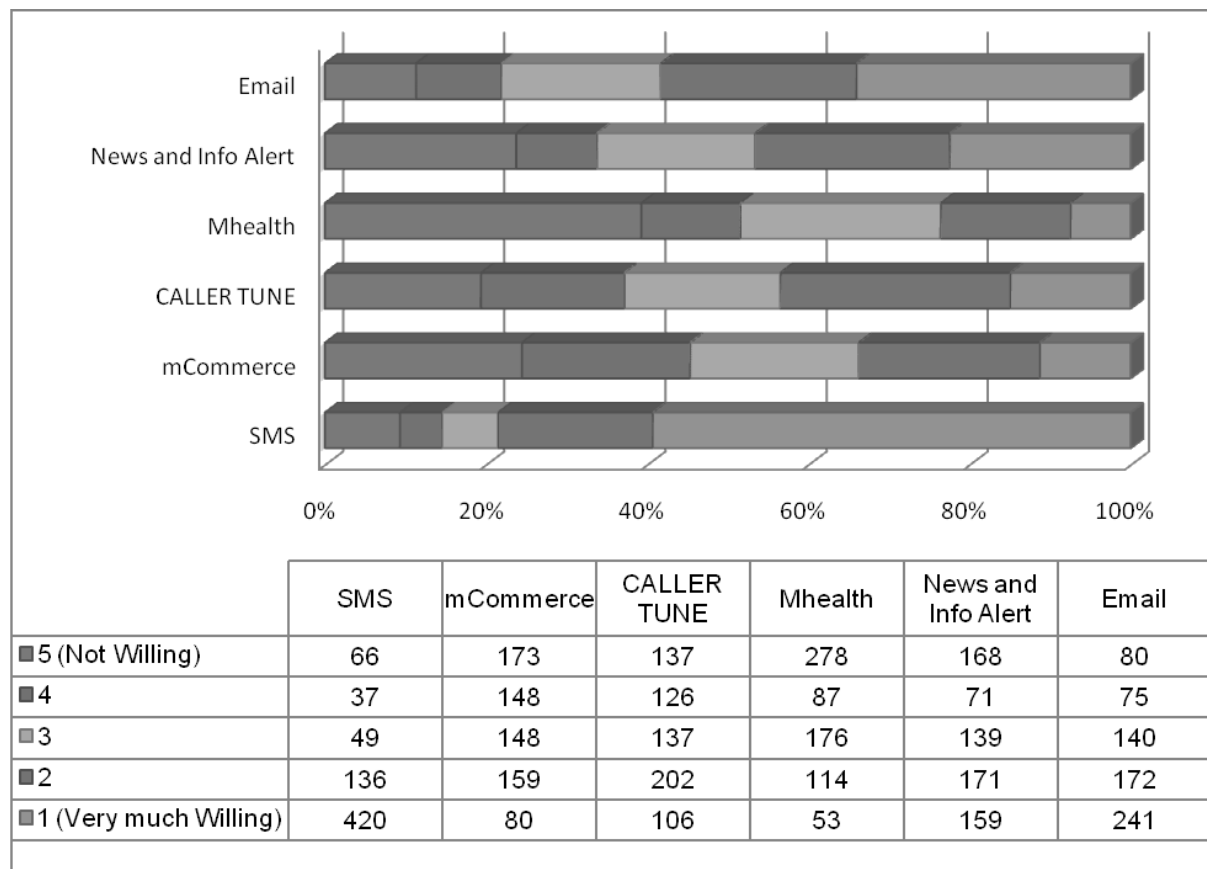


From the above figure it is well understood that SMS (62.90%), e-mail (36.86%) and caller tunes (36.80%) are used or activated by most of the mobile users. Apart from that news alert like sports updates, market updates, etc. are preferred by them but the usage of mCommerce and mHealth is

still a matter of concern for the MVAS providers. They really need to develop some strategic plans to make these VAS to reach the target customer and convince them using it.

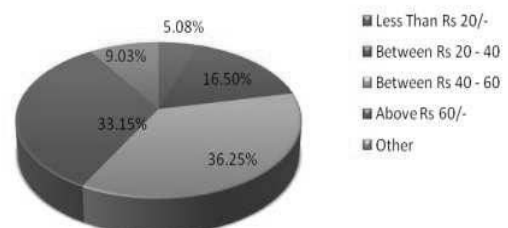
#### Rate the Mobile Value Added Service according to its usability in your day to day life.

The respondents were asked to evaluate the degree of utility they attach to selected mobile value added services. The participants are required to rate these services on a scale of 1(very much willing) to 5(not willing at all) keeping in mind perceived utility to them.



The majority respondents aren't convinced in using the facility of mHealth (53%) and mCommerce (46%) using mobile if we put together scale 4(Not Willing) and 5(Not Willing at all). Even the caller tune (38%) and news and info alert (35%) does not enjoy mass appeal but very significant chances (44% and 48% respectively) of success exist among certain customer groups. Some services are of universal interest. An overwhelming interests shown in SMS (80%) and email (60%) if we put together scale of 1 and 2 i.e., very much willing and willing. Very few are unsure (scale of 3) about utility of various mobile value added services which means they know what they want from their mobile. mHealth (8%) were the least popular service.

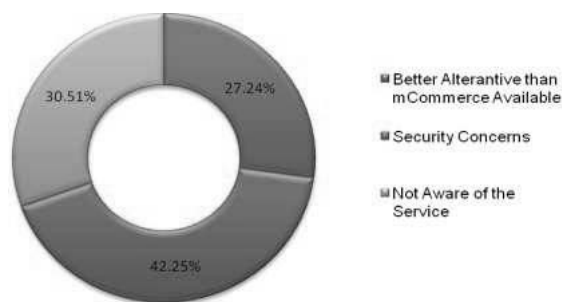
#### Apart from your normal call charges , how much you spend on these Mobile value added Services monthly?



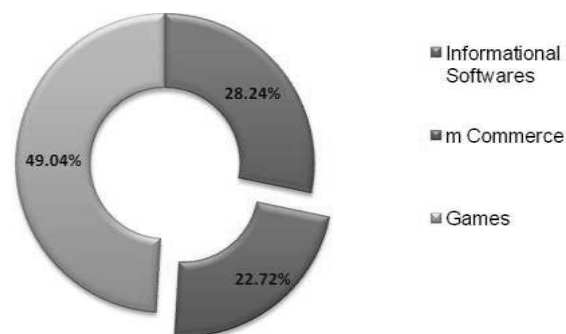
Apart from normal call charges, 36.25% of the respondents are ready to spend Rs. 40-60 while good number of customers (33.15%) don't mind spending more than Rs. 60.

### Reasons which prevent from using mCommerce

The figure below indicates 42.25% respondents are uncomfortable in using mCommerce services due to the security issues. Even 30.51% mobile users are not aware about these MVAS and 27.24% feels they have better alternative than mCommerce. Therefore, banks need to educate customers on this issue. TRUST – can the bank maintain confidentiality? - is the major concern. People generally feel more peaceful with physical transactions. This shows that it requires customer education campaign from MVAS providers.



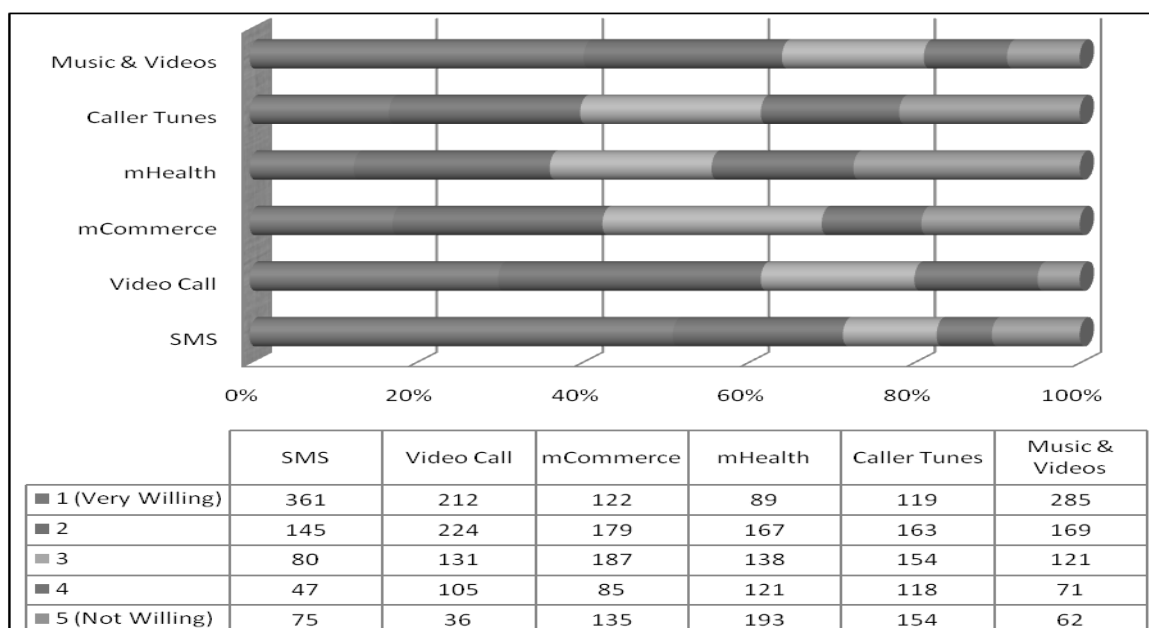
### Download of the Value Added Mobile Application on your phone



The above figure indicates that downloading game on mobile is the most popular MVAS. Almost fifty percent of the respondents download games whereas only 28.24% mobile users download informational software.

### With roll out of 3G by telecom players which Mobile Value Added Services you are ready to use or adopt in "future"?

The respondents were asked to mention their readiness to use MVAS in future due to roll out of 3G by telecom players. As one can see in the figure below, still maximum respondents 72% are ready to use SMS followed by music and videos on mobile (65%) and significant number (62%) of mobile users shown their readiness for using video call service using mobile. Surprisingly, still mobile users are not willing to use mHealth (46%), caller tune (39%) and mCommerce (33%). It indicates great need for a strategy to make these services popular and acceptable among mobile users.



## Limitations of Research

Before making any concluding comments, it is important to acknowledge and point out some limitations of the survey conducted.

1. The survey was limited to mobile users in Anand and Vallabh Vidyanagar only.
2. The responses to questionnaire by the customers may be their personal views and hence do not always reflect the preference for MVAS throughout the country.
3. The survey questionnaires used in this study were inherently limited in scope. While the survey technique is not without flaws, it has been generally accepted as a reasonable proxy given the time and personal constraints.
4. There is a chance of the sampling error and response error due to the limited size and knowledge of the respondents.

## Scope for Further Research study

Due to the limited scope of the present study, a large number of research issues are not attempted but are felt in the course of the study. Some of them are as follows.

1. The research can be carried out to cover mobile phone users from different sections of the society throughout the country, so as to understand the scenario of MVAS accurately.
2. The research can also be extended to include a cost benefit analysis for MVAS providers.
3. An awareness and usage of MVAS in India vs foreign countries is an interesting subject of research.

## Suggestions

1. The focus for the growth of MVAS should be on rural and sub-urban consumers, with MVAS products catering to their needs and preferences.
2. There is an urgent need of customer education campaign to tap the large untapped market of MVAS because mobile advertisement, local language content, rural MVAS are going to be the future of this industry.

## Usefulness of the Present study

The present research findings are expected to be useful to;

1. The MVAS providers in designing their MVAS marketing strategies.
2. The customers will also benefit from the study by understanding the use of mobile phone beyond a communication device.
3. This study will also be useful for doctoral research in this area.

## Conclusion

India has been instrumental in setting the benchmarks in traditional telecom services and repeating the same in VAS would be the icing on the cake.

MVAS in India is in a budding stage, with the high penetration of mobile phones acting as a growth driver. The increasing adoption of mobile web-enabled devices such as smart phones across the world has created a "fertile environment" in which MVAS market can grow. TowerGroup also says the proliferation of mobile devices and smart phones indicate a growing mentality among consumers of being "networked," something that is changing people's daily lives, including finance. The use of mobile technologies is a win-win proposition for both the MVAS service providers and the mobile users. The mobile phone is obviously a communication tool but it has enormous potential to aid other services. Consumers can use their phone like a bank account and transfer electronic cash out of their mobile to pay for transactions at subways, convenience stores and movie tickets. The ultimate aim is to replace the wallet with the mobile phone.

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## Author's Profile

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# Analysis of working capital management of Indian tyre industry

**Dr. Shailesh N. Ransariya**

## Abstract

The management of Working Capital is one of the most important and challenging aspect of the overall financial management. Merely more effective and efficient management of working capital can ensure survival of a business enterprise. Working Capital Management is concerned with the problems that arise in attempting to manage the Current Assets, Current Liabilities and the interrelation that exist between them. This is a two-dimensional study which examines the policy and practices of cash management, evaluate the principles, procedures and techniques of Investment Management, Receivable and Payable Management deals with analyzing the trend of working capital management and also to suggest an audit program to facilitate proper working capital management in Indian Tyre Industry. The study covers a period of 5 years 2007-08 to 2011-12. The leading two tyre companies MRF Tyre Ltd. and Apollo Tyre Ltd. are selected for the study. For the purpose of investigation secondary data is used. The collected data is analyzed by applying research tool which include accounting and statistical tools like ratio analysis, mean, standard deviation, student t test etc.

## Introduction

Working Capital Management is the management of short-term funds and used for day-to day operations of an enterprise. Working capital refers to that part of firm's capital which is required for financing short-term or current assets such as cash, marketable securities, debtors and inventories. Optimization of working capital balance means minimizing the working capital requirements and realizing maximum possible revenues. The efficient working capital management is the most crucial factor in maintaining survival, liquidity, solvency and profitability of the concerned business organization. A business organization should determine the exact requirement of working capital and maintain the same evenly throughout the operating cycle. The effective working capital necessitates careful handling of current assets to ensure short-term liquidity of the business. Even though firms traditionally are focused on long term capital budgeting and capital structure, the recent trend is that much company across different industries focus on working capital management efficiency.

## Measures of working capital management efficiency

The amount of working capital management varies over the operating cycle. Operating cycle is to be hard to get the amounts of the components used in operations. Thus, the efficiency of working capital management is measured in terms of the 'Days of Working Capital' (DWC). DWC value is based on receivable, inventory and payable accounts. DWC represents the time period between purchases of materials from suppliers until the sale of finished product to the customers, the collection of receivables and payment receipts. Thus, it reflects the companies' ability to finance its core operations with vendor credit. The profitability of the company is measured by operating income to total assets (IA). This indicates the earning power of the company assets. Another profitability measure is used by operating income to sales (IS). This indicates the profit margin on sales. In order to measure the liquidity of the company the cash conversion efficiency (CCE) and current ratio (CR) are used, the CCE is the cash flow generated from operating activities related to the sales. Table 1 gives the formula for calculating these values.

## Current scenario of Indian tyre industry

Technology generation in the Indian tyre industry has witnessed a fair amount of expertise and versatility to absorb, adapt and modify international technology to suit Indian conditions. This is reflected in the swift technology progression from cotton (reinforcement) carcass to high-performance radial tyres in a span of four decades. Globalization has led to the linking of the economies of all the nations and therefore



major Indian players in the tyre industry are pursuing global strategies to enhance their competitiveness in world markets. The present section broadly undertakes an overview of the Indian tyre industry through an examination of its growth trends with respect to production, exports and acquisition of technological capabilities. Major players are MRF, Apollo Tyres, JK Tyres, and CEAT, which account for 63 per cent of the organized tyre market.

## Objectives of the study

The core objectives of the study are:

1. To explain the measures of working capital management efficiency.
2. To analyze the size of working capital in selected units.
3. To describe the working capital management of selected units.

## Significance and scope of the study

This is a descriptive study based on case study methodology to analyze the working capital management of Indian Tyre Industry. The purpose of this research paper is to contribute to a very important aspect of financial management known as working capital management with reference to MRF Tyre Ltd. and Apollo Tyre Ltd. Very few studies have been made in relation to Working Capital Management especially in the tyre industry in India. Therefore, the present study is a maiden attempt to analyze the working capital management of tyre industry in India.

## Sampling and data collection

Secondary data were collected to conduct the study. The study attempted and analyzed working capital management in depth of MRF Tyre Ltd. and Apollo Tyre Ltd. is biggest tyre manufacturers in terms of net sales in India. Since the study is based on financial data, the main source of data is financial statements, such as published income statements and balance sheets. Current assets and current liabilities (including provisions) data has been collected from the five years annual reports of companies (from the year 2007-08 to 2011-12). Net working capital has calculated as difference between total current assets and current liabilities. The other data related to working capital management is collected from www.moneycontrol.com and Dion Global Solutions Limited.

## Hypothesis of the study

The main objective of the study is to evaluate the working capital management of Indian tyre industry. To study the working capital management in selected units, following hypothesis have been developed and tested:-

- $H_0$  : There is no significant difference in working capital management of selected units during the study period.
- $H_1$  : There is significant difference in working capital management of selected units during the study period.

## Methodology

The present study is based on secondary data of MRF tyre Ltd. and Apollo tyre Ltd.. To accomplish the aforesaid research objectives, the data for this study was gathered from the financial statements of the companies and www.moneycontrol.com and Dion Global Solutions Limited. The annual data for the five years period from 1st April 2007 to 31st March 2012 were used for calculating the key ratios in order to examine the working capital management efficiency of the company. For the testing of hypothesis the student t test has been used.

## Analysis and interpretation

For the evaluation of working capital management the following key ratios have been used:

### (1) Current ratio

Year	MRF Tyre Ltd.	Apollo Tyre Ltd.
2007-08	0.90	1.16
2008-09	1.16	1.18
2009-10	1.08	1.03
2010-11	0.94	0.93
2011-12	0.91	1.03
Avg.	0.998	1.066
Variance	0.013	0.011

Chart (Current Ratio)

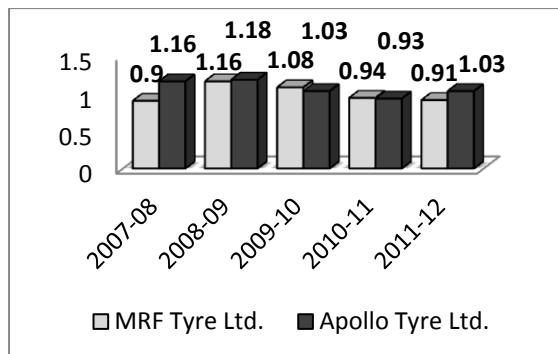
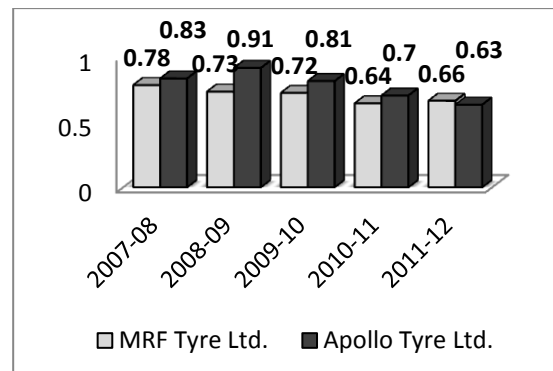


Chart (Quick Ratio)



### Hypothesis Testing

$H_0$  : There is no significant difference in means score of current ratio of selected units during the study period.

$H_1$  : There is significant difference in means score of current ratio of selected units during the study period.

$$d.f. = n_1 + n_2 - 2$$

$$= 5 + 5 - 2$$

$$= 8$$

$$t_c = -0.978$$

$$t_t = 2.306 \text{ (at 5\% level of significant for two tailed test)}$$

### Result

The calculated value of 't' is less than the table value of 't'. So,  $H_0$  is accepted and  $H_1$  is rejected i.e. there is no significant difference in means score of current ratio of selected units during the study period.

### (2) Quick Ratio

Year	MRF Tyre Ltd.	Apollo Tyre Ltd.
2007-08	0.78	0.83
2008-09	0.73	0.91
2009-10	0.72	0.81
2010-11	0.64	0.70
2011-12	0.66	0.63
Avg.	0.707	0.776
Variance	0.0032	.0122

### Hypothesis Testing

$H_0$  : There is no significant difference in means score of quick ratio of selected units during the study period.

$H_1$  : There is significant difference in means score of quick ratio of selected units during the study period.

$$d.f. = n_1 + n_2 - 2$$

$$= 5 + 5 - 2$$

$$= 8$$

$$t_c = -1.259$$

$$t_t = 2.306 \text{ (at 5\% level of significant for two tailed test)}$$

### Result

The calculated value of 't' is less than the table value of 't'. So,  $H_0$  is accepted and  $H_1$  is rejected i.e. there is no significant difference in means score of current ratio of selected units during the study period.

### (3) Inventory Turnover Ratio

Year	MRF Tyre Ltd.	Apollo Tyre Ltd.
2007-08	6.09	7.67
2008-09	10.14	9.23
2009-10	7.68	9.24
2010-11	7.34	5.35
2011-12	7.91	6.45
Avg.	7.832	7.588
Variance	2.158	2.934

Chart (Inventory Turnover Ratio)

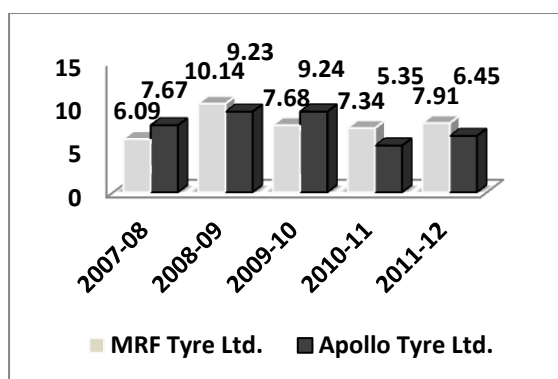
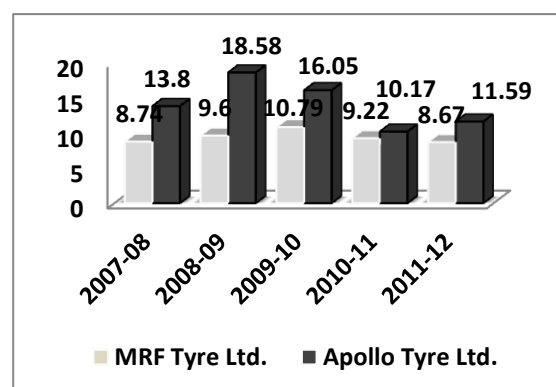


Chart (Debtors Turnover Ratio)



### Hypothesis Testing

$H_0$  : There is no significant difference in means score of inventory turnover ratio of selected units during the study period.

$H_1$  : There is significant difference in means score of inventory turnover ratio of selected units during the study period.

$$\begin{aligned} \text{d.f.} &= n_1 + n_2 - 2 \\ &= 5 + 5 - 2 \\ &= 8 \end{aligned}$$

$$t_c = 0.242$$

$$t_i = 2.306 \text{ (at 5\% level of significant for two tailed test)}$$

### Result

The calculated value of 't' is less than the table value of 't'. So,  $H_0$  is accepted and  $H_1$  is rejected i.e. there is no significant difference in means score of inventory turnover ratio of selected units during the study period.

#### (4) Debtors Turnover Ratio

Year	MRF Tyre Ltd.	Apollo Tyre Ltd.
2007-08	8.74	13.80
2008-09	9.60	18.58
2009-10	10.79	16.05
2010-11	9.22	10.17
2011-12	8.67	11.59
Avg.	9.404	14.038
Variance	0.743	11.42

### Hypothesis Testing

$H_0$  : There is no significant difference in means score of debtors turnover ratio of selected units during the study period.

$H_1$  : There is significant difference in means score of debtors turnover ratio of selected units during the study period.

$$\begin{aligned} \text{d.f.} &= n_1 + n_2 - 2 \\ &= 5 + 5 - 2 \\ &= 8 \end{aligned}$$

$$t_c = -2.971$$

$$t_i = 2.306 \text{ (at 5\% level of significant for two tailed test)}$$

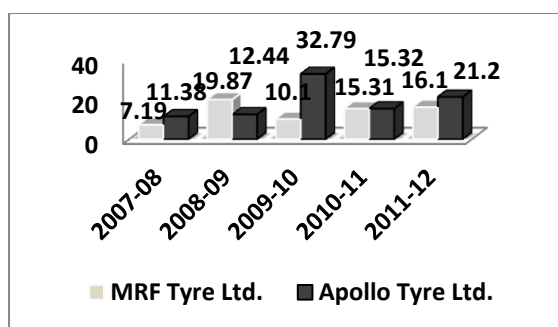
### Result

The calculated value of 't' is higher than the table value of 't'. So,  $H_0$  is rejected and  $H_1$  is accepted i.e. there is significant difference in means score of debtors turnover ratio of selected units during the study period.

#### (5) Working Capital Turnover Ratio

Year	MRF Tyre Ltd.	Apollo Tyre Ltd.
2007-08	7.19	11.38
2008-09	19.87	12.44
2009-10	10.10	32.79
2010-11	15.31	15.32
2011-12	16.10	21.20
Avg.	13.714	18.626
Variance	25.44	77.24

Chart (Working Capital Turnover Ratio)



### Hypothesis Testing:

$H_0$  : There is no significant difference in means score of working capital turnover ratio of selected units during the study period.

$H_1$  : There is significant difference in means score of working capital turnover ratio of selected units during the study period.

$$\begin{aligned} \text{d.f.} &= n_1 + n_2 - 2 \\ &= 5 + 5 - 2 \\ &= 8 \end{aligned}$$

$$t_c = -1.084$$

$$t_i = 2.306 \text{ (at 5\% level of significant for two tailed test)}$$

### Result

The calculated value of 't' is less than the table value of 't'. So,  $H_0$  is accepted and  $H_1$  is rejected i.e. there is no significant difference in means score of working capital turnover ratio of selected units during the study period.

### Limitations of the study

The major limitations of this study are as under:

1. This study is mainly based on secondary data derived from the annual reports of selected units and moneycontrol.com. The reliability and the finding are contingent upon the data published in annual report.
2. There are many approaches for evaluation of working capital management. There are no common views among experts.
3. The study is limited to five years only.
4. The study is limited to two companies only.
5. Accounting ratios have their own limitation, which also applied to the study.

### CONCLUSION:

Working capital is that portion of a firm's capital which is employed in short term operations. Bank credit occupies an important place in financing working capital requirements of industries. Working capital financing is a specialized line of business and largely dominated by commercial banks. Generally, the bank finance for meeting working capital needs is easily available to firms. But it has been always difficult to determine the norms for an adequate quantum of bank credit required by an industry for working capital purpose. Various committees have been set up for examining the working capital financing by banks and to recommend norms for and to regulate bank credit. Besides this from time to time, Reserve Bank of India has been issuing guidelines and directives to the banks to strengthen the procedures and norms for working capital financing. From the above study it can be conclude that there is no significant difference in working capital management except the collection policy of the companies.

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## Author's Profile

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# A study of academic motivation and academic achievement of students studying in senior secondary school affiliated to H.B.S.E and C.B.S.E board

Ms. Sushma Rani

## Abstract

**Education** is a lifelong and continuous process. It is the fundamental right of each and every citizen of the country. And the progress of the country depends on the development the individual, whether it is intellectual, social, spiritual, emotional, moral, physical or academic development. Today, the education system in India is in developing countries but abroad, countries like U.K., U.S.A, have developed educational system. The present status of Indian schools is still not much better, due to poor infrastructure and economical facility. Some schools provides good infrastructure and education, all this is depends upon the demonstration and manpower. They have better teaching faculty and the intellectual level of the students are high because of good academic record, whereas some have low intellectual level due to poor academic record. Thus, in order to improve the status and conditions of the schools, **‘motivation’** and **‘achievement’** are the factor, which has to be kept in mind. Thus, in this paper, researcher studies the academic motivation and academic achievement of the senior secondary students of CBSE AND HBSE schools respectively.

## Introduction

*“Education is a process of development which consists the passage of human being from infancy to maturity, the process whereby he adopts himself gradually in various ways to his physical and spiritual environment.”*

- T. Reymont.

**“Education”** we often think ourselves to be educated and use the word “Education” in our daily life. But what’s the real meaning, of it. Is it mere collection of information or receipt of degree of diplomas? People have already be considering the deviation of the work “ Education”, initially it was related to an original, Latin work Education which is a combination of two, words E and Duco meaning “ out of and to lead “ respectively. It means to lean outside from the inside, it is also related to the two other Lation words Educere and Educare. The first means to bring out and the other mean to rise. In this ways, the ward education means to develop the inborn qualities of a child to the full.

According to Mahabhart, Abhimanyu had learnt how to break the chakravyuha in the womb of his mother Subhadra. It beings from the birth and lasts long even after death as according to Hindu Philosophy there is an immortality of soul. In broader sense, the process is broad- based. Every woman we gain new experiences and transfer it to the other generation. It is a process of growth and development. Every individual is both a teacher and a taught and the place of giving and receiving the process is a ‘School’. Infect, life is education, and education is life. Rousseau exhorted his philosophy of maturation keeping this wider concept of education in his viewpoint. In a narrow sense, school instruction is called education. Education is called education. Education is imparted at a definite place – school, college or university and at a definite time, with definite curriculum.

## Indian education system

**Present Educational System** - The present educational system of India is an important of British rulers. Wood’s dispatch of 1854 laid the foundation of present system of education in India. Before the advent of British in India, education system was private one, with the introduction of Wood’s Dispatch known as Magna Carta of Indian education, the whole scenario changed. The main purpose of it was to prepare Indian Clerks for running local administration. Under it the means of school education were the vernacular language while the higher education was granted in English only. British government started giving funds to indigenous school in need of help and thus slowly some of the school

becomes government aids. Today education system in India can be divided into many stages: -

**Pre – Primary-** It consists of children of 3-5 years of age studying in nursery, lower kindergarten and upper kindergarten. At this stage student is given knowledge about school life and is taught to read and write some basic words.

**Primary -** It includes the age group of children of 6-11 years studying in classes from first to fifth.

**Middle-** It consists of children studying in classes from sixth to eighth.

**Secondary-** It includes students studying in classes ninth and tenth.

**Higher Secondary-** It includes students studying in classes eleventh and twelfth.

**Undergraduate-** Here, a student goes through higher education, which is completed in college. The course may vary according to the subjects pursued by the students. For medical student this stage is of four and a half years plus one years of compulsory internship, while a simple graduate degree can be attained in three years.

**Postgraduate-** After completing graduation a student may opt for post graduation to further add to his qualification.

**Serve Siksha Abhiyan (SSA) -** The main goal of this program is that all children of 6-11 years of age should complete primary education by the year 2007 and all children of 6-14 years of age should complete eight years of schooling by 2010. This plan covers the whole country with special emphasis on girl education and education of schedule caste (SC) and schedule Tribe (ST) children and children with special needs. The SSA centers are mainly opened in those areas, which do not have any school or where schools are very far off. Special girl oriented programs include:

- Girl education at elementary level.
- National Program for Education of Girls at Elementary Level (NPEGEL).
- Kasturba Gandhi Balika Vidyalaya (KGBV).
- Mahila Samakhyas Scheme.

#### **Level of senior secondary school students**

**Intellectual Development-** Through college course, we hope that students will develop the intellectual traits that signify a well – educated

person. We help them to develop these traits by holding them (through their assignments) to the intellectual standards given. Naturally, this is a learning process for students and takes time, faculty should plan according by developing activities appropriate to student's skill and abilities. Jump too high and cause frustration. Jump just beyond and you pull students towards you. Scaffold and support this development process by providing relevant and thoughtful feedback to student's work that helps students to grow intellectually. When reading texts, students can use the questions associated with the intellectual standards above to think critically about texts. Encourage students to use the intellectual Elements to probe texts more deeply and to frame the ways in which they think about what has been written.

**Social Development -** The present paper analyses the key issues related to the access of rural poor to secured and sustained land and water rights in India, thereby identifying and suggesting policies which help to improve rural poor's access to land and water.

**Emotional Development -** Children who learn to manage their emotion benefit in many ways. Most experts agree that when children develop the skill to deal with their emotion they get along with others better, do better academically, and feel better about themselves. The American Psychological Association adds that children who are able to successfully control their emotions are also better at paying attention, focusing, and have less impulsive behaviors. Parents can help by talking with their children about feelings.

**Physical Development -** The love to demonstrate their abilities and aren't too inhibited as to where, whether in the grocery store, the bank, or a crowded restaurant, here's the lowdown on movement milestones for first graders.

**Developing Academic Motivation-** Natural motivation: children are naturally motivated to learn from the time they are born. The early signs of motivation to learn can be seen in a baby's struggle to reach a toy, learn to walk, or eat without help. Children whose learning and discovery is encouraged when they are infants and preschoolers will approach school-related learning as challenging, interesting and hard, work in order to master the material, and are motivated to improve their performance rather than just do better than other children.

## Significance of the study

As, after independence, India is facing numerous problems out of which education is the first and foremost. Our aims and desire of education system have not been achieved till today. Because in the field of education problems. One of the basic problems that educators and educational psychologists face in the teaching learning process is difference in achievement of learner. Academic motivation and achievement is one of the main concerns of today's education process. Therefore, the present study assumes a greater significance as it aims to study Academic motivation and achievement of senior secondary school students.

## Statement of the problems

The researcher selected the suitable title for the study entitled as below: -

**“A study of academic motivation and academic achievement of students studying senior secondary school affiliated to H.B.S.E. and C.B.S.E. board.”**

## Objective of the study

The objectives of the study are as follows: -

- To study the academic motivation of H.B.S.E. students of senior secondary school.
- To study the academic achievement of H.B.S.E. students of senior secondary school.
- To study the academic motivation of C.B.S.E. students of senior secondary school.
- To study the academic achievement of C.B.S.E. students of senior secondary school.
- To compare the study of the academic motivation of H.B.S.E and C.B.S.E. Board students of senior secondary school.
- To compare the study of the academic achievement of H.B.S.E. and C.B.S.E. students of senior secondary school.
- To study the academic motivation effects on the academic achievement of H.B.S.E. Board students of senior secondary school.
- To study the academic achievement effects on the academic achievement of C.B.S.E. Board students of senior secondary school.

## Hypothesis of the study

### Research hypothesis

- There is significant difference between the academic achievement of H.B.S.E. and C.B.S.E. students of senior secondary schools.
- There is significant difference between the academic motivation of H.B.S.E. and C.B.S.E. Board students of senior secondary schools.

### Null hypothesis

- There is no significant difference between the academic achievement of H.B.S.E. and C.B.S.E. students of senior secondary schools.
- There is no significant difference between the academic motivation of H.B.S.E. and C.B.S.E. Board students of senior secondary schools.

## Scope of the study

Keeping in the views the time factor and resources available the scope of present study is as follows: -

- The present study is confined to only one variable i.e. the academic motivation and the academic achievement.
- The study is confined to 200 secondary school students H.B.S.E. and C.B.S.E. Board.

## Sampling and selection of the schools

The present study consisted of a sample of 200 students and with the help of random sampling only 200 students of class IX of secondary school students were selected. Out of these, 90 students were selected both from the H.B.S.E. senior secondary schools and C.B.S.E. senior secondary schools.

### Selection of the tool

The tool used for the study is: -

**Academic Motivation Inventory:** Hindi version of Aberdeen Academic Motivation Inventory's standardized by Sharma C., Singh. R.P. of Patna University.

**Academic Motivation and Academic Achievement Inventory-**The Hindi version of Aberdeen academic motivation inventory (appendix-a) constructed in the institute of psychological research and services, Patna

University, Patna has been selected by the investigator to measure the academic motivation among student. The inventory has 20 items. These items are descriptive statements, each followed by 'yes' or 'no' the respondent has to mark either 'yes' or 'no' the language used in the inventory is simple. It is a group test, hence administration is easy, scoring of the test is also not cumbersome. The respondent is given one mark for each statement, if he marks the correct response. The scoring key used for the purpose is given in appendix-B.

### Administration of tool and collection of data

Administration of academic motivation and achievement - After completing the sitting arrangements the investigator introduced himself to the student. They were asked a few questions regarding the school and their name etc. The investigator assured them about the results of the test would not be disclosed to any authority and should be kept confidential.

After this, the questionnaires were distributed. Instructions were clearly explained to the students. After the instructions, the time was noted and then students were allowed to start with the test. The students were given 10 minutes for completing test. The investigator asked the students were told to write their name, class, school, age, sex, locality in the column given for purpose. After the completion of test, questionnaires were collected from the students. A copy of questionnaire of the test is given in appendix-A and B.

### Scoring of the tool

All the tests were scored according to their respective procedures laid down in the manuals. Researcher collected 'yes' and 'no' answers from the academic motivation achieve test and given one point if marked 'yes' for correct response and zero if marked differently from the correct responses, prescribed in scoring key of the manual. The maximum marks are 20. The summation of correct responses constituted the academic motivation and academic achievement test scores of a student.

### Statistical technique used

#### To study the academic motivation of H.B.S.E student of senior secondary school

After scoring the data, the investigator tabulated the data of 200 students separately for the H.B.S.E. and C.B.S.E. schools. The mean and standard deviation were computed for the H.B.S.E. and C.B.S.E.

school student separately. Further for comparison 't' test was used to find out the significance of difference between mean, for the purpose of comparison 't' ration were computed and these are provided in table follows:

Table No. -1

To study the academic motivation of H.B.S.E student of senior secondary school

Level of Motivation	Number of Students	Percentage
Very good	0	0%
Good	08	16%
Average	16	32%
Poor	13	26%
Very poor	13	26%

**Interpretation** - In the table no-1, academic motivation of senior secondary school students of H.B.S.E. board is discussed. The table divided in five groups according to questionnaire and percentage. As very good -0%, Good -16%, Average -32% poor-26%, very poor-26% that they get. The researcher get conclusion that the level of senior secondary school students of H.B.S.E. board is average and most of the students are poor and very poor. So that we can say that level of H.B.S.E. BOARD student's academic motivation is average.

#### The study of senior secondary school students of H.B.S.E. board of academic achievement

Table No-2

Level of Academic Achievement	Marks Obtained	Number of Students	Percentage
Very good	510-540	18	36%
Good	480-570	11	22%
Average	450-480	05	10%
Poor	420-450	09	18%
Very poor	390-420	07	14%

**Interpretation-** In the table no.2, academic achievement of senior secondary school students of H.B.S.E. board is discussed. In this table, the students are divided into five group according to their percentage as Very good-36%, Good-22%, Average-8%, poor -18%, very poor -14% that they

get. According to conclusion the researcher can say that the level of academic achievement of senior secondary school student's is very high.

#### Academic motivation of C.B.S.E. students of secondary school

Table No-3

Level of Motivation	Number of Students	Percentage
Very good	07	14%
Good	07	14%
Average	22	44%
Poor	08	16%
Very poor	06	12%

**Interpretation-** In the table no -3, academic motivation of senior secondary school students of C.B.S.E. board is discussed. In this table, the students are divided into five group according to questionnaire and their percentage as Good -14%, Very Good 14%, average-44%, Poor-16%, Very poor-12% that they get. The researcher get conclusion that students of C.B.S.E. board is average and most of the students are poor and very poor. So that we can say that level of C.B.S.E. board student's academic motivation are averages.

#### Academic achievement of C.B.S.E. student of senior secondary school.

Table No-4

Level of Academic Achievement	Marks Obtained	Number of Students	Percentage
Very good	410-440	09	18%
Good	380-410	20	40%
Average	350-380	09	18%
Poor	320-350	07	14%
Very poor	290-320	05	10%

**Interpretation-** In the table no. 4, academic achievement of senior secondary school students of C.B.S.E. board is discussed. In this table students divided into five group according to their percentage as very good -18%, good 40%, average -18%, poor -14%, very poor -10% that they get. According to conclusion the researcher can say that the level of academic achievement of senior secondary school students in very high.

#### Compare the study of Academic achievement of H.B.S.E. and C.B.S.E. board students of senior secondary school.

Table No -5

Senior Secondary School	Total number of Students	Level of Academic Achievement	Value of Chi-square	Result
H.B.S.E	50	V. Good	7.70	Sig.
C.B.S.E	50	Good		

**Interpretation-** The analysis of hypothesis no-1 is discussed in table no.5. In this table comparison between academic achievement of C.B.S.E. and H.B.S.E. school students is discussed. For the comparison, 'Chi-square' test was used as a statistical tool. In this, we get chi-square value as 7.70 and df 4, significant limit-5 is less then from table value 9.480. So the hypothesis I accepted. The researcher confidently says that, 95% senior secondary school students of C.B.S.E. and H.B.S.E., there is no significant difference related to academic achievement.

#### Compare the study of academic motivation of H.B.S.E. and C.B.S.E. board students of senior secondary school.

Table No-6

Senior Secondary School	Total Number of Students	Level of Academic Achievement	Value of Chi-square	Result
H.B.S.E.	50	V. Good	18.43	Not Sig.
C.B.S.E.	50	Good		

**Interpretation-** The Analysis of Hypotheses no.2 is discussed in the table no.6. In the table no-6, the comparison between the academic motivation of H.B.S.E. and C.B.S.E. senior secondary school students is discussed. For the comparison, 'Chi-square' test was used. The chi-square value is 18.43 and df-1, significant limit is more than from table value. So the Hypothesis is rejected. The researcher can say confidently, that 95% senior secondary schools students of C.B.S.E. and H.B.S.E., that



there is significant difference related to academic motivation.

### Study of academic motivation effect on academic achievement of H.B.S.E. board students of senior secondary school.

Table No-7

Level of Motivation	Number of Students	Academic Achievement and % Marks
Very Good	0	0%
Good	08	443.5
Average	16	463.62
Poor	13	477.84
Very Poor	13	497.23

**Interpretation-** In the table no. -7 senior secondary school students of H.B.S.E. board, study of academic achievement and academic motivation. The level of academic motivation is V. good, good, average, poor V. Poor total number of students is 0,8,16,13,13 so marks of academic achievement get is 378.33, 443.5, 463.62, 477.84, 497.23 it is. The researcher get conclusion is that senior secondary school of H.B.S.E. board students there is no effect on academic achievement of academic motivation.

### Study of academic motivation effect on academic achievement of C.B.S.E. board students of senior secondary school.

Table –8

Level of Motivation	Number of Students	Academic Achievement and % Marks
Very Good	09	983.71
Good	20	412.28
Average	09	409.63
Poor	07	366.37
Very Poor	05	378.33

**Interpretation-** In the table no. -8 senior secondary school students of H.B.S.E. board, study of academic achievement and academic motivation

is very. good, good, average, poor very poor total number of students is 9,20,09,07,05, so marks of academic achievement get is 983.71,412.28,409.63, 366.37, and 378.33. The researcher get conclusion is that senior secondary school of C.B.S.E. board students there is no effect on academic achievement of academic motivation.

### Statistical techniques used

Analysis of data for the present study has been made in conformity with the objectives and hypothesis formulated.

- Mean
- Standard Deviation

Further for comparison ‘t’ test was used to find out the significance of different between Mean, Academic Motivation and Achievement scores of H.B.S.E. and C.B.S.E. of senior school students.

### Main findings

The main findings of the study are: -

- The level of senior secondary school students of H.B.S.E Board is average and most of the students are poor and very poor. And academic motivation and achievement are average.
- In this table students divided in give group according to their percentage as very good, good, average, poor, very poor that they get academic achievement of senior secondary school students is very high.
- According to students percentage and questionnaire divided in five group and get their marks and find that C.B.S.E Board students academic motivation are average.
- The academic achievement of CBSE senior secondary school students is very high than the academic achievement of HBSE senior secondary school students.
- In this table comparison between C.B.S.E. and H.B.S.E. and find the significant limit – 5 is less than from table value 9-480 so the hypothesis 1 is accepted and between C.B.S.E. and H.B.S.E. Board students no significant.
- In this table comparison between academic motivation of C.B.S.E. and H.B.S.E. find the significant limit – is more than from table value so the hypothesis is rejected and between C.B.S.E. and H.B.S.E. Board students is significant.

- There is effect on academic motivation on academic achievement.

## Conclusion

In the study of C.B.S.E. and H.B.S.E. Board senior secondary school students, the researcher collected the data using answer scores of the students. After concluding it has been found that the C.B.S.E. and H.B.S.E. Board, the H.B.S.E. students have high academic achievement than the C.B.S.E., and in C.B.S.E. students academic achievement is very high than the H.B.S.E. students.

So we can say that, both the students of C.B.S.E. and H.B.S.E are achieved and motivated but the C.B.S.E. students more achieve and motivated.

## Educational Implications

The most outstanding characteristic of any research is that it must contribute something new to the development of the area concerned. So the investigator has to find out the educational implications of his study. The present study has its implications for the teachers, students and parents.

- The teachers in the classrooms are confronted with the development of potentialities and academic abilities of the students.
- The students come from different socio-economic status. They differ themselves in their academic motivation and achievement.
- The teacher has to motivate them fully, so that each student can achieve the maximum according to his capacity.
- The teacher is also guide and he is to help the students in the selection of various course of study. The teacher also improves the academic motivation and achievement of the students. If the teacher has got sound knowledge of academic motivation and achievement would be possible for him to guide the students in a better way.
- The teacher can use audio – visual aids to make the lesson interesting. When the lessons are interesting they can learn the things very easily. So the finding of study could go a long way in revolutionizing the teaching methods in general and the socialized techniques in particulars for the Indian schools.
- Although it is not possible to draw for reaching generalizations and implications from the present study, yet it indicates that

the C.B.S.E. school students should put more effects to attain higher academic motivation and achievement than the existing one as the study also indicated higher academic motivation and achievement among the H.B.S.E. school students.

## Suggestions for further study

Having completed the present study the researcher forth some suggestions for further research as follows: -

- A study of academic motivation and achievement in relation to other personality variables may be conducted.
- Academic motivation and achievement as related with frustration intelligence, anxiety etc. may be investigated.
- A similar study can be conducted on different age group.
- The present study was confined of senior secondary of H.B.S.E. and C.B.S.E. Board.
- A similar study may be repeated on large sample validate the present study.

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# Factors influencing home loan borrowers in anand city – a study

**Dr. Vigna Oza**

## Abstract

Every human being aspires to have his/her own house to live in. Adequate housing is a fundamental need of human beings and essential prerequisite for physical, intellectual and mental satisfaction. Housing conditions can be the determinant of the environment of man and need to be viewed in relation to the overall environment of human settlement. Investment in housing is an important factor in the economic upliftment of the country and it helps in creating better employment opportunities. Indian savings market has been expanding over the period and there is a steady increase of household savings too. The purpose of this paper is to present an overall picture of home loan borrowers who availed home loan by Public Sector banks in Anand. To begin with it is necessary to develop and understand their profile, perception of the influencing factors which affect the home loan borrowers. In this regard this paper through a small research survey attempts to study the factors influencing home loan borrowers in Anand city.

## Introduction

Shelter, food and clothing are the basic need of human beings. If not a malty story building, but a tiny house is perhaps the dreams of millions. Proper housing, even at a lower scale, has never kept pace with the minimum requirements of the people. Investment in housing is an important means in the economic upliftment of the country and help in creating better employment opportunities. 1

Every human being aspires to have his/her own house to live in. Though shelter was enshrined as a fundamental right in the constitution, housing did not get the attention it deserved. This was perhaps due to the fact that at that time nobody expected the problem of housing to assume the present gigantic proportions. Inadequate housing facilities have led to the rapid growth of slums and unauthorized settlements, poor quality of services, spiraling land prices and increasing cost of construction.

The term “Housing Loan” or “Housing Finance” means finance for buying or modifying a property. Housing finances may be defined as the financial resources for an individual or a group of persons used especially for the purpose of housing.

The various housing loan plan offered by commercials banks and private sector banks could be classifieds under:

Home Purchase Loan  
Home Improvement Loan  
Home Extension Loan  
Home Conservation Loan  
Home Loan for NRIs

## Types of home loan

There are different types of Home Loan tailored to meet the customer needs.

- Home Purchases Loans: For the purchase of a new home.
- Home Improvement Loans: for implementing repair works and renovation in a home.
- Home Extension Loans: For expanding and extending an existing home.
- Home Conversion Loan: Available for those who have financed the present home with a home loan and wish to purchase and move to another home for which extra fund required.

## Pros and Cons of Special Home Loan Branch

### Advantages

- ✓ Very fast: (As per Chief manager, Maximum number of days to get a loan Sactioned is 8 days provided you have submitted all the required documents).
- ✓ Good Personal relationship: Once a Loan application is submitted a Manger is assigned just for you and from now on we will be in touch with the Manager.
- ✓ They work on Saturdays (till 12 PM) and Sundays (till 3 PM) as well (Monday is the holiday for them).

### Disadvantage

Have to go personally to the Bank multiple times (They say maximum 3 times we have to come to the bank, but that actually matters).

- ✓ Repayment capacity

However higher repayment capacity may be considered by taking into account age, income, qualification, number of dependents, assets, liabilities, stability/continuity of employment /business of the applicant and the co-applicant's income. The main source is to make sure that the customers have the capacity to repay the loan amount on time.

- ✓ Security

The security for the loan is a first mortgage of the property to be financed. If mortgage is not feasible, then branch can accept as a security, such as, life insurance policies, Government Promissory Notes, share and debentures, gold ornaments, etc. normally by way of deposit of title deeds and / or such collateral security may be necessary. Interim security may be additionally required, if the property is under construction.

## Statement of the problem

The major source of finance for housing has been largely from the unorganized sector such as loan from relatives, friends and private money lenders. These funds are often prohibitively expensive. Indian saving market has been expanding over the period and there is a steady increase of household savings. But there is a gap between demand and supply of housing finance in India. So an attempt has been made by the researcher to identify the factors which influence them to borrow home loan.

Also evaluate the awareness and satisfaction level among home loan borrowers.

## Review of study

- ✓ Updated: Mon, Dec 15 2008. 10 34 PM IST

Mumbai: Public sector banks on Monday announced a low interest rate package for home loans of up to Rs20 lakh in a bid to boost a faltering property market.

Demand push: State Bank of India chairman O.P. Bhatt. Ashesh Shah / Mint

Starting Tuesday, the banks will offer home loans of up to Rs. 5 lakh at an interest rate of 8.5%, and of Rs5-20 lakh at 9.25%. Currently, banks charge about 10.5% as interest for home loans in this range.

The scheme will be available to new customers and is valid till 30 June. The new rates will remain unchanged for five years.

- "The aim is to stimulate new demand and the housing sector is critical to the economy as many other sectors like steel, cement are dependent on this sector," said O.P. Bhatt, chairman of State Bank of India . "Almost 80% of the public sector banks' home loan portfolio is made up of loans up to Rs20 lakh. We expect to disburse home loans in the range of Rs15,000crore to Rs20,000 crore under this window."

- The free insurance cover will have an impact of about 25 to 35 basis points on the banks' costs. The cut in interest rates should have an impact of about 2-3 basis points on the banks' margins," said T. Narayansami, chairman and managing director, Bank of India, and chairman of Indian Banks' Association (IBA).

- "This (scheme) will help create demand in the tier II and tier III centres...(but will) not help customers in the metros," said PranayVakil, chairman, Knight Frank India Pvt. Ltd. "(But) this package will make private banks and housing finance companies think in terms of rates as nobody wants to lose market share."

Meanwhile, the Delhi Development Authority (DDA), which will draw lots on Tuesday to allot 5,010 apartments, does not expect the slump in the housing sector to affect its sales.



- “We don’t expect any downward trend, because we are selling 40% cheaper than market rates,” DDA spokeswoman NeemoDhar said.

The agency had sold about 1.2 million applications with nearly 566,000 people paying Rs1.5 lakh each as deposit to be eligible for the draw.

- “In Delhi, there is a supply demand mismatch because of the shortage of housing and because only DDA can build, so I don’t think the current environment will have a big impact,” said Sanjay Verma, executive director, South Asia, for real estate consultancy Cushman and Wakefield.

✓ Government Cuts Corpus for Home Loan Rate Subvention by 20 Percent **Dated: July6, 2012**

KOLKATA: The government has cut the size of interest rate subvention corpus for affordable home loans by a fifth as it focuses on austerity over growth to contain the burgeoning fiscal deficit.

It has fixed the corpus at Rs 400 crore for the current fiscal, 20% less than last fiscal's Rs 500 crore.

The government runs a 1% interest subvention scheme for home loans up to Rs15 lakh to generate additional demand for credit and provide fillip to a sagging real estate sector, but the decision to shrink the corpus has raised questions on whether the government is expecting a lower growth in housing finance.

"There is a debate between austerity and growth and we have made up our mind to contain fiscal deficit," C Rangarajan, the chief economic advisor to Prime Minister Manmohan Singh had said last week in Kolkata.

The government is also contemplating cutting subsidies on diesel and LPG to reduce the fiscal deficit to 5.1% of the GDP this fiscal from 5.7% in 2011-12.

Earlier this week, the Union cabinet had given its consent for extending for one more year, till the end of 2012-13 fiscal, the 1% interest subvention scheme on home loans up to Rs15 lakh where the cost of the home does not exceed Rs 25 lakh.

✓ New RBI Home Loan Mandate **Dated: Feb18, 2012**

- RBI seems to be playing a zero-sum game for prospective home buyers. While it plans to reduce the CRR rates thereby sparking a speculation of

loans probably getting cheaper, RBI issues a new dampener instructing the banks not to include stamp duty and other registration charges. With more news pouring in about the freshly issued mandate, prospective home buyers will have to shell out 30% of the total cost of a house from their own resources. Earlier, banks were expected to fund 80% of the property value with remaining 20% coming from the customer’s side. The ratio of loan amount to value of the property, i.e., loan to value cannot exceed 80%.

However, now, the banks are not allowed to fund more than 70% of the property value, with customer incurring stamp duty, registration charge (1%) and other levies like surcharges (0.72%). Expecting buyers to come to terms with this ruling in the medium to long run, Om Ahuja, CEO-residential services at real estate consultancy Jones Lang LaSalle India foresees a slight reduction in home sales for now. PranabDatta, MD of real estate consultancy Knight Frank, India expects a hard negotiation from prospective buyers to grab a good deal. RBI’s such a move is slated to prevent customers reporting over-realizable value of the property, thereby reducing the chances of borrower defaults. However, developers seem to be frowning upon such a move, blaming it to be decelerating the industry growth. "We are totally directionless.

Does the RBI want to promote housing or kill the industry? RBI's latest move will persuade customers to defer home purchases," said SushilMantri, CMD of MantriDevelopers. Jackbastian Nazareth, CEO of Puravankara Projects, observed the mid-segment in housing likely to be affected to a large extent. "The extra 10% that buyers will now have to bring in is significant in the Rs 60-80 lacs bracket," he said. However, he was affirmative about the lower end segment receiving a boost from the RBI move, where for loan <Rs 20 lacs, banks can sanction a loan up to 90% of the value of the property.

✓ Press Release Home Loan

- 1st September, 2011. MoneyLaxmi.com, a finance portal launched Home Loan today targeting every segment of the society. Borrowers would be given multiple financial institutions to choose from. The Home Loan rates offered would be cheapest and transparent.

The organization has entered into a tie up with HDFC, ICICI, SBI, IDBI, First Blue, HSBC, India bulls, Axis, DHFL,PNB Housing Finance Ltd, Reliance and many more with a view to meet the growing demand of home buyers.

Mr. Vaneet Gupta, Director, MoneyLaxmi.com said “we are confident to proffer customer satisfaction at any outlay.” The official website of the company would facilitate every proposed home buyer to understand the product, compare offers from multiple banks and apply. A committed team of experts has been formed to give instant service. Any delay in the process is strictly supervised. The services offered by us are free of cost.

The organization proposes to provide dedicated representative to assist the borrower throughout the loan process. There is the provision for online home loan application, which is simple and can be accessed by prospective home buyers. The application received is reviewed and the customers are contacted immediately. The customer can walk into our branch or drop us a line.

### Objectives of the study

The following are the specific objectives of the study.

- ❖ To study the socio-economic profile of those who have taken home loan.
- ❖ To identify the various factors which are influencing to the people who take home loan.
- ❖ To examine the level of awareness of borrowers.
- ❖ To find out the benefits enjoyed by the borrowers.

### Research methodology

The area of survey for this study was restrained to Anand. A sample of 77 borrowers representing various types such as Businessmen, agriculturists, Government Employees, Private Employees, professional people of both the public sector banks are selected by applying convenience sampling method.

### List of selected banks

Selected Public Sector Banks
Bank of Baroda
Punjab National Bank
Bank of India
State Bank of India
Central Bank of India

### Home Loan Interest Rates

HDFC Bank	10.75% - 11%
Reliance Finance	11%
Dhanalakshmi Bank	12%
Barclays Bank	11% - 11.25%
HSBC	10.75% - 11%
Kotak Mahindra Bank	11.25% - 11.50%
DHFL	11.25% - 11.50%
Indiabulls	10.50% - 11.25%
First Blue	10.50% - 11.75%
Citi Bank	10.50% - 11%
Standard Chartered Bank	10.75% - 11%
Axis Bank	10.75% - 11%
ICICI Bank	10.50% - 11.75%
Deutsche Bank	10.75% - 11%

### Tools of analysis

To test the significance of relationship between demographic factors and level of awareness and level of satisfaction among home loan borrowers, Chi-square test of association has been done. Percentage analysis is also use, wherever necessary. Method of rank Order is used to know the factors which influence the home loan borrowers to obtain loan.

### Hypothesis

- H1: Annual income and Duration of Sanction Home loan are independent.
- H2: Occupation and Duration of sanctioned home loan are independent.
- H3: Security for Home Loan and Duration of home loan sectioned are independent.
- H4: Sources of information for getting home loan and Home loan already avail are independent.
- H5: Age group and Period of usage of home loan are independent.

- H6: Age group and purpose of home loan are independent.
- H7: Age group and home loan availed is independent.

### Limitations of the study

- ❖ The study is subject to the following limitations:
- ❖ Only home loan borrowers have been taken into consideration.
- ❖ The study area is restrained only to Anand city.
- ❖ The sample size is restricted to 77 which collected from Public Sector bank only collected for the study are quantitative being subject to personal bias of the respondents.
- ❖ The study is confined only few Public Sector Banks.

### Results and discussion

#### (a) Profile of the respondents – Percentage Analysis

Majority of the respondents are from the age group 30 to 40 year's i.e.42%. in public sector banks, 34 percent of the respondents are businessmen, 34 percent are Government employees, and 32 percent are Private employees. Annual Income of the respondents have been classified as below Rs. 3,00,000, Rs. 3,00,000 to Rs. 5,00,000 and those who earn above Rs. 5,00,000 treated as Low, Middle and High income group respectively.

Family size of the respondents have been classified into 1-3 members as small family, 4-6 members as medium family and more than 6 members as large family. All majorities of the respondents are graduates and post graduates, i.e. 49 percent and 51 percent respectively.

**Table 1.1: Demographic Profile of Respondents**

Demographic Variables	Frequency	%
Age Group [In Years].		
Below 30	17	22
30-40	32	42
40-50	10	13
Above 50	18	23
Total	77	100
Occupation		
Business	26	34
Govt. Employee	26	34
Pvt.Employee	25	32
Unemployed	0	0
Total	77	100
Annual Income[In Rupees].		
below 3,00,000	28	36
3 to 5 lakhs	20	26
More than 5 lakhs	29	38
Total	77	100
Education		
Illiterate	0	0
Graduate	38	49
Post graduate	39	51
12th STD	0	0
Total	77	100
Size of Family		
1-3 Members	31	40
4-6 Members	24	31
More than 6 Members	22	29
Total	77	100

**Table 1.2: Profile of Respondents**

	Period of Loan				Sources of Information						Duration of Sanction Loan		
	Below 3 Years	3 to 5 Years	5- to 10 Years	More than 10 years	Directly	Through Bank	Newspapers	Through Friends	Websites	Others	15 days	One Month	More than a Month
No. of Respondents	0	5	21	51	18	39	0	20	0	0	47	28	2
Percentage (%)	0	6	28	66	23	51	0	26	0	0	61	36	3

**Table 1.3: Profile of Respondents**

	Purpose of Home Loan				Avalied Home Loan		Security For Home Loan					
	For Acquiring land	For Acquiring House	For Construction	For Remolding the House	Yes	No	Land & Building	Gold	Shares	Debentures	Guarantors	Others
No. of Respondents	12	47	10	8	34	43	54	0	6	0	17	0
Percentage (%)	16	61	13	10	44	56	70	0	8	0	22	0

From the above table 1.2, there are respondents who have taken Home loan for more than 10 years. In case of source of information are provided by the banks itself in comparison to other sources of information. Here, from this table 1.2 we found that they have sectioned their Home Loan within 15 days but in other cases, respondents' loan was sectioned in one month also.

From the table 1.3, we found that majority of the respondents' purpose for availing loan is for buying or purchasing house. Majority of the respondents have not already availed any home loan. Higher percentage of the respondents availed home loan by pledging land and building in Public sector banks.

#### (b) Factors influencing home loan borrowers

Table 1.4 a Factors Influencing Home Loan Borrowers		
Sr. No.	Factors	Mean
1	Brand name	1
2	Payment facility	1
3	Representative Approach	1.21
4	Good Communication method	1.04
5	Documentation Procedure	1.01
6	Others	1.01

#### Method of Rank Order

Factors influencing Housing Loan Borrowers: [Give Rank to each factor which is mentioned below] [Rank Order: 1==Highest Affected Factor& 10= Lowest Affected Factor]

Table : 1.4 b Factors Influencing home loan borrowers		
Sr. No.	Factors	Mean Score
1	Low rate of Interest	1.01
2	Quick Disposable	5.3
3	Free Incentives,	7.68
4	Lesser Formalities	5.79
5	Friendly Behavior of field staff	6.38
6	Low Waiver of Processing	4.01
7	Good customer service	5.88
8	Convenient repayment	3.19
9	Low service charge	5.39
10	Nearer to residence	10

From the table 1.4 a, we concern with the respondents agree and disagree part to know that which are the factors that affect directly to the respondents point of view while taking Home Loan. Here, we study that majority of the respondents' agreement towards brand name, payment facility and good communication method.

The respondents under this rank order method directly compare two or more factors which affects and make choice among them. Ranking is

numbering data which higher level to lower level according to its priorities and importance, which helps to the respondents and us to judge the results. We found limitation for using rank order method, such as, data obtained through this method are ordinal data and hence rank ordering is an ordinal scale with all its limitations. Then there may be the problem of respondents becoming careless in assigning ranks particularly when there are many

(usually more than 10) items. But here we have only 10 factors to which respondents have to give rank within 1 to 10.

From the above Table : 1.4 b, we found that the most influencing factors which affect to the respondent that is Low rate of Interest on Home Loan and Nearer to Residence is less affected factor to the respondents.

### (c) Level of awareness about home loan

The level of awareness of the respondents are analysed by various factors namely, knowledge about Home Loan, duration of sanctioning loan, purpose of home loan usage , Period of loan, security for home loan, availed home loan, etc. These are the factors compared with the demographic factors like age group, annual Income, occupation

### Hypothesis

H<sub>1</sub>: Annual income and Duration of Sanction of Home loan are independent.

Table : 1.5 a Duration v/s Annual Income Cross tabulation						
			Annual Income			
			Less than 3,00,000	3,00,000- 5,00,000	More than 5,00,000	Total
Duration	15 Days	Count	9	20	18	47
		Expected Count	17.1	12.2	17.7	47.0
	A Month	Count	19	0	9	28
		Expected Count	10.2	7.3	10.5	28.0
	More than a Month	Count	0	0	2	2
		Expected Count	.7	.5	.8	2.0
	Total	Count	28	20	29	77
		Expected Count	28.0	20.0	29.0	77.0

The null hypothesis is rejected at 5% level of significance.



**Hypothesis**

H2: Occupation and Duration of Sanction of Home loan are independent.

Table : 1.5 b Duration of Sanction Loan * Occupation Cross tabulation						
			Occupation			
			Business	Govt. Employee	Pvt. Employee	Total
Duration	15 Days	Count	11	26	10	47
		Expected Count	15.9	15.9	15.3	47.0
	A Month	Count	15	0	13	28
		Expected Count	9.5	9.5	9.1	28.0
	More than a Month	Count	0	0	2	2
		Expected Count	.7	.7	.6	2.0
	Total	Count	26	26	25	77
		Expected Count	26.0	26.0	25.0	77.0

The null hypothesis is rejected at 5% level of significance.

**Hypothesis**

H<sub>3</sub>: Security for Home Loan and Duration of Sanction of Home loan are independent.

Table : 1.5 c Duration * Security for Home Loan Cross tabulation						
			Security for Home Loan			
			Land and Building	Shares	Guarantor	Total
Duration	15 Days	Count	37	6	4	47
		Expected Count	33.0	3.7	10.4	47.0
	A Month	Count	15	0	13	28
		Expected Count	19.6	2.2	6.2	28.0
	More than a Month	Count	2	0	0	2
		Expected Count	1.4	.2	.4	2.0
	Total	Count	54	6	17	77
		Expected Count	54.0	6.0	17.0	77.0

The null hypothesis is rejected at 5% level of significance.

## Hypothesis

H<sub>4</sub>: Sources of Information and Home Loan availed are independent.

Table 1.5 d Home Loan already Avail? * Sources of Information Cross tabulation						
			Sources of Information			
			Directly	Through Bank	Through Friends	Total
Home Loan already Avail?	Yes	Count	3	23	8	34
		Expected Count	7.9	17.7	8.4	34.0
	No	Count	15	17	11	43
		Expected Count	10.1	22.3	10.6	43.0
	Total	Count	18	40	19	77
		Expected Count	18.0	40.0	19.0	77.0

The null hypothesis is rejected at 5% level of significance.

## Hypothesis

H<sub>5</sub>: Age Group and Period of usage are independent.

Table : 1.5 e Period of usage * Age Group Cross tabulation							
			Age Group				
			Below30	30-40	40-50	50 -60	Total
Period of usage	3 to 5 years	Count	0	5	0	0	5
		Expected Count	1.1	2.1	.6	1.2	5.0
	5 to 10 Years	Count	8	0	7	6	21
		Expected Count	4.6	8.7	2.7	4.9	21.0
	Above 10 years	Count	9	27	3	12	51
		Expected Count	11.3	21.2	6.6	11.9	51.0
	Total	Count	17	32	10	18	77
		Expected Count	17.0	32.0	10.0	18.0	77.0

The null hypothesis is rejected at 5% level of significance.

## Hypothesis

H6: Age Group and Purpose of Home Loan are independent.

Table: 1.5 f Purpose of Home Loan * Age Group Crosstabulation						
		Age Group				
		Below30	30-40	40-50	50 -60	Total
For Acquiring Land	Count	0	0	0	12	12
	Expected Count	2.6	5.0	1.6	2.8	12.0
For Acquiring House	Count	17	27	3	0	47
	Expected Count	10.4	19.5	6.1	11.0	47.0
For Construction	Count	0	0	4	6	10
	Expected Count	2.2	4.2	1.3	2.3	10.0
For Remodeling the house	Count	0	5	3	0	8
	Expected Count	1.8	3.3	1.0	1.9	8.0
Total	Count	17	32	10	18	77
	Expected Count	17.0	32.0	10.0	18.0	77.0

The null hypothesis is rejected at 5% level of significance.

## Hypothesis

H7: Age Group and Loan already availed are independent.

Table: 1.5 g Home Loan already Avail? * Age Group Crosstabulation						
		Age Group				
		Below30	30-40	40-50	50 -60	Total
Home Loan already Avail?	Yes	0	20	8	6	34
	No	17	12	2	12	43
	Total	17	32	10	18	77

The null hypothesis is rejected at 5% level of significance.

## Hypothesis Results

From the above Table 1.5 a to Table 1.5 g we found that there is significant result between; annual income and duration of sanctioned loan, occupation and duration of sanctioned loan, security for loan and duration of sanctioned loan, sources of information and home loan availed, age

group and period of loan, purpose of loan and home loan availed with age group.

Following are the observations: there is significant relationship between annual income and level of awareness about the sanctioned loan; age group and awareness about period of home loan, purpose of

usage and home loan availed. Annual income does influence the level of awareness about the duration of sanctioning home loan. The demographic

variables such as, age, annual income, occupation, does influence the level of awareness.

**Table: 1.5 Level of Awareness  $\chi^2$  Analysis**

Table No.	Factors	$\chi^2$ Value	Table value	df	Remarks
1.5 a	Annual Income and Duration of Sanctioned Loan	27.256	9.488	4	Null hypothesis rejected
1.5 b	Occupation and Duration of Sanctioned Loan	28.321	9.488	4	Null hypothesis rejected
1.5 c	Security for Home Loan and Duration of Sanctioned Loan	17.554	9.488	4	Null hypothesis rejected
1.5 d	Sources of Information and Home Loan Availed	8.437	5.991	2	Null hypothesis rejected
1.5 e	Age Group and Period of Home Loan	29.161	12.592	6	Null hypothesis rejected
1.5 f	Age Group and Purpose of Home Loan	84.883	16.919	9	Null hypothesis rejected
1.5 g	Age Group and Home Loan Availed	23.874	7.815	3	Null hypothesis rejected

## Conclusion

The efficiency of banks depends upon the services provided to the borrowers. So, banks need to introduce more and more dynamic, innovative, affordable and convincing home loan schemes and also need to focus on mass customization versus mass market. As per the study, bank has to build up the brand name in the current market and also develop report through representative approach and good communication method. Bank has to more focus for making easy payment facility so that the bank can attract to the home loan borrowers from the different segment of market. Majority of the borrowers obtain the information about home loan only through bank directly. So wide publicity must be given regarding housing loan. The housing sector plays an important role in the economic development of the country. In India, there is a vital scope for housing promotion, so banks should take necessary step to promote house building in village too. **“The Key to growth is the introduction of higher dimensions of consciousness to our awareness.”** - By Lao Tzu

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# Growth and progress of banking in Gujarat – a district wise analysis

**Dr Waheeda Sheikh, Dr Sunny Thomas**

## Abstract

Gujarat is one of the leading industrial states of India. Agriculture, trade and other sectors of the Gujarat economy too are posing good progress. One of the factors responsible for the growth of any economy is availability of finance. Present study explores the district wise growth in the bank branches, number of accounts, deposits from the year 2000 to 2010. The study further explores the district wise occupation wise growth of credit in the state of Gujarat. Using the percentage analysis the study focuses on district wise sector wise penetration and comparative growth of banks and banking services in the state of Gujarat.

## Introduction

In economies the vital process of production and consumption are significantly affected by the aggregate money supply consisting of the currency as well as demand and time deposits with banks. Any change in the circular flow of the aggregate money supply is bound to exert a significant influence on the size and composition of real aggregate variables – consumption, production, saving, investment, employment in the economy. The commercial banks are not only the purveyors of money but also the creators or manufacturers of money in the system. It is the banks that set the tempo of aggregate economic activity in the system. The quality of functioning of the financial sector has profound impact on the functioning and productivity of all other sectors of the economy such as agriculture, industry, and transport operators, professional and other services, personal loan, trade finance etc. Therefore, efficient financial intermediation should be seen as a catalyst for effective allocation of resources and promotion of productive growth in all other areas of the economy.

In India, the ancient Hindu scriptures refer to the money- lending. We can trace various money changing activities to the Vedic period. In India during the Ramayana and Mahabharata era, banking had become full-fledged business activity and had become the profession of the Vaish community.

The bankers of the Smriti period, performed most of those functions which banks perform in modern times, such as accepting of deposits, granting secured and unsecured loans, acting as their customer's bailee, granting loans to kings in times of grave crisis, acting as the treasure and banker to the state and issuing and managing the currency of the country. (Kaptan 2000)

In India banking started on European pattern with two British managing agency houses, namely, Ferguson and Co., and Alexander and Co., setting up three banks. The first joint stock bank was established in 1786 in the name of General Bank of India. Later the General Bank of India could continue only up to 1806, while other two banks had failed earlier. Then came the era of "Presidency Banks" with the sanction of British Parliament the Bank of Bengal (New) was established in 1809 as the first Presidency Bank. One fifth of its capital was contributed by the State and rest by the East India Company. This was followed by

establishment of Bank of Bombay in 1840 and the Bank of Madras in 1840 as Presidency Banks bringing their total number to three. These banks continued till 1920.

The presidency banks did not make much headway in India. The stalwarts of swadeshi movement like Lala Lajpat Rai, Babu Purshottam Tondon and Sardar Dayal Singh worked intensively for the establishment of national banks entirely with Indian capital and management by the Indian people. The Punjab National bank Ltd., was established in 1895 by the efforts of aforesaid personalities. During the boom period of 1906-1913 some more eminent banks came into existence namely the Bank of India, the Central Bank of India, the Bank of Baroda and the Peoples Bank of India.

These Indian joint stock banks had to face competition from their English counterparts. However, the Swadeshi Movement of 1906 gave a fillip to establishment of more and more Indian



banks. The World War I doomed the Indian banking to failure, from 1913 to 1917, 87 banks failed and 84 banks failed during 1919-25. The failure could be attributed to inexperience of Indian bankers in conducting banking in European style along with the factors like unsound management and malpractices. The Second World War brought boom for the banks in the country, which got a jolt with the ill-conceived partition. Most of the joint stock banks were established under the provisions of Indian Companies Act 1913, amended in 1934. Keeping in view the public opinion for a separate legislation and the complaints raised against and drawbacks pointed out in the existing legislation, the Government of India passed a Banking Companies Act, 1949 (later its name changes to Banking Regulation Act.)

The wave of bank nationalization in 1969 swept the country, leading to 14 joint stock banks' nationalization with 80 per cent of the total banking business under public sector. Again in April 1980, six major joint stock banks were nationalized. The public sector establishment of Regional Rural Banks, co-operative Sector Banks, Land Development Banks, Industrial Development Banks and Export Import Bank added new dimensions in the banking sector. The Reserve Bank of India is well coordinating the banking activities and regulating the currency and credit according to the economic and financial needs of the country.

### **Review of Literature and objectives of the study**

Literature reveals strong relation between economic growth and availability of finance. (Shah and Rajyaguru 2013) use financial statistics for the year 2009-10 and assess the performance various categories of bank in state of Gujarat from data collected from banking statistics only for the year 2009-10. There is lack of descriptive district wise study explaining the penetration of banks in Gujarat. On the basis of the review of literature the objectives of present study are –

- 1) To study the growth of banking sector in Gujarat from 2000 to 2010.
- 2) To study the district wise growth of number of accounts and credit and the changing composition of credit.

### **Database and Methodology**

The study of district wise development of banking credit and deposits for all the districts of Gujarat from 2000 to 2010, for a decade is based on secondary data collected from various issues of Basis Statistical Returns of Schedule commercial Banks in India published by Reserve Bank of India and the reports of Government of Gujarat. The study uses percentage growth rate for analyzing the decadal growth district wise sector wise credit outstanding. The analysis of number of bank offices, number of accounts and deposits is carried out district wise. For the purpose of comparison the data between the year 2000 and 2010, data related to Tapi district for the year 2010 is merged with that of Surat district.

### **Result and Discussion**

#### **Present Banking System in Gujarat**

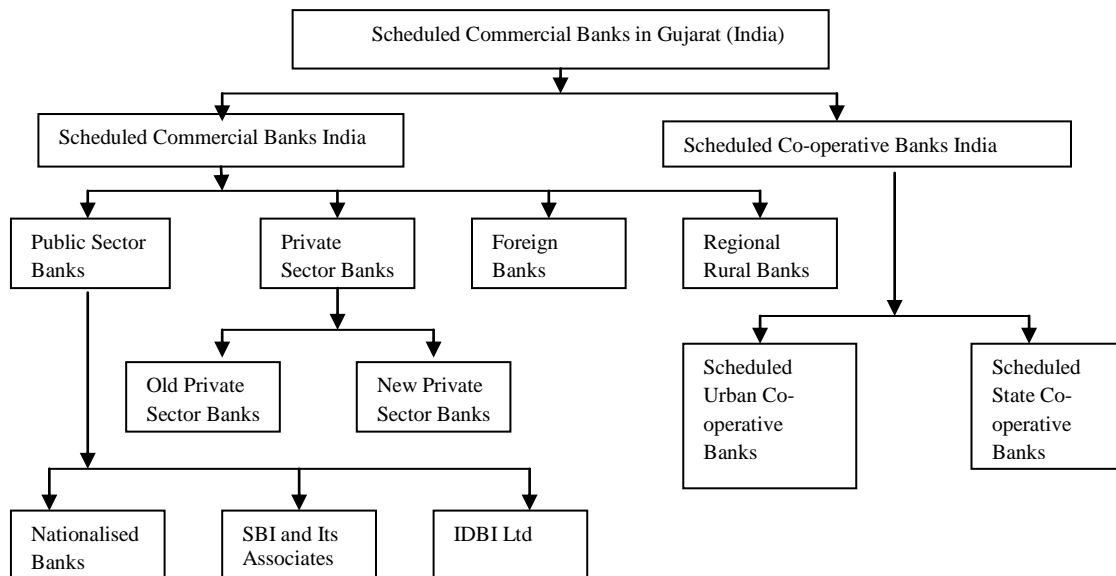
As on 2010 nearly 80 per cent of the banking business in Gujarat rests with the Public sector Commercial banks. The public sector banks also account for the large chunk of branches which amounts to 78 per cent. New private sector banks and foreign banks with their highly mechanized operations are able to increase their share of the total business in Gujarat. Total numbers of bank branches have grown from 3732 in 2000 to 4733 in 2010 recording a growth of 26 per cent. The commercial banking structure in Gujarat can be indicated with the help of chart 1:

#### **Growth and Progress of banks in Gujarat**

In the year 2010 there were 4733 branches of various banks in Gujarat state of which 32 per cent were rural branches, 23 per cent were semi urban, 16 per cent were located in urban areas and the rest 31 per cent are located in metropolitan areas. So far as district wise growth of metropolitan and semi urban branches is concerned Surat Largest growth in the urban, semi urban and rural branches is also observed for Gandhinagar district. Gandhinagar district was selected by Reserve Bank of India for implementation financial Inclusion pilot project.

As can be seen in Table 1, Mehsana, Patan and Panchmahals there were no urban branches in the year 2000. In 2010 these three districts have urban branches due to growing urban inhabitation. However, Patan has experienced a decline in total

Chart: 1



number of bank branches. Similarly growth in number of accounts and deposits is highest for Surat and Gandhinagar.

#### Growth and Progress of credit in Gujarat from 2000 to 2010

There is significant growth in the number of accounts in all the districts of Gujarat as can be observed from table 2. Districts of Dangs, Gandhinagar, Kachch, Sabarkantha, Surat and Surendranagar have recorded more than 100 per cent growth in terms of growth in number of accounts. Total growth of number of accounts at the state level is a staggering 848 per cent. With regards to the percentage growth of credit during the period is 526 per cent. The data reveals that all areas of economic activities are getting facilitated through institutional credit. Growth rate of credit and number of accounts is analysed according the occupation or use of credit in the sector specific. The analysis is presented as follows:

**a) Agriculture** - All the districts of Gujarat have experienced growth in the number of agricultural accounts barring Bharuch. The growth of accounts holders is more pronounced in the backward districts of Gujarat. The same is the case with regards to growth of credit. It has been observed that the growth of credit is faster after 2005 as against 2000 to 2005. In case of growth of credits the less developed districts have gained considerably. Highest growth of credit is observed in Gandhinagar. This can be due to Reserve Bank of India's efforts towards financial inclusion

wherein district of Gandhinagar was selected as pilot district. Data given in table 2 and 3 shows that agriculture has become a priority sector. The lowest decadal flow of agriculture credit is seen for Porbandar district.

**b) Industry** - Gujarat is one of the leading industrialised states in India. There is a quantitative and qualitative increase in the number of accounts and credits. The number of accounts have growth to the tune of 1554 per cent and credit has grown to the extent of 453 per cent. Considering the fact that the period under consideration is one decade, the average growth rate is nearly 45 per cent. The fact stands out that the number of accounts have not grown uniformly in all the districts. Many districts have shown negative growth rate in the number of accounts.

**c) Transport Operators** - Another important group under study is transport operators. As observed from table 2 and 3, this sector has not shown much improvement in the number of accounts but the credit availed by the transport operators in the state has shown huge turn around. The growth rate has been whopping 1095 per cent during the period under study.

**d) Professional and Other services** - This group posted a modest growth rate of 56 per cent. However, the credit supply to this sector reached 1348 percent growth rate between year 2000 and 2010. All the districts have shown considerable growth of credit. The total credit amount outstanding in the year 2010 is Rs 7000 Crore.

**e) Personal Loans** - Another important area of interest is the growth of personal loans. The number of accounts has increased during the period under observation. With regards to credit off take all the districts are showing positive growth rate. The total growth rate of Gujarat during the period of study is 934 per cent.

**f) Trade** - As can be seen in table 2 and 3, there is mixed bag of growth story with regards to the number of accounts pertaining to trade. The total growth rate during the decade has been a mere 9 per cent. As regards credit outstanding the growth rate has been a modest 472 per cent.

**g) Finance** - The values given in table 2 and 3 shows that the number of accounts in the finance sector has grown for all the districts. The credit outstanding has increased by 367 per cent during the study period. It can be seen that individuals and other are turning to financial institutions for credit.

**h) All Others** - In this category also there is increase in the number of accounts. Similar trend is observed in amount of credit outstanding. The percentage growth rate in the credit outstanding is 208 showing 20 per cent average growth rate every year.

## Conclusion

All the eight sectors have shown encouraging growth pattern during the study period. The most important sectors are agriculture industry and trade. This is a healthy sign because dependence on non-institutional sources has come down. Timely credit for various sectors is the reason behind the overall growth rate of Gujarat economy at double digit. In fact the productivity in the agriculture sector is 11.5 per cent in many years in the last decade. Industrial sector is also posting remarkable growth in spite various adverse economic environment existing in the national and international levels. The all pervasiveness of commercial banks at all locations of Gujarat has ensured stability with growth.

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**Table 1: Growth of Banks in Gujarat (Values in Per Cent)**

District		Banks Branches	Number of Accounts	Amount of Deposit	District		Banks Branches	Number of Accounts	Amount of Deposit
Ahmedabad	R	-7	59	143	Mahešana	R	-28	12	151
	SU	29	60	284		SU	11	36	208
	M	41	92	513		U	-	-	-
Amreli	R	2	94	272	Narmada	R	5	119	287
	SU	39	77	273		SU	50	103	465
Anand	R	-9	29	157	Navsari	R	6	35	142
	SU	47	87	323		SU	19	72	219
	U	50	141	311		U	37	56	187
Banaskantha	R	-24	82	184	Panch Mahals	R	3	142	322
	SU	17	52	171		SU	-23	13	102
Bharuch	R	0	43	225		U	-	-	-
	SU	86	168	527	Patan	R	-15	83	273
	U	52	97	381		SU	-32	10	99
Bhavnagar	R	-12	64	172		U	-	-	-
	SU	21	53	202	Porbandar	R	15	169	385
	U	59	109	259		SU	14	94	227
Dahod	R	10	254	480		U	23	44	144
	SU	32	131	380	Rajkot	R	-1	68	219
Dangs	R	0	186	239		SU	-10	-6	89
	SU	0	139	358		U	-69	-53	-47
Gandhinagar	R	179	320	1025		M	-	-	-
	SU	120	269	543	Sabarkantha	R	-6	100	243
	U	100	246	440		SU	69	142	532
Jamnagar	R	-5	67	259	Surat	R	-3	48	226
	SU	45	76	241		SU	116	159	420
	U	28	62	241		M	61	102	393
Junagadh	R	-11	69	197	Surendranagar	R	0	148	289
	SU	36	80	235		SU	33	99	391
	U	54	90	284		U	79	98	512
Kachchh	R	5	93	177	Vadodara	R	8	70	223
	SU	23	89	66		SU	24	85	255
	U	95	154	404		M	48	96	366
Kheda	R	-5	48	180	Valsad	R	5	66	215
	SU	18	99	350		SU	58	76	360
	U	12	100	276					

Note: R – Rural, SU-Semi Urban, U-Urban and M – Metropolitan.

Source: Researchers calculation based on the data collected from various issues of a Basic Statistical Returns of Scheduled Commercial Banks, Reserve Bank of India.

**Table 2: District wise Occupation wise Growth in Number of Bank Accounts (Values in Per Cent)**

Sr No	Districts	Agriculture	Industry	Transport Operators	Professional Loans	Personal Loans	Trade	Finance	All other
1	AHMEDABAD	88	5802	384	85	136	52	116	145
2	AMRELI	91	-71	-54	2	69	-24	1250	-65
3	ANAND	94	-22	-16	136	34	46	425	52
4	BANASKANTHA	119	-68	-64	42	76	-11	25850	6
5	BHARUCH	-18	-56	19	86	176	-38	1616	633
6	BHAVNAGAR	117	-45	-12	-3	53	-18	-7	-10
7	DAHOD	42	-62	-55	211	115	-1	3664	102
8	DANGS	239	-47	-89	-51	219	55	-	128
9	GANDHINAGAR	429	-55	56	-53	138	99	2182	2
10	JAMNAGAR	93	-61	81	28	43	-17	-12	186
11	JUNAGADH	136	-76	-40	42	51	16	13	-34
12	KACHCHH	130	-49	93	111	145	4	412	413
13	KHEDA	96	-57	-26	72	31	39	33	-15
14	MAHESANA	69	-59	-34	119	113	-3	231	72
15	NARMADA	73	-86	-49	827	109	-25	-	-94
16	NAVSARI	28	-30	-40	41	45	8	318	41
17	PANCH MAHALS	42	-81	-66	57	71	4	10900	13
18	PATAN	159	-46	-79	163	36	47	29000	-31
19	PORBANDAR	113	-77	-86	141	28	32	-95	24
20	RAJKOT	70	-29	159	31	204	1	49	86
21	SABARKANTHA	152	-65	-66	49	106	57	524	-26
22	SURAT	2	82	95	135	308	33	581	183
23	SURENDRANAGAR	223	-70	-55	-22	17	38	-21	-20
24	VADODARA	31	-27	35	68	138	0	32	32
25	VALSAD	7	-70	22	-12	205	-24	935	365
	<b>GUJARAT</b>	<b>86</b>	<b>1554</b>	<b>45</b>	<b>56</b>	<b>125</b>	<b>11</b>	<b>219</b>	<b>99</b>

Note: Data for newly formed Tapi district is added with that of Surat district for comparative analysis

Source: Researchers calculation based on the data collected from various issues of a Basic Statistical Returns of Scheduled Commercial Banks, Reserve Bank of India.



**Table 3: District wise Occupation wise Growth in Credit Amount Outstanding (Values in Per Cent)**

Sr No	Districts	Agriculture	Industry	Transport Operators	Professional Loans	Personal Loans	Trade	Finance	All other
1	AHMEDABAD	1823	578	858	1914	963	448	467	285
2	AMRELI	400	1182	191	226	624	272	151	-72
3	ANAND	560	1550	180	1015	589	632	820	15
4	BANASKANTHA	970	821	274	505	733	315	-63	0
5	BHARUCH	479	96	290	1546	734	266	1102	94
6	BHAVNAGAR	479	299	2827	335	462	-19	-65	-21
7	DAHOD	552	1026	70	718	871	373	1194	116
8	DANGS	1720	5933	-60	369	1735	611	-	529
9	GANDHINAGAR	4689	1933	1156	2685	1477	1751	-40	28
10	JAMNAGAR	556	820	9129	366	645	317	-57	13
11	JUNAGADH	471	279	153	315	542	134	645	-78
12	KACHCHH	827	794	1254	771	830	549	120	215
13	KHEDA	543	48	-23	286	378	264	-24	-32
14	MAHESANA	717	272	350	961	659	303	652	239
15	NARMADA	1022	7638	-44	2119	1131	241	-	-64
16	NAVSARI	544	633	53	381	630	351	-68	50
17	PANCH MAHALS	572	10	12	890	664	449	781	53
18	PATAN	638	301	-59	607	623	161	1413	-4
19	PORBANDAR	130	57	214	989	571	655	-70	81
20	RAJKOT	826	864	1349	556	1063	1351	1464	428
21	SABARKANTHA	827	917	69	753	1005	1144	221	36
22	SURAT	471	559	895	2120	2126	813	377	459
23	SURENDRANAGAR	924	21	238	195	312	172	-89	-70
24	VADODARA	263	283	1941	1817	910	778	58	202
25	VALSAD	298	52	571	354	1121	218	-88	83
	<b>GUJARAT</b>	<b>644</b>	<b>453</b>	<b>1095</b>	<b>1348</b>	<b>934</b>	<b>472</b>	<b>367</b>	<b>208</b>

Note: Data for newly formed Tapi district is added with that of Surat district for comparative analysis

Source: Researchers calculation based on the data collected from various issues of a Basic Statistical Returns of Scheduled Commercial Banks, Reserve Bank of India.

# The Effect of Corporate Branding Dimensions on Consumers' Product Evaluation

Ms.Rina Dave, Dr.Ankur Amin, Mr.Binit Patel

## Abstract

Brand name is part of a brand consisting of a word, letter, and group of words or letters comprising a name which is intended to identify the goods or competitors. As competition is becoming stiff, retailers are working on new strategies to sustain in the market. One such strategy being private branding adopted by most of the retailers. Private brands are the most successful corporate brands in the world. Every brand image is partially derived from a product image. The product image relates to the fundamental aims and satisfaction which the consumer finds in a particular product. The study found that Consumers are conscious about corporate image, corporate reputation and corporate name to become loyal with particular corporate brand. Thus, we can conclude that, if consumers have positive perception about these three components than they might be more loyal.

## Introduction

Branding is successfully creating a brand identity that will not only make your business more appealing in comparison to your competitors, but it will also convince consumers that in a sea of prospects, your business is the only one capable of satisfying their needs. Many different components can go into developing a brand, including eye-catching designs and a unique name; however, a brand encompasses more than just a logo. It's what clients take away from the experience of working with you.

A brand is name, term, sign, symbol or design, or a combination of them which is intended to identify the goods or services of one seller or a group of sellers and to differentiate them from those of competitors. For example, lux soap, hamam soap.

Brand name is part of a brand consisting of a word, letter, group of words or letters comprising a name which is intended to identify the goods or competitors. Sony TV, Honda city car, carrier Aircorn A/c, Parker pen are examples of brand names. Brand name can be pronounced.

Branding is a management process by which a product is branded. In general term covering various activities such as giving a brand name to a product, designing a brand mark, and establishing and popularizing it.

The current Indian economy is witnessing the emergence of organized retail. It is growing at a faster pace and its expected to reach 10% from the current 4% of the total retail business. Retailers are expanding through variety of formats like supermarkets, convenience stores, hypermarkets, discount stores, specialty stores, and department stores. Many domestic business houses have entered this sector with ambitious plans.

With the new FDI regime, foreign players are incisive of Indian partners to grab the potential of retail market in India.

As competition is becoming stiff, retailers are working on new strategies to sustain in the market. One such strategy being private branding adopted by most of the retailers. Private brands are the most successful corporate brands in the world. Private branding is one of the strategic decisions of most retail organizations in recent years. They are either manufactured by the retailer or bought directly by the manufacturer, avoiding the intermediaries.

Hence retailers have control over marketing mix elements.

Every brand image is partially derived from a product image. The product image relates to the fundamental aims and satisfaction which the consumer finds in a particular product. Therefore, it is not wrong to say that the brand image relates to the specific versions of the product image.

In the present-day markets, branding is in inevitable and plays an important role in demand creation. A large number of products even today

live in the markets mainly due to an effective use of brand names. For example, Usha fans.

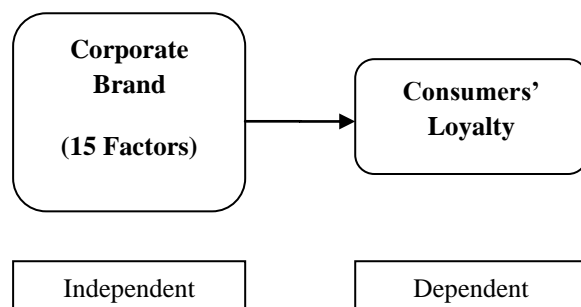
## Literature Review

Branding strategy refers to the ways that firms mix and match their brand's name on their products (Laforet and Saunders, 1999); and a firm, through its products, presents itself to the world (Aaker, 2004). The degree of synergy between the corporate brand and the product brand depends on the brand architecture (Keller and Aaker, 1998). The term "brand architecture" is sometimes used as a synonym of "branding strategy".

The corporate brand contributes not only to customer-based images of the organization but to the images formed and held by all its stakeholders which include employees, customers, investors, suppliers, partners, regulators, special interests and local communities (Hatch and Schultz, 2001, 2008). The ability to use the vision and culture of a company as part of a unique selling proposition is brought by corporate branding to marketing (Hatch and Schultz, 2003). It also represents the agreement between the organization behind the brand and its multiple stakeholders (Balmer, 2004). Balmer suggested that corporate brands are underpinned by

three elements: values, promises and behaviour. Hatch and Schultz (2008) proposed successful corporate branding depended on the coherence between strategic vision, organizational culture, and stockholders' image. Muzellec and Lambkin (2009) identified two types of branding strategies: integration (ascending brand extension) and separation (descending brand extension). They proposed three types of corporate branding strategy within the brand architecture: trade name, business brand and holistic corporate brand.

## Research Model



## Objectives of study

This paper consists of different objectives. They are as follows:

- ❖ To find out the effect of corporate branding on consumers' loyalty.
- ❖ To find out dimensions of corporate branding that affects consumers' loyalty.

## Hypothesis

- H<sub>1</sub>: Consumer Loyalty is significantly related to Corporate Name.
- H<sub>2</sub>: Consumer Loyalty is significantly related to Corporate Image.
- H<sub>3</sub>: Consumer Loyalty is significantly related to Corporate Reputation.

## Research Design

### Sample Size:

A sample of 100 people was taken on the basis of convenience.

### Research Period:

Research work is only carried for 2 or 3 weeks.

### Research Instrument:

This work is carried out through self-administered questionnaires. The questions included were of five point likert scale.

### Data Collection:

- ❖ **Primary Source:** The data was collected directly from respondents with the help of structured questionnaires.
- ❖ **Secondary Source:** The secondary data was collected from internet and references such as magazines, Journals etc.

## Data Analysis

The data is analyzed by statistical software such as SPSS and Microsoft Excel etc. This mean table shows mean of each variable as responded by the respondents. If we take cut-off mean as 3.5 then, there are several dimensions which have mean more than 3.5. The factors which have mean more

than 3.5 are shown with bold fonts in above table. From the respondents' point of view, they are more vital dimensions that make each consumer more loyal towards specific corporate.

Factors	Mean
The company is innovative & pioneering	4.18
The company is successful and self-confident	4.43
The company is persuasive and shrewd	3.24
The company does business in an ethical way	3.82
The company is open and responsive to consumers	4.05
The name of the company producing the product is well known	4.60
The product carries the name of the company	3.47
The product carries both the company name and its generic name (i.e. Samsung Galaxy Tab)	4.22
The company extends its name to all the products it produces	4.27
The company uses different brand names for each product it produces	3.93
The company which produces the product undertakes some social responsibilities	3.27
The company which produces the product is known for its high quality products & services	4.18
The company which produces the product has a good financial situation	4.68
The company which produces the product fulfils the promises that it makes to its customers	3.93
The company which produces the product is industry leader	4.17

## Factor analysis

Given the sample size of 100, factor loadings of 0.600 and higher is considered to be significant for interpretative purpose.

## KMO & Bartlett's Test

Kaiser-Meyer-Olkin Measure of sampling Adequacy	0.899
Bartlett's test of sphericity Sig.	0.000

The value of KMO statistic (0.899) is acceptable (> 0.5). So, this led the confidence regarding the appropriateness of factor analysis for the data.

Factors	Component		
	1	2	3
The company is innovative & pioneering	<b>.693</b>	.229	.032
The company is successful and self-confident	<b>.730</b>	.373	-.039
The company is persuasive and shrewd	.290	.130	-.242
The company does business in an ethical way	<b>.791</b>	.088	.172
The company is open and responsive to consumers	<b>.780</b>	.104	.013
The name of the company producing the product is well known	.103	<b>.655</b>	.082
The product carries the name of the company	-.232	.228	.282
The product carries both the company name and its generic name (i.e. Samsung Galaxy Tab)	-.114	<b>.786</b>	.309
The company extends its name to all the products it produces	-.061	<b>.865</b>	-.037
The company uses different brand names for each product it produces	-.107	<b>.610</b>	-.091
The company which produces the product undertakes some social responsibilities	.010	-.245	<b>.714</b>
The company which produces the product is known for its high quality products & services	.223	.004	<b>.875</b>
The company which produces the product has a good financial situation	.001	.083	.046
The company which produces the product fulfils the promises that it makes to its customers	.248	.296	<b>.711</b>
The company which produces the product is industry leader	.103	.431	-.329

Now, next thing is to name these extracted factors.

Extracted Component's New Name	Component	Extracted Factors	Factor Loadings Value
Corporate Image	1	The company is innovative & pioneering	.693
		The company is successful and self-confident	.730
		The company does business in an ethical way	.791
		The company is open and responsive to consumers	.780
Corporate Name	2	The name of the company producing the product is well known	.655
		The product carries both the company name and its generic name (i.e. Samsung Galaxy Tab)	.786
		The company extends its name to all the products it produces	.865
		The company uses different brand names for each product it produces	.610
Corporate Reputation	3	The company which produces the product undertakes some social responsibilities	.714
		The company which produces the product is known for its high quality products & services	.875
		The company which produces the product fulfils the promises that it makes to its customers	.711

So, we name the extracted 11 dimensions by new 3 factors as above table shows. The 3 new components are as follow.

- ✓ Corporate Image
- ✓ Corporate Name
- ✓ Corporate Reputation

So, from this factor analysis we conclude that, there are mainly 3 components that influence the customers' loyalty.

### Hypothesis testing using regression analysis

Regression Statistics	
Multiple R	0.836528541
R Square	0.69978
Adjusted R Square	0.638093
Standard Error	4.72297E-16
Observations	100

### Anova Table

	MS	Significance F
Regression	0.69978	0.013

	Coefficients	P-value
Intercept	-0.134569	0.003153933
Corporate Image	0.033333333	0.006721987
Corporate Name	1.0095678	0.000568213
Corporate Reputation	0.0018989	6.37192E-12

Note – Regression for Consumer Loyalty as dependent variable and Corporate Image, Corporate Name & Corporate Reputation as independent variables.

The prediction equation is  $LO = -0.13456 + 0.33333(CI) + 1.00956(CN) + 0.00189(CR)$

Where, LO=Consumer Loyalty with CB

CI=Corporate Image

CN= Corporate Name

CR=Corporate Reputation



states that LO is predicted to increase 0.033333 when the CI factor goes up by one, increase by 1.00956 when CN goes up by one, increase by 0.00189 when CR up by one, increase by 0.49882 when CO goes up by one, and is predicted to be 0.91 which is equivalent to one (1) when all factors rated as minimum that is 1 and also predicted to be 5.17 which is equivalent to five (5) when all factors rated as maximum that is 5. So, it shows that consumers' loyalty with CB increases when consumers' are having positive perception about CI, CN and CR, and decreases when consumers' consumers' are having negative perception about CI, CN and CR.

The R-square of the regression is the fraction of the variation in your dependent variable that is

### Conclusion

From the research findings, it can be concluded that the Consumers are conscious about corporate image, corporate reputation and corporate name to become loyal with particular corporate brand. Thus, we can conclude that, if consumers have positive perception about these three components than they might be more loyal. Thus, we also can conclude that there is always effect of corporate branding on consumers' loyalty either in positive way or negative way.

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accounted for (or predicted by) your independent variables. For this regression equation our R-squared is 0.6997 so, 69.97% of variance in dependent variable can be explained by these three independent variables.

From the regression analysis it is found that CI (Corporate Image), CN (Corporate Name) and CR (Corporate Reputation) have P value less than 0.05 so that all these three variables are significantly related to LO (Consumer Loyalty with CB).

The P -value for this regression equation is 0.013 which is less than 0.05 (significance level). So we can conclude that, regression equation is significant and can be generalized.

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# Critical Review of Use case-based Approach in OOAD

Mr. Jay Nanavati

## Abstract

Among various methodologies available for OOAD, Use case-based approach has been the most successful so far. It is true that this approach almost perfectly portrays dynamic behavior of the system. However,, little attention is given to the limitations and potential problems associated with use cases. This paper critically reviews use case-based approach to present a balanced picture and to pinpoint what may go wrong if sufficient care is not exercised.

## Introduction

Over the last three years, *use cases* have become well established as one of the fundamental techniques of object-oriented analysis. Although initially introduced by Ivar Jacobson to the object community at the 1987 OOPSLA conference (Ivar Jacobson, 1987) it was the publication of his book *Object-Oriented Software Engineering: A Use Case Driven Approach* (Ivar Jacobson, Magnus Christerson, PatrikJonsson, and Gunnar Övergaard, 2009) that marked the true beginning of use cases' meteoric rise in popularity. Possibly in reaction to the previous structured methods, early object-oriented development methods overemphasized static architecture and partially ignored dynamic behavior issues during requirements analysis, especially above the individual class level where state modeling provides an important technique for dynamic behavior specification. Use cases provide a great many benefits in addition to correcting this overemphasis, and most major object-oriented development methods (including my own) have jumped on the band wagon and added use cases during the last few years.

## Definitions

The term *use case* was introduced by Ivar Jacobson et al. and has been defined in several publications(Ivar Jacobson, Magnus Christerson, PatrikJonsson, and Gunnar Övergaard, 2009; Ivar Jacobson, Maria Ericsson, and Agneta Jacobson, 2000;

James Rumbaugh, 1994) A use case is a description of a cohesive set of possible dialogs (i.e., series of interactions--see Note 1) that an individual actor initiates with a system. An actor is a role played by a user (i.e., an external entity that interacts directly with the system). See Figure 1. A use case is thus a general way of using some part of the functionality of a system.

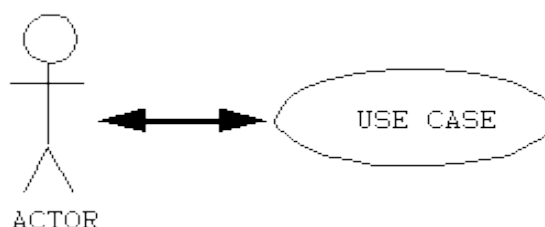


Figure 1: The Primary Use Case Notations

A use case is not a single scenario but rather a 'class' that specifies a set of related usage scenarios, each of which captures a specific course of interactions that take place between one or more actors and the system. Therefore, the description of an individual use case typically can be divided into a basic course and zero or more alternative courses. The basic course of a use case is the most common or important sequence of transactions that satisfy the use case. The basic course is therefore always developed first. The alternative courses are variants of the basic course and are often used to identify error handling. Within reason, the more alternative courses identified and described, the more complete the description of the use case and the more robust the resulting system.

As a user-centered analysis technique, the purpose of a use case is to yield a result of measurable value to an actor in response to the initial request of that actor. A use case may involve multiple actors, but only a single actor initiates the use case. Because actors are beyond the scope of the system, use-case modeling ignores direct interactions between actors.

A use case may either be an abstract use case or a concrete use case. An abstract use case will not be instantiated on their own, but is only meaningful when used to describe functionality that is common between other use cases. On the other hand, a concrete use case can be instantiated to create a specific scenario.

'extends' and 'uses' are two main associations by which use case may be related. The extends association represents generalization. i.e. how one use case description inserts itself into. Extends can therefore be viewed as a kind of 'inheritance' between use cases in which the original use case definition is extended by the extending use case definition to form a new 'combined' use case. Thus extends, a second use case description that is completely independent and unknowing of the first use case. Depending on some condition, the second use case may either be performed with or without the extending use case. On the other hand, the uses association can be viewed as 'aggregation' that captures how one or more use case descriptions incorporate the common description of another use case. These two associations are closely related and easy to confuse. One way to distinguish is that if A extends B, then the extended B 'contains' A, whereas if A uses B, then A 'calls' B. Rumbaugh has combined them into a single adds association from the main concrete use case to the abstract use cases that it uses.

Clearly, use cases are functional abstractions and are thus large operations, the implementation of which thread through multiple objects and classes. However, a use case need not have anything to do with objects. As pointed out by Jacobson (Ivar Jacobson, 1994) "... it should be clear that use-case modeling is a technique that is quite independent of object modeling. Use-case modeling can be applied to any methodology-structured or object-oriented. It is a discipline of its own, orthogonal to object modeling."

## An Example

The requirements for Door Master, a security system for controlling entry of employees through a secured door, are documented in a previous ROAD column (Donald G. Firesmith, 1994). Except for those requirements concerned with initialization, the functional requirements for Door Master are captured in the following nine use cases:

1. *Enter the Disabled Door.* Employees and security guards enter freely through the door when Door Master is disabled.
2. *Enter the Secured Door.* Employees and security guards enter through the door by (1) entering the entry code on the numeric keypad, (2) entering through the door, and (3) closing the door behind them.
3. *Change the Entry Code.* Security guards change the entry code by (1) pressing the change entry code button on the control panel, (2) providing authorization by entering the security code on the numeric keypad, (3) entering the new entry code on the numeric keypad, and (4) verifying the new entry code by reentering it on the numeric keypad.
4. *Change the Security Code.* Security guards change the security code by (1) pressing the change security code button on the control panel, (2) providing authorization by entering the old security code on the numeric keypad, (3) entering the new security code on the numeric keypad, and (4) verifying the new security code by reentering it on the numeric keypad.
5. *Enable the Door Master.* Security guards enable Door Master by (1) pressing the enable button on the control panel and (2) providing authorization by entering the security code on the numeric keypad. Door master then (3) turns off the disabled light, (4) turns on the enabled light, and (5) locks the door.

6. *Disable the Door Master.* Security guards disable Door Master by (1) pressing the disable button on the control panel and (2) providing authorization by entering the security code on the numeric keypad. Door master then (3) turns off the enabled light, (4) turns on the disabled light, and (5) unlocks the door.

The following two abstract use cases are common to, and are therefore used by, five of the concrete use cases:

7. *Enter the Entry Code.* Employees and security guards enter the entry code by pressing five keys on the numeric keypad followed by the enter key. Door master

8. *Enter the Security Code.* Employees and security guards enter the entry code by pressing seven keys on the numeric keypad followed by the enter key. Door master beeps after each key and verifies the entry code.

The following abstract use case extends the *Enable the Door Master* and *Enter the Secured Door* use cases:

9. *Raise the Alarm.* The alarm is raised if the door is left open too long or if the door is not shut when Door Master is enabled. The security guards disable the alarm by entering the security code.

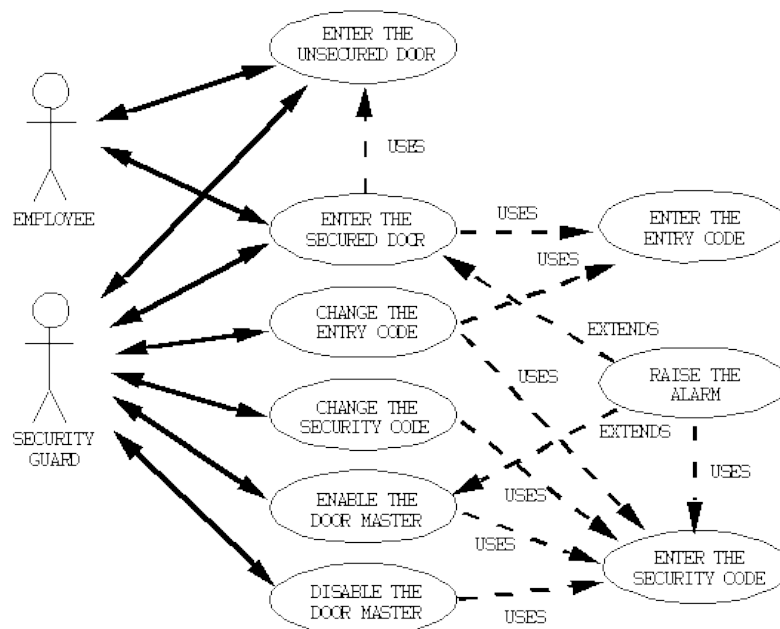


Figure 2: An example Use Case Model

## The Benefits of Use Cases

Use cases have become extremely popular since the publication of *Object-Oriented Software Engineering: A Use Case Driven Approach* in 1992. They have been added to numerous object-oriented development methods (e.g., Booch, Firesmith, Rumbaugh) because they offer many important advantages, including the following:

- As a user-centered technique, use cases help ensure that the correct system is developed by capturing the requirements from the user's point of view.

- Use cases are a powerful technique for the elicitation and documentation of *blackbox functional* requirements.
- Because they are written in natural language, use cases are easy to understand and provide an excellent way for communicating with customers and users. Although computer-aided software engineering (CASE) tools are useful for drawing the corresponding interaction diagrams, use cases themselves *require* remarkably little tool support.
- Use cases can help manage the complexity of large projects by

decomposing the problem into major functions (i.e., use cases) and by specifying applications from the users' perspective.

- Because they typically involve the collaboration of multiple objects and classes, use cases help provide the rationale for the messages that glue the objects and classes together. Use cases also provide an alternative to the *overemphasis* of traditional object-oriented development methods on such static architecture issues as inheritance and the identification of objects and classes.
- Use cases have emphasized the use of lower-level scenarios, thereby indirectly supporting Booch's important concept of mechanisms, a kind of pattern that captures how "objects collaborate to provide some behavior that satisfies a requirement of the problem." (Grady Booch, 1994)
- Use cases provide a good basis for the verification of the higher-level models (via role playing) and for the validation of the functional requirements (via acceptance testing) see Note 2.
- Use cases provide an objective means of project tracking in which earned value can be defined in terms of use cases implemented, tested, and delivered.
- Use cases can form the foundation on which to specify end-to-end timing requirements for real-time applications.

## Limitations of Use Cases

- Use case diagrams are not suitable for all kinds of projects and situations; it is difficult to capture use cases for non-interacting applications.
- They are not useful for projects where there is little user contact: if the system gathers its information from another system then the user contact is slim causing for little to no "actors".
- Use case has a learning curve; it involves careful interpretation of the notations, for users and the people who develop the diagrams.
- It is easy to enter into system's internal functionality vs. Actor Interaction.
- Poorly written use cases may not clearly define boundaries of the user roles and use cases, who can do what with the system.

- In an iterative or agile development user interface and requirements change often, keeping use cases in synch with requirements and interfaces could be challenging.

## The Dangers of Misusing Use Cases

Because of their many important advantages and extreme popularity, use cases have become a fundamental part of object technology and have been incorporated in one form or another into most major object-oriented development methods. In the rush to jump onto the use case bandwagon, use cases have been perceived by some as either a panacea or as an end in-and-of themselves. Unfortunately, this has often led to the uncritical acceptance of use cases without any examination of their numerous limitations and ample opportunities they offer for misuse. The following provides an overview of the major risks associated with use cases:

- Use cases are *not* object-oriented. Each use case captures a major functional abstraction that can cause the numerous problems with functional decomposition that object technology was to avoid. These problems include:
  - The functional nature of use cases naturally leads to the functional decomposition of a system in terms of concrete and abstract use cases that are related by extends and uses associations. Each individual use case involves different features of multiple objects and classes, and each individual object or class is often involved in the implementation of multiple use cases. Therefore, any decomposition based on use cases scatters the features of the objects and classes among the individual use cases. On large projects, different use cases are often assigned to different teams of developers or to different builds and releases. Because the use cases do not map one-to-one to the objects and classes, these teams can easily design and code multiple, redundant, partial variants of the same classes, producing a corresponding decrease in productivity, reuse, and maintainability. This scattering of objects to use cases



leads to the Humpty Dumpty effect, in which all the king's designers and all the king's coders are unlikely to put the objects and classes back together again without a massive expenditure of time and effort.

- The use case model and the object model belong to different paradigms (i.e., functional and object-oriented) and therefore use different concepts, terminology, techniques, and notations. The simple structure of the use case model does not clearly map to the network structure of the object model with its collaborating objects and classes. The requirements trace from the use cases to the objects and classes is also not one-to-one. These mappings are informal and somewhat arbitrary, providing little guidance to the designer as to the identification of objects, classes, and their interactions. The situation is clearly reminiscent of the large semantic gap that existed between the data flow diagrams (network) of structured analysis and the structure charts (hierarchy) of structured design. The use of the single object paradigm was supposed to avoid this problem.
- Another potential problem with use case modeling is knowing when to stop. When one is building a non-trivial application, there are often a great number of use cases that can produce an essentially infinite number of usage scenarios, especially with today's graphical user interfaces and event driven systems. How many use cases are required to adequately specify a non-trivial, real-world application? As object technology is applied to ever increasingly complex projects, the simple examples and techniques of the text books often have trouble scaling up. The use of concurrency and distributed architectures often

means that the order of the interactions between the system and its environment is potentially infinite. Too few use cases result in an inadequate specification, while too many use cases leads to functional decomposition and the scattering of objects and classes to the four winds. Often, systems and software engineers must often limit their analysis to the most obvious or important scenarios and hope that their analysis generalizes to all use cases.

- Although use cases are functional abstractions, use case modeling typically does not yet apply all of the traditional techniques that are useful for analyzing and designing functional abstractions. Most current techniques do not easily handle the existence of branches and loops in the logic of a use case. Interaction diagrams are primarily oriented towards a simple, linear sequence of interactions between the actors and the major classes of the system. The use of abstract use cases and either *extends* or *uses* associations to solve this problem only exacerbates the functional decomposition problem. Some approach similar to that of the basis paths of structured testing would clearly help determine the adequacy of the use case model, but such an approach is as yet not available to the typical developer. Most techniques do not address the issues of concurrency and the different types of messages that result. The concepts of preconditions, postconditions, invariants, and triggers should also be added to better analyze and specify use cases.
- Being created at the highest level of abstraction before objects and classes have been identified, use cases ignore the encapsulation of attributes and operations into objects. Use cases therefore typically ignore

issues of state modeling that clearly impact the applicability of some use cases. Any required ordering of use cases is ignored, and should be captured using some variation of Firesmith's scenario lifecycle (Donald G. Firesmith, 1994) or Fusion's event lifecycle (Derek Coleman, Patrick Arnold, Stephanie Bodoff, Chris Dollin, Helena Gilchrist, Fiona Hayes, and Paul Jeremaes, 1994). The basic ideas and techniques of use cases should also be applied to Booch mechanisms (Grady Booch, 1994) and integration testing, but adequate extensions have yet to be published.

- Another major problem with use case modeling is the lack of formality in the definitions of the terms use case, actor, extends, and uses. Similarly, the specification of individual use cases in natural languages such as English provides ample room for miscommunication and misunderstandings. Use cases provide a much less formal specification of their instances (i.e., individual usage scenarios) than do classes of objects. Whereas the inheritance relationship between classes of objects is well-defined and has been automated by compilers, the 'inheritance' and 'delegation' relationships provided by extends and uses associations are much less well defined. While everything may seem clear that the highest level of abstraction, the translation of use cases into design and code at lower levels of abstraction is based on informal human understanding of what must be done. This also causes problems when it comes to using use cases for the specification of acceptance tests, because the criteria for passing those tests may not be adequately defined.
- Another major problem corresponds to the archetypical subsystem architecture that can result from blindly using use cases. Several examples in books and papers have consisted of a single functional control object representing the logic of an individual use case and several dumb entity objects controlled by the controller object. They also may included an interface object for each actor involved with the use case. Such

architecture typically exhibits poor encapsulation, excessive coupling, and an inadequate distribution of the intelligence of the application among the classes. Such architectures are less maintainable than more object-oriented architectures.

- Use cases are defined in terms of interactions between one or more actors and the system to be developed. However, all systems do not have actors and systems may include signification functionality that is not a reaction to an actor's input. Embedded systems may perform major control functions without significant user input. Concurrent objects and classes need not passively wait for incoming messages to react. They may instead proactively make decisions based on results derived from polling terminators. Traditional use case modeling seems less appropriate for such applications.
- Finally, the use of use cases as the foundation of incremental development and project tracking has its limitations. Basing increments on functional use cases threatens to cause the same problems with basing builds on major system functions. Instead of building complete classes, developers will tend to create partial variants that require more iteration from build to build than is necessary. In turn, this will unnecessarily increase the maintenance costs of inheritance hierarchies. Basing earned value on the number of use cases implemented may be misleading because all use cases may not be of equal value to the user and because of the previously mentioned problems due to functional decomposition and the scattering of partial variant objects and classes among use cases.

## Conclusion

What then should developers do? Use cases clearly offer many important benefits and are powerful weapons that probably should be in the arsenal of all software analysts, designers, and testers. Unfortunately however, they are functional rather than object-oriented and can significantly compromise the benefits of object technology if blindly added to the object-oriented development process. Fortunately, the risks associated with use case modeling can be mitigated through knowledge, training, and avoiding an over enthusiastic acceptance. Use

cases should be only one of several ways of capturing user requirements. The model of objects, classes, and their semantic relationships should be consistent with, but not totally driven by, the use cases. Designers should beware of and minimize scattering the features of a use case's objects and classes, and they should exercise great care to avoid the creation of partial, redundant variants of classes, especially on large projects involving multiple builds and releases. The architectural guidelines of Rebecca Wirfs-Brock (Rebecca Wirfs-Brock, Brian Wilkerson, and Lauren Wiener, 1990) should be followed to avoid creating excessive functional controller objects that dictate the behavior of dumb entity objects. Most importantly, use cases should not be used as an excuse to revert back to the bad old days of functional decomposition and functionally decomposed requirements specifications.

### Notes

Note 1--A use case typically involves branching or looping and may depend on the state of the system and any parameters of the interactions between actors and the system.

Note 2--Because a use case (class) is not as specific as a usage scenario (instance), use cases may lack sufficient formality and detail to supply adequate criteria for the passing of acceptance tests.

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# Service Quality Assessment in Insurance Sector: A Study of LIC & Reliance Life Insurance in Anand

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## Abstract

Globalization and open market system have created the complex competitive environment not only for the manufacturing sector but also for the service sector. With the entry of so many players in the field and the competitive activism, the entire gamut of the service sector is witnessing a multi-dimensional, purposeful, customer friendly approach, shedding off the lethargy that had been associated with the sector. One of the greatest challenges forcing the insurance players is to differentiate its services through quality improvement. The study is an attempt to find out the factors that affect the customer satisfaction in the insurance companies LIC and Reliance in the public and private sectors respectively. The present study focuses on using SERVQUAL as a valid and reliable instrument to measure customer perceived service quality in insurance company in both the sectors.

## Introduction

Global integration of financial markets resulted from de-regulating measures, technological information explosion and financial innovations, liberalization and globalization have allowed the entry of foreign players in the Insurance sector. With the entry of private and foreign players in the Insurance business, people have got a lot of options to choose from. Radical changes are taking place in customer profile due to the changing life style and social perception, resulting in erosion of brand loyalty. To survive, the focus of the modern insurers has shifted to a customer-centric relationship. Service sector has produced approximately two third of the worldwide GNP from twenty first century. In the huge service sector, insurance sector is one of the most important entities which has been growing relatively fast in India. In the period of half century or less, the insurance sector has undergone roundabout movement, from being an open competitive market to full nationalization and then back again to liberalized market, in which private and public players are operating on the level playing field.

## Literature Review

It has been observed that insurance agents should constantly monitor the level of satisfaction among his/her customers to keep themselves close to the customers for fulfilling their needs (Joseph et al., 2003). Ennew et al. (1993) indicated that a comparison of mean scores on the importance of service attributes provides a very effective method of measuring the ability of services to meet the needs of the customers. Perceived service quality has a significant effect on the attitude towards obtaining insurance (Arora and Stoner, 1996). Moreover, the degree of success in the implementation of enterprise mobilization in the life insurance industry is positively correlated to the management performance of external aspects like providing increased customer satisfaction (Luarn et al., 2003). Customer satisfaction and the salesperson's relation orientation significantly influences the future business opportunities and as the salespersons are able to enhance their relationships with the clients, clients are more satisfied and are more willing to trust, and thus secures the long-term demand for the services (Tam and Wong, 2001).

Hellier et al. (2003) found that in insurance purchase brand preference is an intervening factor between customer satisfaction and repurchase intention and the main factor influencing the brand preference is the perceived value and customer satisfaction. Both the company and agent's service quality as well as recommendations of friends are factors that

significantly affect decisions of purchasing life insurance policies (Chow-Chua and Lim, 2000). Stafford et al. (1998) in a study on auto-casualty industry proved that reliability is consistently the most important determinant of both perceived service quality and feelings of satisfaction among customers engaged in auto-insurance claims. No such study has been carried out in the area of life

insurance. Given the importance of the life insurance industry in India in terms of increasing market size, growing competition and the share of the total insurance premium market, this paper attempts to identify the service quality dimensions which contribute to the maximum customer satisfaction in the life insurance industry of India.

The insurance sector was opened up for private participation 13 years ago. For years now, the private players are active in the liberalized environment. The insurance market have witnessed dynamic changes which includes presence of a fairly large number of insurers both life and non-life segment. Most of the private insurance companies have formed joint venture partnering well recognized foreign players across the globe.

According to IRDA data, there are now 24 private insurance companies operating in the Indian market in the life segment. With many more joint ventures in the offing, the insurance industry in India today stands at a crossroads as competition intensifies and companies prepare survival strategies. Out of so many players LIC is one of the leading public companies, holds largest number of policies in the world to suit different financial requirement of an individual. LIC stands for trust and is servicing 270 million policy holders in India and abroad with the market share of 63.47 percent in 2012 compared to 36.60 percent for the private insurers of which the share of Reliance is 2.30 percent.

**Table 1. Profitability of LIC vs Reliance (2011-12)**

Sr. No.	Company	Profit
1	LIC	1,313 crore
2	Reliance	373 crore

Table 1 indicates that in the year 2011-12, LIC had a profit of Rs 1313 crore compared to which Reliance reached its break-even point from last year i.e, 2011-12 with a turnover of Rs 373 crores.

**Table 2. Fresh Premium amount LIC vs. Reliance (2011-12)**

Sr	Name	Premium amount
1	LIC	3812 crores
2	Reliance	1809 crores

**Table 2** makes a comparison between the fresh premium growth of both the Companies and it is clear that LIC leads compared to Reliance.

**Table 3. Claim Settlement (2011-12)**

Sr No	Name	Claims paid(%)
1	LIC	97.42
2	Reliance	90.00

**Table 3** indicates that LIC claim settlement is 97.42% compared to Reliance is 90% for the year 2011-12.

## Research Objective

The broad objective of the study is to study the customer's perception of service quality offered by the life insurance companies- public and private operating in Anand. Therefore two companies LIC and Reliance one each from each of the sectors were selected. The specific objectives of the study are as follows:

- ✓ To identify the perception of the level of service quality delivered by the insurance companies in retail life Insurance in India in LIC (public sector).
- ✓ To study the factors affecting customer satisfaction in retail life insurance in the Reliance sector.
- ✓ To make a comparison between the service quality and customer satisfaction in the Reliance (private sector) and LIC (public sector).

## Limitations

1. The present study has constraints of time and money.
2. There may be chances of errors due to random sampling.
3. The respondents of the study belong to Anand and Vallabh Vidyanagar only and therefore may not give the same result as on a national scale.



## Service Quality

The tendency toward presenting services and qualities has a significant role in service industry such as insurance and bank services. Since the service quality is very important in surviving and profit making of an organization, it affects in customer's satisfaction and motivation after shopping positively. In fact customer's satisfaction and service quality are considered as vital affairs in mostly service industry nowadays. Quality has been generally defined as "fitness for use" and "those product features which meet customer needs and thereby provide customer satisfaction". These basic definitions are commonly accepted and can also be applied in service management. However when it comes to more specific service quality attributes and dimensions a wide variety of models and frameworks exist and there is an intense discussion on service quality measurement in different industry contexts. In particular, traditional concepts and measures of service quality and customer satisfaction have been questioned in the business-to-business environment. Service quality can have many different meanings in different contexts. Bitner and Hubbert (1994) defined service quality as "the consumer's overall impression of the relative inferiority or superiority of the organization and its services". Parasuraman, Zeithaml, and Berry (1985) defined perceived service quality as "a global judgment, or attitude relating to the superiority of a service" and noted that the judgment on service quality is a reflection of the degree and direction of discrepancy between consumers' perceptions and expectations.

Service quality has been conceptualized as an overall assessment of service by the customers. Gronroos (2001) offer a comprehensive definition of services as "an activity or series of activities of a more or less intangible nature than normal, but not necessarily, take place in the interaction between the customer and service employee and/or physical resources or goods and/or system of service provider which are provided as solution to customer's problems.

## Measuring Service Quality

Unlike the quality of tangible goods, such as computers, the intangible nature of services makes their quality difficult to measure. Service cannot be subjected to objective quality control tests before it is provided to the general marketplace; it is only with experience that we know how consumers perceive the quality of the services they receive. In our study, we utilized a recently-developed measure of service quality SERVQUAL.

## SERVQUAL

The SERVQUAL model was developed by Parasuraman, Zeithaml, and Berry (Gounaris, 2005). The aim of the authors was to provide a generic instrument for measuring service quality across a broad range of service categories and disciplines. The SERVQUAL scale a widespread instrument to measure both the expectations and the service perceptions of customers. This twin scale consists of 35 items. The size of the gaps between internal customers' service expectations and their perceptions indicate the level of dissatisfaction. Expectations and perceptions are measured across 5 dimensions of service quality

- Tangibles: Physical facilities, equipment and appearance of personnel.
- Reliability: Ability to perform the promised service dependably and accurately.
- Responsiveness: Willingness to help customers and provide prompt service.
- Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- Empathy: Caring, individualized attention the firm provides for its customers.

## Research Methodology

A well structured SERVQUAL based questionnaire was prepared to obtain the opinions from the respondents owning insurance policies in LIC and Reliance. In total 400 customers were randomly selected for the purpose, i.e. 200 customers from each company. The data was analyzed and interpreted by using Factor analysis and T- test. The reliability of the data was verified based on Alpha Cronbach, their reliability for Reliance was 0.912 and 0.967 for LIC. After collecting all the data the process of analysis is done. To summarize and to rearrange the data several interrelated procedures are performed during the data analysis stage. Statistical tools of Microsoft Excel and SPSS are employed for data input and analysis. The statistical results were presented in graphical and tabular form with detailed description. The study is based on both primary data and secondary data.

- **Primary Data:** The primary data were collected using a questionnaire. The questionnaires were explained to the respondents in detail (including its purpose, the meaning of the items and what was expected of the respondents) and they were

asked to give their perception of the level of service quality delivered by the insurance companies.

- **Secondary Data:** The secondary information was collected from the internet, government agencies and publications.

## Data Analysis and Interpretation

**Table 4**  
**Customer Profile**

Parameters	Category	No. of Respondents	%
AGE	Below 30 Years	101	25.3
	30-50 Years	235	58.8
	50 and Above	64	16.0
	Total	400	100.0
EDUCATION			
	12 <sup>th</sup>	142	35.5
	Graduate	176	44.0
	Post Graduation	45	11.3
	Professional	37	9.3
GENDER	Total	400	100.0
	Female	60	15.0
	Male	340	85.0
OCCUPATION	Total	400	100.0
	Service	137	34.3
	Business	243	60.8
	Retired	20	5.0
INCOME	Total	400	100
	Above 10 lakh	37	9.3
	2 to 10 Lakh	211	52.8
	Below 2 lakh	152	38.0
	Total	400	100.0

The sampled customers were 200 each from LIC and Reliance sector. The demographic profile of the customers has been furnished in Table 1. The sample consists of a sizeable preponderance of male respondents (85 percent) over female respondents (5 percent). The respondents are mostly spread between the ages of 30-50 (58.8 percent) followed by the ages below 30 (25.3 percent) and 50 years and above (16 percent). In terms of academic qualification, it is not surprising that majority of the respondents are graduate (44 percent) followed by twelfth pass (35.5 percent), post graduate (11.3 percent) and professionals (9.3 percent). As regards the occupation of the respondents, more than half (60.8 percent) are in business, while (34.3 percent) are from service class and 5 percent retired. Table 1 also represents that as high as 52.8 percent fall in the income range of 2 to 10 lakhs and as low as 9.3 percent are getting more than 10 lakh.

### The descriptive statistics

**Table 5: Reliability Statistics**

Cronbach's Alpha	No. of Items
.967	35

Reliability and validity of data is tested on the basis of Cronbach Alpha test. The measure shows that the value is .967 which indicates that the present data is suitable for factor analysis.

Descriptive statistic has been used to find out the mean and standard deviation of each of the SERVQUAL statement.

It is revealed from the Table 6 that Reliance Company is good at Tangibles, Reliability, Empathy and Assurance compared to Responsiveness. These features are based on SERVQUAL measures of RELIANCE.

**Table 6**  
**SERVQUAL Measures for Reliance**

<u>Variables</u>	<u>Mean</u>	<u>Standard deviation</u>
<b><u>Overall</u></b>		
I am satisfied with the service of the Insurance Company	3.16	.56212
<b><u>Tangibles</u></b>		
Physical appearance of the staff is professional	3.04	.46851
I am sure that Insurance Company uses latest technology in providing services	3.49	.59301
Information is easily available through Product & Service Brochures, leaflets, letters	2.85	.58241
Company is having a memorable advertisement	1.84	1.01961
<b><u>Reliability</u></b>		
Staff provides error free services	1.9	.84473
Staff is committed to fulfill promises in timely manner	2.98	.40694
Company is having competitive pricing compared to others	2.65	.62406
Insurance company performs the service right in first instance	2.62	.62253
Customer can fully depend and rely on employee	2.63	.64434
Company provides accurate records such as payment record or any to customer	3.04	.35923
Physical appearance and surrounding of the branch office influence customer	3.02	.45321
Company provides guarantee/warranty of the service performed	2.2	.62277
<b><u>Responsiveness</u></b>		
Employees are in a position to inform the customer about the time it will take for compliance of the service demanded	2.9	.31447
Employees of company provide prompt service to their customer	2.9	.29468
Employees give their customers shorter waiting time or fast service turnaround	2.6	.51683
Employees in company are willing to help their customers	2.9	.23377
<b><u>Assurance</u></b>		
Employees are trustworthy and honest	2.6	.59544
Employees in company have knowledge and competence to solve customers' problem	2.6	.60648
Employees in company are very experienced in solving or diagnosing the customers problem	2.7	.58436

In case of complications managers are helpful by making prompt decisions	3.4	.52962
Privacy of customers information is maintained	3.0	.45498
You are assured about the agent/advisor who deliver the service	2.9	.84733
Company is widely known	3.3	.56424
Company is well liked	2.4	.64846
Company is unique compared to others	2.7	.58865
<b>Empathy</b>		
Customer gets individual attention	3.0	.19645
Do you think that Managers of company understands their customer specific needs	3.0	.19645
Company keep customers informed about service that have been performed and price charged	3.0	.21345
Insurer has their customers best interest in heart	2.1	0.65
Company have convenient Business Hours	2.7	.58779
Staff calls customers by name	2.6	.53235
I trust staff of Insurance Company	3.0	.23506
Agents/advisors have concern and understanding of customers problem	3.0	.00000
Does company serve you during extended hour	3.0	.21213

**Table 7. Factor Analysis****Communalities**

	Initial	Extraction
Statement_1	1.000	.762
Statement_2	1.000	.688
Statement_3	1.000	.794
Statement_4	1.000	.725
Statement_5	1.000	.739
Statement_6	1.000	.790
Statement_7	1.000	.776
Statement_8	1.000	.846
Statement_9	1.000	.864
Statement_10	1.000	.783
Statement_11	1.000	.771
Statement_12	1.000	.766
Statement_13	1.000	.768
Statement_14	1.000	.797
Statement_15	1.000	.841
Statement_16	1.000	.735
Statement_17	1.000	.857
Statement_18	1.000	.748
Statement_19	1.000	.750

Statement_20	1.000	.736
Statement_21	1.000	.872
Statement_22	1.000	.755
Statement_23	1.000	.867
Statement_24	1.000	.659
Statement_25	1.000	.722
Statement_26	1.000	.777
Statement_27	1.000	.808
Statement_28	1.000	.747
Statement_29	1.000	.721
Statement_30	1.000	.860
Statement_31	1.000	.722
Statement_32	1.000	.822
Statement_33	1.000	.847
Statement_34	1.000	.789
Statement_35	1.000	.852

Communality is the proportion as a variable's total variation that is involved in the factors. It may be interpreted as the measure of uniqueness. By subtracting  $h^2$  from 1.00 the degree to which a variable is unrelated to the others may be calculated.

Table 8: Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
Statement_1	.626	-.006	.062	-.577	.030	.150	-.098
Statement_2	.662	.125	.206	-.289	.144	-.237	-.177
Statement_3	.731	.202	-.059	-.153	.264	.308	-.163
Statement_4	.136	.362	.630	.175	.299	.237	.041
Statement_5	.620	.378	.096	-.055	.345	-.227	-.169
Statement_6	.729	.145	.298	-.216	.127	.147	-.254
Statement_7	.533	-.526	.436	-.142	-.028	-.058	.014
Statement_8	.758	-.206	-.047	-.409	.158	-.121	-.143
Statement_9	.732	-.065	-.405	-.335	.123	-.005	.177
Statement_10	.743	-.365	-.089	-.102	-.054	-.108	.255
Statement_11	.789	-.323	-.055	.151	.012	.135	.004
Statement_12	.754	.175	-.124	.361	-.017	.109	.093
Statement_13	.535	-.236	.522	.157	-.102	.221	.264
Statement_14	.672	.204	-.077	.467	.017	-.160	-.235
Statement_15	.777	.209	-.271	.241	.045	.243	.015
Statement_16	.719	-.272	-.127	.150	-.127	.298	-.004
Statement_17	.788	.247	-.183	.256	.038	-.187	-.201
Statement_18	.798	-.222	-.043	.135	-.113	-.036	-.170
Statement_19	.637	-.421	.050	.177	.277	-.008	.237
Statement_20	.568	.313	.426	.170	.109	-.275	.134
Statement_21	.637	.524	-.155	-.035	.198	.135	.331
Statement_22	.702	.134	-.105	.032	.178	-.149	.422
Statement_23	.748	-.335	-.350	.089	.141	-.134	-.164
Statement_24	.746	-.030	-.219	-.219	-.026	-.052	.050
Statement_25	.630	-.338	.315	.116	.194	.244	-.034
Statement_26	.646	-.340	.212	.116	.020	-.430	.031
Statement_27	.796	.211	.170	-.122	-.213	-.145	.138
Statement_28	.786	-.208	.111	-.036	-.020	.235	-.130
Statement_29	.725	-.200	-.111	.318	.024	-.160	-.127
Statement_30	.785	.147	-.201	-.068	-.344	.156	.183
Statement_31	.794	.103	-.284	.009	-.008	-.001	-.013
Statement_32	.837	.123	-.102	.010	-.146	.200	-.187
Statement_33	.802	.270	.086	-.186	-.155	-.122	.222
Statement_34	.687	.144	.202	-.066	-.481	-.140	-.007
Statement_35	.668	.242	.255	.019	-.499	.021	-.181



**Table 9:- Extraction Method: Principal Component Analysis**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.39	49.703	49.703	17.396	49.703	49.703	5.966	17.045	17.045
2	2.507	7.163	56.866	2.507	7.163	56.866	5.609	16.024	33.069
3	2.163	6.181	63.046	2.163	6.181	63.046	4.556	13.018	46.087
4	1.696	4.845	67.892	1.696	4.845	67.892	3.813	10.894	56.981
5	1.311	3.746	71.638	1.311	3.746	71.638	3.764	10.755	67.736
6	1.204	3.439	75.078	1.204	3.439	75.078	2.032	5.806	73.542
7	1.079	3.082	78.159	1.079	3.082	78.159	1.616	4.617	78.159
8	.856	2.447	80.606						
9	.789	2.255	82.861						
10	.756	2.160	85.020						
11	.574	1.639	86.659						
12	.540	1.543	88.202						
13	.483	1.381	89.583						
14	.445	1.273	90.856						
15	.391	1.118	91.973						
16	.374	1.068	93.042						
17	.309	.883	93.924						
18	.287	.821	94.745						
19	.244	.696	95.441						
20	.202	.577	96.018						
21	.192	.548	96.566						
22	.167	.478	97.045						
23	.159	.454	97.498						
24	.148	.424	97.922						
25	.131	.375	98.298						
26	.116	.333	98.630						
27	.099	.284	98.915						
28	.085	.243	99.158						
29	.083	.237	99.395						
30	.056	.159	99.554						
31	.043	.121	99.676						
32	.039	.112	99.788						
33	.035	.101	99.889						
34	.024	.068	99.957						
35	.015	.043	100.000						

Table 10 : SERVQUAL Measures for LIC

Variables	Mean	Std. dev
<b>Overall</b>		
I am satisfied with the service of the Insurance Company	2.7350	1.12298
<b>Tangibles</b>		
Physical appearance of the staff is professional	2.6200	1.04454
I am sure that Insurance Company uses latest technology in providing services	2.3949	1.19405
Information is easily available through Product & Service Brochures, leaflets, letters	2.6154	1.10331
Company is having a memorable advertisement	2.2974	1.28181
<b>Reliability</b>		
Staff provides error free services	2.6923	1.09718
Staff is committed to fulfill promises in timely manner	2.6359	1.01826
Company is having competitive pricing compared to others	2.2974	1.24094
Insurance company performs the service right in first instance	2.5026	1.30176
Customer can fully depend and rely on employee	2.4821	1.06657
Company provides accurate records such as payment record or any to customer	2.4615	1.08519
Physical appearance and surrounding of the branch office influence customer	2.6513	.97992
Company provides guarantee/warranty of the service performed	2.5128	1.06664
<b>Responsiveness</b>		
Employees are in a position to inform the customer about the time it will take for compliance of the service demanded	2.5897	1.12419
Employees of company provide prompt service to their customer	2.4359	1.07921
Employees give their customers shorter waiting time or fast service turnaround	2.5692	1.12106
Employees in company are willing to help their customers	2.4974	1.13689
<b>Assurance</b>		
Employees are trustworthy and honest	2.5026	1.06187
Employees in company have knowledge and competence to solve customers' problem	2.7897	.93163
Employees in company are very experienced in solving or diagnosing the customers problem	2.6872	.98942
In case of complications managers are helpful by making prompt decisions	2.5538	1.05074
Privacy of customers information is maintained	2.6615	.95156
You are assured about the agent/advisor who deliver the service	2.6154	1.14908
Company is widely known	2.6000	1.10947
Company is well liked	2.7231	.99754
Company is unique compared to others	2.5692	1.04491
<b>Empathy</b>		
Customer gets individual attention	2.5333	1.04668
Do you think that Managers of company understands their customer specific needs	2.5692	1.11645
Company keep customers informed about service that have been performed and price charged	2.4615	1.04156
Insurer has their customers best interest in heart	2.4667	1.09010
Company have convenient Business Hours	2.4051	1.10992
Staff calls customers by name	2.5231	1.06647
I trust staff of Insurance Company	2.2667	1.04569
Agents/advisors have concern and understanding of customers problem	2.5641	1.13052
Does company serve you during extended hour	2.4821	1.13221
Valid N (listwise)		

## Reliability

**Table 11. Reliability Statistics**

Cronbach's Alpha	N of Items
.976	35

Reliability and validity of data is tested on the basis of Cronbach Alpha test which is measure for the same is provided. The measure shows that it is .976 which indicates that the present data is suitable for factor analysis.

**Table 12. Factor Analysis  
Communalities**

	Initial	Extraction
Statement_1	1.000	.828
Statement_2	1.000	.743
Statement_3	1.000	.870
Statement_4	1.000	.675
Statement_5	1.000	.863
Statement_6	1.000	.810
Statement_7	1.000	.850
Statement_8	1.000	.850
Statement_9	1.000	.903
Statement_10	1.000	.791
Statement_11	1.000	.793
Statement_12	1.000	.785
Statement_13	1.000	.856
Statement_14	1.000	.837
Statement_15	1.000	.849
Statement_16	1.000	.834
Statement_17	1.000	.900
Statement_18	1.000	.745
Statement_19	1.000	.827
Statement_20	1.000	.798
Statement_21	1.000	.838
Statement_22	1.000	.774
Statement_23	1.000	.853
Statement_24	1.000	.692
Statement_25	1.000	.811
Statement_26	1.000	.747
Statement_27	1.000	.818
Statement_28	1.000	.905
Statement_29	1.000	.749
Statement_30	1.000	.909
Statement_31	1.000	.786
Statement_32	1.000	.852
Statement_33	1.000	.860
Statement_34	1.000	.755
Statement_35	1.000	.864

Extraction Method: Principal Component Analysis.

**Table 13. Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	19.464	55.612	55.612	19.464	55.612	55.612	7.582	21.663	21.663
2	2.192	6.263	61.875	2.192	6.263	61.875	4.825	13.786	35.449
3	1.871	5.345	67.220	1.871	5.345	67.220	4.448	12.707	48.157
4	1.508	4.310	71.530	1.508	4.310	71.530	3.846	10.989	59.146
5	1.353	3.864	75.394	1.353	3.864	75.394	3.413	9.753	68.898
6	1.122	3.207	78.601	1.122	3.207	78.601	2.410	6.885	75.784
7	1.112	3.177	81.778	1.112	3.177	81.778	2.098	5.995	81.778
8	.930	2.658	84.436						
9	.879	2.512	86.948						
10	.722	2.063	89.010						
11	.598	1.710	90.720						
12	.497	1.420	92.140						
13	.393	1.122	93.262						
14	.358	1.023	94.285						
15	.315	.900	95.185						
16	.287	.821	96.006						
17	.236	.675	96.681						
18	.194	.555	97.235						
19	.157	.449	97.684						
20	.150	.430	98.114						
21	.136	.388	98.502						
22	.117	.334	98.836						
23	.092	.264	99.100						
24	.070	.201	99.301						
25	.059	.170	99.471						
26	.055	.157	99.628						
27	.040	.115	99.742						
28	.028	.081	99.823						
29	.025	.072	99.895						
30	.017	.048	99.943						
31	.013	.037	99.980						
32	.004	.013	99.993						
33	.002	.006	99.999						
34	.000	.001	100.000						
35	.000	.000	100.000						

Extraction Method: Principal Component Analysis.

Table 14. Component Matrix(a)

	Component						
	1	2	3	4	5	6	7
Statement_1	.618	.091	-.612	-.078	-.057	-.167	.160
Statement_2	.665	.241	-.038	.227	-.065	.073	.425
Statement_3	.747	-.172	-.019	-.092	.417	-.315	.004
Statement_4	.548	.351	.258	.036	.423	.066	-.018
Statement_5	.657	.135	.218	.385	.155	-.440	.004
Statement_6	.768	.249	-.035	-.106	.232	-.044	.302
Statement_7	.758	.387	-.261	.069	-.149	-.113	-.138
Statement_8	.756	-.015	-.361	.212	-.121	-.163	.247
Statement_9	.724	-.317	-.446	.255	.119	.024	.004
Statement_10	.770	-.062	-.258	.186	-.137	.153	-.226
Statement_11	.821	-.134	.075	-.143	.139	-.111	-.208
Statement_12	.766	-.211	.301	-.128	-.007	.020	-.217
Statement_13	.644	.416	.014	-.151	.303	.384	-.080
Statement_14	.690	-.155	.510	-.024	-.219	.049	.162
Statement_15	.806	-.371	.118	-.172	.041	.126	-.012
Statement_16	.740	-.249	-.066	-.377	-.065	.263	.070
Statement_17	.795	-.205	.280	.047	-.304	-.212	.088
Statement_18	.818	-.041	.143	-.144	-.116	.015	.140
Statement_19	.723	-.173	.113	.228	.298	.346	-.009
Statement_20	.705	.283	.283	.348	-.094	-.096	-.042
Statement_21	.758	-.236	-.054	.181	.265	-.001	-.321
Statement_22	.725	-.152	-.060	.339	-.119	.184	-.241
Statement_23	.809	-.373	.086	.112	-.031	-.021	.194
Statement_24	.770	-.036	-.248	.047	-.049	.140	.110
Statement_25	.783	-.044	-.045	-.133	.288	.150	.265
Statement_26	.655	.268	.236	.286	-.138	.274	.122
Statement_27	.822	.332	-.016	.029	-.094	-.029	-.146
Statement_28	.811	.083	-.060	-.274	.258	-.302	-.066
Statement_29	.734	-.165	.350	.011	-.127	-.188	-.097
Statement_30	.790	-.120	-.227	-.245	-.244	-.003	-.314
Statement_31	.800	-.302	-.062	.008	-.147	.084	.149
Statement_32	.843	-.109	-.031	-.316	-.068	-.116	.102
Statement_33	.824	.311	-.121	.111	-.039	.018	-.237
Statement_34	.688	.391	-.020	-.176	-.294	.067	-.085
Statement_35	.663	.471	.138	-.404	-.141	-.031	-.006

Extraction Method: Principal Component Analysis.  
a. 7 components extracted.



## Hypothesis

$H_0$ = There is no significant difference in the satisfaction level of LIC (Public) and RELIANCE (Private) Insurance Company.

$H_1$ = There is significant difference in the satisfaction level of Public and Private Insurance Company.

Group Statistics				
Company	N	Mean	Std. Deviation	Std. Error Mean
Satisfaction Reliance	200	3.1600	.56212	.03975
LIC	200	2.7350	1.12298	.07941

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Satisfaction	Equal variances assumed	74.480	.000	4.786	398	.000	.42500	.08880	.25043	.59957

As p value is 0.00 which is less than 0.05 we can conclude that null hypothesis is rejected and alternate hypothesis is accepted. This indicates that there is significant difference in satisfaction level of the two insurance companies.

## Interpretation of Factor Analysis

Trimming a large number of variables to reach a few factors to explain the original data more economically Factor analysis, a widely used multivariate technique in research has been used which reduces data complexity. In the present study Factor analysis exhibits the rotated factor loading for the statements of Quality of service rendered by insurance companies in Anand.

It is clear from the table that all the 35 statements have been extracted into seven factors namely F1, F2, F3, F4, F5, F6 and F7. According to Kaiser Criterion, only first seven factors can be used because they have an Eigen value over 1. Therefore they account for maximum observed variation in consumer's behavior about the purchase of Life insurance policies from the respective Companies.

Factor loading are used to measure correlation between variables and the factors. A loading which is close to 1 indicates strong correlation between variable and the factor, while loading closer to zero indicates weak correlation. Unrooted solutions of factor loading are not suitable for interpretation.

The factor are rotated with Varimax and Kaiser normalization rotation method using Principal Component Analysis method for factor extraction taking those factors only whose values are greater than 0.5 for the purpose of interpretation.

Factor analysis to determine the factors which customers keep in mind while purchasing Life Insurance policy from Reliance.

After analyzing the total variance it can be found that out of 35 statements they all can be grouped under 7 factor groups of questions. It extracted seven factors such as Uniqueness and Reputation, Agent and Employee Competence, Pricing, Technology, Physical Appearance, Advertisement and Communication and trust.

Factors that affect the service quality in Reliance are:

- Uniqueness and Reputation
- Agent and Employee Competence
- Pricing
- Technology
- Communication and Trust
- Advertisement
- Physical Appearance

In LIC the factors that affect the customer satisfaction are the following:

- Pricing and Claims
- Brand Reputation
- Privacy and trust
- Employee and Agent Competency
- Technology
- Advertisement
- Physical Appearance

## Conclusion

It may be concluded that the responsiveness of service quality provides maximum customer satisfaction to the life insurance industry in India. With the increase in the overall market size of the industry as well as increasing competition since 2000, different players of the industry should invest to improve the customer relationship. This would not only involve implementation of CRM solutions, but also internal marketing of the CRM concept. This would naturally require giving more emphasis on giving training to the insurance agents. Proper CRM implementation would not only ensure increased customer satisfaction but also help in acquiring new customers, at the same time retaining the old customers. Improved customer satisfaction would also result in positive word-of-mouth and consequently better customer acquisition and retention.

According to the findings of the research, the following **suggestions** are made to open new horizons for improving service quality and promoting customer satisfaction in insurance industry:

- Continuous measurement of customer satisfaction and expectations.
- Focus on innovative product development in both the sectors with focus on customer's needs especially in Pension sector and Health Plan since it has high values to the customer. It will also help the Companies to retain their customers as compared to the Traditional Plans.
- Defining and evaluating quality from customers' point of view, i.e. updating and implementing service quality standards based on customer needs, analyzing customer complaints to identify its causes and problems and participating actively in quality tests.

- Creating business-oriented work culture consistent with comprehensive quality and customer satisfaction.
- Insurance companies will vie with each other to capture market share through better pricing and client segmentation.
- The battle has so far been fought in the big urban cities, but in the next few years, increased competition insurers should concentrate to rural and semi-urban markets.

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## Authors' Profile

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# Financial management as a determinant of business success: A study of engineering industry

**Dr. Subhash Joshi**

## Abstract

Profitability and productivity are the two basic yardsticks against which the performance of any firm is assessed. Engineering units involve huge capital investment. There are different types of engineering products. Production cycle is long and complicated.

All major engineering companies in India are studied. Their financial performance is studied and analyzed for the period 2001 to 2011. Capital structure, working capital, profitability and other related financial aspects affect the overall success of any business organization. Debt, creditors, debtors, assets turnover and profitability ratios are worked out for all these years. Book profits for all these companies are different for various accounting years. Regression analysis is also done to find out as to which factor is dominant which determines the profitability and success of a firm.

Performance can be appraised by various methods. Appraisal of financial performance through the technique of ratio analysis entails analyzing different components of financial statements to judge how well a business unit has done its job. It is a formal scientific process to analyze the results of various parameters of the economic and business activities of the firm. The comparison and analysis of logically related items in the financial statements clearly brings out the results of economic activity. The techniques of financial statement analysis have inherent strengths to

## Introduction

Business is an important activity in any economy. The production and sale/exchange of goods and services constitute a major activity in all the economies. Such activities are carried out fruitfully in an organized manner by Companies.

Industry envisages the production of goods and services for sale or exchange at a reasonable profit. In modern times, the term industrialization has acquired a specific meaning. It refers to the widespread existence in a country of modern large scale factory industrial units producing vast quantities of goods of various types with the help of heavy and complex machinery and a large number of workers, and medium and small scale industries generally using machinery and electricity and employing a large number of people in such industries spread over wide regions in the country.

Sound financial management requires analysis of financial situations, making financial decisions, setting financial objectives, formulating financial plans to attain those objectives and providing effective systems of financial control to ensure plans progress towards the set objectives. Financial statement analysis helps the finance executive to carry out these activities in right perspective.

Appraisal implies considered judgment of the value or worth of economic activity undertaken by a firm. Basically, the net revenue generated and improvement in the financial strength are portrayed through the year end financial statements. By analyzing the amount and quality of profit and important items of asset/liability in the balance sheet, the analyst can get a clear idea about the progress, down trend, economic strength or weakness of the firm. Being the language of business, accounting data portrays clear picture of year end results of the business.

assess and judge the strength or otherwise of the business. As such, a well thought out analysis has a power to predict business failure.

Financial management can be measured by data analysis and appraisal. Financial appraisal is an objective evaluation of the profitability and financial strength of a business unit. Financial statement analysis attempts to unveil the meaning and significance of the items composed in profit and loss account and the balance sheet so as to assist the management in the formation of sound

operating financial policies. In a different reference, if a train is moving at known rate of speed, it is reasonable to assume that it will continue to move at approximately the same rate unless some obstacle interrupts its progress abruptly or the motive power is increased or decreased. Similarly, it is reasonable to assume that unless some drastic change takes place in a business, it will continue to move in the same general direction as indicated by its comparative trends.

Appraisal is the useful measure of past performance. The source data, that is Management Information System (MIS), is meant (1) to ensure adequate profitability, (2) to have an early warning of something going wrong, (3) to have basis for allocation of resources, and (4) to evaluate managers. In industries, the performance is taking place physically, which is capable of measurement in terms of statistics only. This statistics is portrayed through accounting data. This data has no direct message. Therefore, it is to be analyzed for correct comprehension. This exercise is financial statement analysis. A logical and scientific technique of analysis and performance appraisal is ratio analysis. A ratio is simply one number expressed in terms of another. It is found by dividing one number, the base, into another. The percentage is one kind of ratio in which the base is taken as equaling 100 and the quotient is expressed as per hundred of the base.

Ratio analysis simplifies comprehension of financial statements. It tells the whole story of changes in activity and financial condition of business. Careful framing of financial statements and implementation of sound ratio analysis (ROI being the basic ratio) as a tool of analysis can achieve excellence in financial performance.

## Literature review

Academicians have studied different aspects of financial management and their impact on profitability. Deloof (2003) studied the effects of working capital management on the profitability of the firm. The study revealed that accounts receivables, inventory and accounts payables have negative significant association with profitability. Therefore, to improve the profitability, the debtors, inventory and creditors should be kept at minimum. Lazaridis and Tryfonidis (2006) investigated the relationship between working capital management and profitabilities of large number of companies. They observed that debtors, inventories and creditors had negative relationship with profitability. However, the relationship of debtors and creditors with the

profitability was highly significant while the relationship of inventory with profitability was not statistically significant suggesting that the debtors and creditors are the areas to be focused to improve the profitability of the firm. Shin and Soenen (1998) investigated the relationship between the net trade cycle as a measure of working capital and return on investment and their study revealed a negative relationship between the length of net trade cycle and return on assets. This means shorter the length of trade cycle better will be the returns. For shorter trade cycle, levels of inventory and debtors need to be kept low. In other words, inventory turnover ratio and debtors turnover ratio are to be maintained at higher levels for better profitability.

Weinraub and Visscher (1998) examined the relationship between aggressive and conservative working capital practices for companies in different industries and observed a high and significant negative correlation between industry asset and liability policies. In general it was found that when relatively aggressive working capital asset policies are followed they are balanced by relatively conservative working capital liability policies. Myers and Majluf (1984) found that financial resource mix decisions are guided by certain order of preferences : first internal funds are selected, then risky debt and lastly the external equity. It was observed that managers are better equipped with the information regarding future investment potential of the firm as compared to the prospective investors. Titman (1984) advocates that financial distress imposes a substantial cost on the users of external funds. Pandey (1985) conducted another study to examine the impact of industrial patterns, trend and volatility of leverage, size, profitability and growth on the capital structure of the company. It was observed that the size has positive relationship with the leverage in the sense that most large sized firms concentrated in the high leverage group. At the same time it was also observed that substantial number of small firms had capital structure with high debt component. The study did not reveal significant structural relationship between leverage, profitability and growth. Rafiu and Obafemi (2009) suggested that top management should take interest in capital structure to improve profitability.

## Research Problem

The study covers the analysis of financial performance of thirty one well-known engineering companies in India. The Research problem is to explore as to which factor has major influence on the profitability (success) of business. Hence, an

attempt has been made to test the influence (correlation) various financial relationships have on the profitability of the enterprise.

### Research methodology

- (1) The idea was to analyse the performance of engineering Companies in India. Nearly all the big and well known engineering companies of India were selected.
- (2) Their financial performance data was availed by referring the 'Capitaline Plus'. The data relates to the period of ten (10) accounting years from 2000-2001 to 2010-11. Such data has been collected for 31 (thirty one) engineering companies. Therefore, secondary data has been used for this research.
- (3) In the initial evaluation by ratio analysis it was found that if the results of ratios have been applied on a blanket scale to all companies covered (small, medium and big), the results and correlation is misleading. Therefore, all the companies were grouped into three (3) groups on the basis of level of Sales (activity of the enterprise). Correlation analysis has been done in relation to these three groups of companies. Further, the total period of eleven years has been split up in to 6 different periods, each period of 2 (two) years. This will enable the correct

analysis keeping in mind the size of the company and for different periods. A group companies, B group companies and C group companies are small, medium and big respectively (in terms of the sales turnover).

- (4) An attempt has been made to find out whether any correlation exists between various ratios and the profitability of the Company. All these ratios have been correlated with net profit ratio (profitability) to examine their relationship.
- (5) Thorough multiple regression analysis has been done to establish the possible correlation of these factors on the profitability of the enterprise.
- (6) The companies have been selected from "Capitaline plus" database, Industry category.

### Profile of financial ratios under study

Five areas of financial management have been picked to analyse their relationship with profitability. These are cost of capital, speed of production/sales, liquidity and level of utilization of the infrastructure. Debt Equity ratio, inventory turnover ratio, debtors turnover ratio, creditors turnover ratio and fixed assets turnover ratios have been worked out for the period 2000 to 2011.

### Regression analysis (Analysis A-Group)

#### Descriptive Statistics

**Table: 1 (A)**

	N	Minimum	Maximum	Mean	Std. Deviation
Debt Equity Ratio Group A	10	1.70	6.84	3.8750	1.97819
Inventory Turnover Ratio Group A	10	4.93	10.35	7.7940	2.05037
Debtors Turnover Ratio Group A	10	3.16	6.38	4.8230	1.08564
Creditors Turnover Ratio Group A	10	5.02	6.80	6.1150	.66779
Fixed Assets Turnover Ratio Group A	10	2.08	5.61	3.8340	1.27368
Net Profit Ratio Group A	10	6.38	10.04	8.1600	1.43265



## Correlations

	Debt Equity Ratio Group A	Inventory Turnover Ratio Group A	Debtors Turnover Ratio Group A	Creditors Turnover Ratio Group A	Fised Assets Turnover Ratio Group A	Net Profit Ratio Group A
Debt Equity Ratio Group A	1	-.602	-.673(*)	.796(**)	-.787(**)	-.717(*)
Inventory Turnover Ratio Group A	-.602	1	.630	-.502	.654(*)	.401
Debtors Turnover Ratio Group A	-.673(*)	.630	1	-.798(**)	.960(**)	.738(*)
Creditors Turnover Ratio Group A	.796(**)	-.502	-.798(**)	1	-.901(**)	-.701(*)
Fised Assets Turnover Ratio Group A	-.787(**)	.654(*)	.960(**)	-.901(**)	1	.804(**)
<b>Net Profit Ratio Group A</b>	<b>-.717(*)</b>	<b>.401</b>	<b>.738(*)</b>	<b>-.701(*)</b>	<b>.804(**)</b>	<b>1</b>

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

## Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.962(a)	.925	.916	.36843
2	.998(b)	.997	.996	.08275

a Predictors: (Constant), T4253H(ITR\_A)

b Predictors: (Constant), T4253H(ITR\_A), T4253H(DER\_A)

c Dependent Variable: T4253H(NPR\_A)

## ANOVA(c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.433	1	13.433	98.957	.000(a)
	Residual	1.086	8	.136		
	Total	14.518	9			
2	Regression	14.471	2	7.235	1056.649	.000(b)
	Residual	.048	7	.007		
	Total	14.518	9			

a Predictors: (Constant), T4253H(ITR\_A)

b Predictors: (Constant), T4253H(ITR\_A), T4253H(DER\_A)

c Dependent Variable: T4253H(NPR\_A)

## Coefficients(a)

**Table : 1 (B)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.883	.644		2.924	.019		
	T4253H(ITR_A)	.828	.083	.962	9.948	.000	1.000	1.000
2	(Constant)	4.454	.254		17.53	.000		
	T4253H(ITR_A)	.628	.025	.729	25.35	.000	.570	1.755
	T4253H(DER_A)	-.280	.023	-.354	-12.31	.000	.570	1.755

a Dependent Variable: T4253H(NPR\_A)

**Analysis [ B Group ]****Descriptive Statistics****Table : 2 (A)**

	N	Minimum	Maximum	Mean	Std. Deviation
Debt Equity Ratio Group B	10	2.25	5.32	3.1420	.93229
Inventory Turnover Ratio Group B	10	6.87	10.30	7.9780	1.01341
Debtors Turnover Ratio Group B	10	6.12	10.59	8.0550	1.47933
Creditors Turnover Ratio Group B	10	6.64	10.61	8.3740	1.36362
Fised Assets Trurnover Ratio Group B	10	2.18	4.76	3.3890	.84787
Net Profit Ratio Group B	10	5.52	9.58	6.9510	1.21301

**Correlations**

	Debt Equity Ratio Group B	Inventory Turnover Ratio Group B	Debtors Turnover Ratio Group B	Creditors Turnover Ratio Group B	Fised Assets Trurnover Ratio Group B	Net Profit Ratio Group B
Debt Equity Ratio Group B	1	.493	.622	-.567	.655(*)	.348
Inventory Turnover Ratio Group B	.493	1	-.081	-.710(*)	.531	.133
Debtors Turnover Ratio Group B	.622	-.081	1	-.038	.609	.233
Creditors Turnover Ratio Group B	-.567	-.710(*)	-.038	1	-.681(*)	-.596
Fised Assets Trurnover Ratio Group B	.655(*)	.531	.609	-.681(*)	1	.561
<b>Net Profit Ratio Group B</b>	<b>.348</b>	<b>.133</b>	<b>.233</b>	<b>-.596</b>	<b>.561</b>	<b>1</b>

\* Correlation is significant at the 0.05 level (2-tailed).

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816(a)	.666	.625	.37397
2	.941(b)	.886	.854	.23338

a Predictors: (Constant), T4253H(FATR\_B)

b Predictors: (Constant), T4253H(FATR\_B), T4253H(ITR\_B)

c Dependent Variable: T4253H(NPR\_B)

**ANOVA(c)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.234	1	2.234	15.973	.004(a)
	Residual	1.119	8	.140		
	Total	3.353	9			
2	Regression	2.971	2	1.486	27.277	.000(b)
	Residual	.381	7	.054		
	Total	3.353	9			

a Predictors: (Constant), T4253H(FATR\_B)

b Predictors: (Constant), T4253H(FATR\_B), T4253H(ITR\_B)

c Dependent Variable: T4253H(NPR\_B)

**Coefficients(a)****Table : 2 (B)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.295	.622		6.906	.000		
	T4253H(FATR_B)	.715	.179	.816	3.997	.004	1.000	1.000
2	(Constant)	6.374	.686		9.297	.000		
	T4253H(FATR_B)	1.261	.186	1.439	6.792	.000	.362	2.765
	T4253H(ITR_B)	-.498	.135	-.780	-3.680	.008	.362	2.765

a Dependent Variable: T4253H(NPR\_B)

**Analysis [ C Group ]****Descriptive Statistics****Table : 3 (A)**

	N	Minimum	Maximum	Mean	Std. Deviation
Debt Equity Ratio Group C	10	3.11	14.89	7.5590	4.29034
Inventory Turnover Ratio Group C	10	8.40	10.85	9.6810	.81758
Debtors Turnover Ratio Group C	10	3.35	5.32	4.0380	.55389
Creditors Turnover Ratio Group C	10	4.63	6.93	5.4270	.75138
Fised Assets Turnover Ratio Group C	10	2.16	6.93	4.7540	1.72019
Net Profit Ratio Group C	10	4.07	8.76	7.2800	1.31595

**Correlations**

	Debt Equity Ratio Group C	Inventory Turnover Ratio Group C	Debtors Turnover Ratio Group C	Creditors Turnover Ratio Group C	Fised Assets Turnover Ratio Group C	Net Profit Ratio Group C
Debt Equity Ratio Group C	1	.668(*)	.127	-.557	.601	.666(*)
Inventory Turnover Ratio Group C	.668(*)	1	.463	-.242	.757(*)	.617
Debtors Turnover Ratio Group C	.127	.463	1	-.331	.466	.027
Creditors Turnover Ratio Group C	-.557	-.242	-.331	1	-.311	-.374
Fixed Assets Turnover Ratio Group C	.601	.757(*)	.466	-.311	1	.641(*)
<b>Net Profit Ratio Group C</b>	<b>.666(*)</b>	<b>.617</b>	<b>.027</b>	<b>-.374</b>	<b>.641(*)</b>	<b>1</b>

\* Correlation is significant at the 0.05 level (2-tailed).

**Model Summary(b)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854(a)	.729	.695	.60589

a Predictors: (Constant), T4253H(DTR\_C)

b Dependent Variable: T4253H(NPR\_C)

**ANOVA(b)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.897	1	7.897	21.511	.002(a)
	Residual	2.937	8	.367		
	Total	10.834	9			

a Predictors: (Constant), T4253H(DTR\_C)

b Dependent Variable: T4253H(NPR\_C)

**Coefficients(a)****Table : 3 (B)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-27.922	7.565		-3.691	.006		
	T4253H(DTR_C)	8.721	1.880	.854	4.638	.002	1.000	1.000

a Dependent Variable: T4253H(NPR\_C)

### General Findings: (Analysis of Results)

- (1) During the period 2001 to 2011, there is very good increase in the sales turnover of Hindustan Dorr Oliver, Vulcan Engineering and Atlas Copco. There is no reasonable increase in case of Ingersoll Rand, Windsor Machines and Batliboi.
- (2) In case of ABB, Hindustan Dorr Oliver and Siemens, there is good increase in the net worth of the companies. While the performance of Escorts, Ion Exchange and Windsor Machines, is poor on this ground.
- (3) During the period of study, there is a good amount of improvement in PBT in case of Blue Star, Larsen & Toubro and Thermax. However, in case of Bosch Rexroth, Ingersoll Rand and Vulcan Engineering the performance is discouraging.
- (4) As evidenced by the study of data during the period 2001 to 2011, ABB and Siemens have healthy capital structure. On this front, Cimmco and Windsor Machines have a weak debt equity ratio.
- (5) It is observed that Crompton Greaves, Ion Exchange, Laxmi Machines and Siemens have very healthy inventory turnover ratio. However, Elecon, Kabra Extrusion and Triveni Engineering have weak inventory turnover ratio.
- (6) Escorts, Kabra Extrusion, Laxmi Machines and Windsor Machines have progressive policies about receivables management. At the same time, ABB, Ion Exchange and TRF have weak debtor turnover ratio.
- (7) Creditors turnover ratio is good for ABB, Larsen & Toubro and Vulcan Engineering. While, Ingersoll Rand, Kabra Extrusion and Triveni Engineering have weak creditor turnover ratio.
- (8) During the period of study, asset utilization is best in case of Blue Star, Ingersoll Rand and TRF. The asset utilization is weak in case of Batliboi, Escorts and Triveni Engineering.
- (9) As per overall analysis, Larsen & Toubro, Siemens, Cummins and Ingersoll Rand have best financial performance during the period of study.
- (10) Atlas Copco, Alfa Laval, Cummins India, Elgi Equipments, Greaves Cotton, Ingersoll Rand, International Combustion, Kabra Extrusion, Larsen & Toubro, Laxmi Machines, Siemens and Thermax have maintained good profitability throughout the period 2001 to 2011.

### Major Findings

- (1) The data, working of ratios and regression analysis (ref. table 1 (B)) reveals that

inventory turnover ratio has a positive correlation and debt equity ratio has negative correlation with the profitability of “A” group companies. Other factors have moderate influence on the profitability. Inventory turnover highly influence the profitability of such companies.

- (2) The analysis has also revealed that (ref. table 2 (B) ) fixed assets turnover ratio has a positive correlation and inventory turnover ratio has negative correlation with the profitability of “B” group Companies. Other factors have moderate influence on the profitability. Fixed assets turnover (level of use of fixed assets) highly influence the profitability of such companies.
- (3) It is also revealed that (ref. table 3 (B) ) debt equity ratio and fixed assets turnover ratios have positive correlation with the profitability of “C” group companies. Other factors moderately influence the net profit ratio.
- (4) As evidenced by ANOVA of regression, the analysis and models for all the three groups of companies supports the findings.

### Conclusion

Engineering industry is an important industry. In fact it supports all other industries. Engineering companies manufacture machinery for all the other industries. This industry has very high capital investment. Manufacturing cycle is long and complicated. There are very wide range of products and applications. The inventory turnover is very slow, and not like FMCG or Pharmaceutical products. Even the gross profit ratio is also low. For A group companies, comparatively capital cost is less since investment is comparatively less and activities are moderate, good inventory turnover (speed of stock turnover) will increase liquidity and more sales (since inventory turnover is high) will lead to better profitability. In case of B group companies, fixed assets turnover is relevant which has major influence on the profitability. In this group of companies sales is at satisfactory level, so liquidity is not relevant. The level of use of fixed assets (infrastructure) will decide the profitability. When fixed assets turnover is high, the per unit fixed costs of fixed assets will be minimum which will increase the surplus and profit. This proves that for these companies, operating leverage is relevant. In case of C group companies, sales turnover is very high. Here the debtors turnover has major influence on the profitability. This means that the credit management in such companies should be sound. Thus, the liquidity will decide profitability. Other four factors have only moderate influence on the profitability. The study has revealed that the inventory turnover, fixed assets

turnover and healthy cash flow have major influence on the profitability of engineering companies.

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**Annexure I****Brief Profile of Engineering companies : (15)**

	Name of Company	Products manufactured	Sales (2010-11) (Rs. Lacs)	Profit before tax (2010-11) (Rs. Lacs)	Net worth (2010-11) (Rs. lacs)
1	ABB Ltd.	Electrical machinery	737027	26774	253452
2	ATV Projects	Project fabrication	2220	226	(24189)
3	Atlas Copco	Compressors, machinery	168252	24883	61446
4	Alfa Laval	Process equipments	115417	19041	48966
5	Bosch Rexroth	Machinery & tools	61129	(25)	14385
6	Batliboi	Machinery	12436	542	4765
7	Blue Star	Air conditioners and other machinery	285690	22694	57350
8	Crompton Greaves	Motors, fans, machinery	601433	92681	228981
9	Cimmco	Process equipments	11526	367	3224
10	Cummins India	Compressors	394545	80237	180627
11	Elecon Engg	Materials handling equipments, Gears	120246	12069	39460
12	Elgi Equipments	Air compressors	77368	12341	32599
13	Escorts	Tractors, cranes	321015	10062	174387
14	Greaves Cotton	Machinery	125047	18362	52189
15	Hindustan Dorr Oliver	Process equipments	94446	7792	25246
16	Hercules Hoists	Hoists	11859	4379	11347
17	Ingersoll Rand	Construction machinery	46445	10084	89124
18	Ion Exchange	Water treatment plants	57069	1940	14724
19	International Combustion	Machinery	10556	1479	7363
20	Josts Engg.	Fabrication	8034	703	1166
21	Kabra Extrusion	Plastic machinery	21937	3518	10677
22	Larsen & Toubro	Heavy machinery	4384166	590147	2182413
23	Laxmi Machine Works	Textile machinery	177331	23914	82696
24	Siemens	Electrical machinery	1194190	127495	381504
25	Sadbhav Engineering	Construction	220917	17574	62574
26	Sundaram Fasteners	Fasteners	180840	14424	55495
27	Triveni Engineering	Sugar plant machinery	170709	817	101575
28	Thermax	Boilers, machinery	474057	57297	129234
29	TRF	Materials handling equipments	72106	141	16805
30	Vulcan Engineering	Machinery	2119	000	1278
31	Windsor Machines	Plastic machinery	25057	12235	282

**ANNEXURE II****Financial Data & Ratio analysis**

Table (4) : Debt Equity Ratio :

	Compan y/Year	1999- 2000	2000 -01	2001 -02	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	2010 -11
1	ABB	0.01:1 .00	0.02: 1.0	0.03: 1.0	0.02: 1.0	0.01: 1.0	0:1	0:1	0:1	0:1	0:1	0:1	0:1
2	ATV Projects	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1
3	Atlas Copco	0.03:1 .0	0.08: 1.0	0.1:1. 0	0.06: 1.0	0.33: 1.0	0.43: 1.00	0.2:1. 00	0.1:1. 0	0.22: 1.0	0.25: 1.0	0.09: 1.0	0.08: 1.0
4	Alfa Laval	0.03:1 .0	0.03: 1.0	0.04: 1.0	0.04: 1.0	0.03: 1.0	0.03: 1.0	0.03: 1.0	0.02: 1.0	0.02: 1.0	0.1:1. 0	0.01: 1.0	0:1
5	Bosch Rex	0.5:1. 0	0.39: 1.0	0.16: 1.0	0:1	0:1	0:1	0.02: 1.0	0.01: 1.0	0:1	0:1	0:1	0.03: 1
6	Batliboi	0.85:1 .0	0.5:1. 0	0.54: 1.0	0.34: 1.0	0.26: 1.0	0.21: 1.0	0.16: 1.0	0.39: 1.0	0.71: 1.0	0.8:1. 0	0.59: 1.0	0.43: 1.0
7	Blue Star	0.43:1 .0	0.23: 1.0	0.1:1. 0	0.04: 1.0	0.02: 1.0	0.01: 1.0	0.16: 1.0	0.26: 1.0	0.11: 1.0	0:1	0.01: 1.0	0.05: 1.0
8	Cromp. Greaves	0.88:1 .0	1.21: 1.0	0.88: 1.00	0.65: 1.0	0.55: 1.0	0.5:1. 0	0.45: 1.0	0.31: 1.0	0.15: 1.0	0.06: 1.0	0.03: 1.0	0.01: 1.0
9	Cimmc o	4.36:1 .0	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	4.92: 1.0
10	Cummi n	0.03:1 .0	0.02: 1.00	0.02: 1.0	0.01: 1.0	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1
11	Elecon	0.31:1 .0	0.4:1. 0	0.5:1. 0	0.54: 1.0	0.64: 1.0	0.62: 1.0	0.65: 1.0	0.47: 1.0	0.42: 1.0	0.74: 1.0	0.67: 1.0	0.42: 1.0
12	Elgi Equip.	0.49:1 .0	0.38: 1.0	0.19: 1.0	0.03: 1.0	0.03: 1.0	0.03: 1.0	0.01: 1.0	0:1	0:1	0:1	0:1	0:1
13	Escorts	0.59:1 .0	0.48: 1.0	0.51: 1.0	0.70: 1.0	1.12: 1.0	1.13: 1.0	0.63: 1.0	0.54: 1.0	0.42: 1.0	0.20: 1.0	0.13: 1.0	0.15: 1.0
14	Greaves Cotton	0.74:1 .0	0.99: 1.0	1.15: 1.0	0.88: 1.0	0.96: 1.0	0.84: 1.0	0.38: 1.0	0.18: 1.0	0.1:1. 0	0.1:1. 0	0.02: 1.0	0.1:1. 0
15	Hind. Dorr Oliver	0.31:1 .0	0.29: 1.0	0.23: 1.0	0.21: 1.0	0.20: 1.0	0.18: 1.0	0.32: 1.00	0.17: 1.0	0:1	0:1	0:1	0.09: 1.0
16	Herc. Hoists	0.11:1 .0	0.14: 1.0	0.15: 1.0	0.12: 1.0	0.06: 1.0	0.02: 1.0	0.17: 1.0	0.31: 1.0	0.2:1. 0	0.09: 1.0	0.05: 1.0	0.03: 1.0
17	Inger. Rand	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1
18	Ion Exchg.	0.42:1 .0	0.41: 1.0	0.32: 1.0	0.31: 1.0	0.38: 1.0	0.37: 1.0	0.31: 1.0	0.25: 1.0	0.21: 1.0	0.23: 1.0	0.19: 1.0	0.17: 1.0
19	Int. Combus	0.27:1 .0	0.23: 1.0	0.21: 1.0	0.18: 1.0	0.13: 1.0	0.13: 1.0	0.7:1. 0	0.2:1. 0	0.2:1. 0	0.1:1. 0	0.1:1. 0	0.2:1. 0
20	Josts Engg.	0.12:1 .0	0.14: 1.0	0.15: 1.0	0:1	0.05: 1.0	0.08: 1.0	0.05: 1.0	0.08: 1.0	0.09: 1.0	0.03: 1.0	0.01: 1.0	0.01: 1.0
21	Kabra Extru.	0:1	0:1	0:1	0:1	0.01: 1.0	0.02: 1.0	0.05: 1.0	0.06: 1.0	0.07: 1.0	0.08: 1.0	0.06: 1.0	0.04: 1.0
22	Lars. & Toubro	0.72:1 .0	0.77: 1.0	0.8:1. 0	0.74: 1.0	0.51: 1.0	0.35: 1.0	0.31: 1.0	0.25: 1.0	0.26: 1.0	0.37: 1.0	0.37: 1.0	0.31: 1.0

23	Laxmi Machn.	0.41:1.0	0.4:1.0	0.31:1.0	0.17:1.0	0.13:1.0	0.08:1.0	0:1	0:1	0:1	0:1	0:1	0:1
24	Siemens	0.15:1.0	0.05:1.0	0.01:1.0	0.01:1.0	0.01:1.0	0:1	0:1	0:1	0:1	0:1	0:1	0:1
25	Sadbhav Engg.	2.06:1.0	2.11:1.0	1.66:1.0	1.35:1.0	1.38:1.0	0.96:1.0	0.47:1.0	0.39:1.0	0.27:1.0	0.24:1.0	0.54:1.0	0.59:1.0
26	Sundaram Fast.	0.32:1.0	0.27:1.0	0.12:1.0	0.03:1.0	0.26:1.0	0.46:1.0	0.44:1.0	0.39:1.0	0.45:1.0	0.65:1.0	0.66:1.0	0.63:1.0
27	Triveni Engg.	0.35:1.0	0.67:1.0	0.97:1.0	0.84:1.0	0.72:1.0	0.81:1.0	0.52:1.0	0.74:1.0	1:1.0	0.9:1.0	0.72:1.0	0.58:1.0
28	Thermax	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1
29	TRF	0.2:1.0	0.09:1.0	0.03:1.0	0.27:1.0	0.76:1.0	0.49:1.0	0:1	0:1	0:1	0:1	0.35:1.0	0.73:1.0
30	Vulcan Engg.	0:1	0:1	0.01:1	0:1	0.04:1	0:1	0:1	0.03:1.0	0.02:1.0	0.01:1.0	0:1	0.14:1.0
31	Windso Mach	2.06:1.0	2.19:1.0	1.68:1.0	1.48:1.0	1.31:1.0	1.67:1.0	2:1	3.8:1.0	4.73:1.0	4.48:1.0	7.34:1.0	6.7:1.0

Table : (5) : Inventory Turnover Ratio (Times) :

	Company /year	1999 - 2000	2000 -01	2001- 02	2002 -03	2003- 04	2004- 05	2005- 06	2006- 07	2007- 08	2008 -09	2009 -10	2010- 11
1	ABB	7.71	8.93	10.12	13.4	16.76	17.30	16.55	15.14	12.98	9.47	9.26	9.48
2	ATV Projects	2.25	2.84	3.39	2.35	1.27	1.27	1.19	1	2.48	2.19	4.66	6.22
3	Atlas Copco	7.01	6.41	8.70	9.47	7.35	7.64	7.47	6.19	5.49	4.99	6.13	6.55
4	Alfa Laval	5.67	6.57	6.37	7.01	6.92	6.35	5.50	4.76	4.38	4.84	4.64	5.48
5	Bosch Rex	4.68	4.40	5.04	6.12	5.99	6.01	6.17	6.08	5.42	5.26	6.22	5.63
6	Batliboi	3.70	3.76	4.90	5.32	4.96	4.80	5.72	6.79	5.85	4.45	4.74	5.46
7	Blue Star	7.08	7.33	7.20	8.11	8.62	8.97	8.25	8.54	8.92	9.85	10.07	7.46
8	Crompt. Greave	5.55	5.66	8.94	8.94	10.04	12.64	14.96	16.64	16.69	18.2	19.08	17.88
9	Cimmc	2.67	1.25	0.86	0.68	0.72	0.78	0.82	0.81	0.72	0.19	0.41	1.98
10	Cummi	5.51	5.42	6.52	7	6.38	6.33	6.94	8.04	8.73	9.21	6.90	9.03
11	Elecon	4.78	3.83	3.17	3.76	2.63	3.31	3.58	5.04	4.40	3.16	3.16	4.09
12	Elgi. Equip	6.93	6.80	7.87	8.33	8.18	6.76	7.91	8.59	8.77	8.84	10.38	11.27
13	Escorts	10.45	9.03	8.73	7.23	8.17	8.21	11.64	12.58	11.06	10.78	11.16	10.27
14	Greav. Cotton	5.01	5.05	7.32	8.02	10.05	11.16	12.17	12.54	10.82	8.31	9.64	10.73
15	Hind. Dorr Oliver	17.3	25.87	19.01	14.97	11.57	10.25	16.47	20.58	10.50	13.36	21.42	10.04
16	Herc. Hoists	4.09	4.22	3.97	5.69	5.43	5.53	5.40	5.82	5.22	5.20	4.39	5.86
17	Inger. Rand	4.73	4.17	5.24	5.43	5.10	5.18	5.64	6.51	6.46	6.79	5.25	5.29
18	Ion Exch	7.72	7.36	8.19	8.84	8.56	8.77	10.48	14.91	12.91	10.44	13.35	15.19

19	Intl Combu	1.42	1.60	1.53	1.62	1.92	2.99	4.81	6.42	6.99	6.37	6.48	6.68
20	Josts Engg	5.66	4.86	4.71	9.88	7.33	12.89	15.82	11.08	9.21	10.40	13.74	13.86
21	Kabra Extrus.	4.10	4.97	5.31	2.77	4.86	4.55	5.69	5.02	4.45	4.16	5.03	4.75
22	Larsen & Toubro	3.61	3.45	3.30	4.92	5.94	6.56	6.71	6.88	6.93	6.78	5.52	4.37
23	Laxmi Machin	5.51	6.70	5.83	9.54	8.43	8.62	10.24	13.98	16.94	13.75	12.78	10.67
24	Siemen	11.13	15.94	18.24	15.20	13.05	11.66	11.79	13.06	11.39	9.93	11.55	16.51
25	Sadbha Engg	10.59	11.03	13.99	14.55	8.44	5.24	6.74	10.51	13.56	18.85	30.82	35.86
26	Sundrm Fastn	10.92	9.6	9.70	10.88	10.11	8.18	7.33	8.04	7.26	6.39	6.60	7.83
27	Triveni Engg	3.28	1.57	1.58	1.99	1.70	2.32	3.02	3.32	3.54	3.94	4.93	4
28	Therma	7.46	8.84	9.52	11.64	10.28	10.94	11.76	9.90	12.36	8.50	6.16	8.41
29	TRF	3.88	4.64	5.46	5.74	6.78	7.91	9.52	19.79	17.66	14.98	11.46	9.99
30	Vulcan Engg	7.98	3.51	4.56	48.5	00	00	49.71	38	10	29.63	37.39	146
31	Windso Machn	22.06	2.19	1.68	1.48	1.31	1.67	2	3.8	4.73	4.48	7.34	6.70

Table : (6) :Debtor's Turnover Ratio (Times) :

	Compan y /year	1999 - 2000	2000-01	2001 -02	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	2010 -11
1	ABB	2.01	2.48	2.64	3.14	4.21	3.87	3.54	3.20	2.72	2.23	2.29	2.56
2	ATV Projects	1.27	0.95	0.87	0.43	0.25	0.25	0.25	0.23	0.54	0.47	0.86	0.82
3	Atlas Copco	4.08	3.87	4.32	4.73	4.37	4.39	4.48	4.15	4.22	4.08	5.08	5.67
4	Alfa Laval	5.68	5.59	4.3	4.63	4.4	3.88	3.67	4.28	4.94	5.31	4.65	5.22
5	Bosch Rex	2.49	3.31	3.71	4.32	4.38	3.99	3.75	3.84	4.30	3.69	3.74	3.78
6	Batliboi	2.70	2.20	1.65	3.1	5.95	7.34	7.41	7.55	6.20	3.73	3.17	3.87
7	Blue Star	6.01	6.32	5.94	6.22	5.93	5.53	5.39	5.41	5.32	4.67	4.14	4.10
8	Crompt Greav	2.75	2.50	3.43	3.51	3.68	4.16	4.60	4.99	4.84	5.03	5.01	4.66
9	Cimmc	1.65	1.16	1.04	0.75	0.72	0.76	0.81	0.76	0.79	0.45	2.13	4.58
10	Cummin	3.90	3.76	3.41	4.21	4.85	5.01	5	5.31	5.43	5.90	5.03	6.75
11	Elecon	2.88	2.75	2.47	2.90	2.60	3.78	3.09	2.79	2.11	2.14	2.28	2.17
12	Elgi Equip	4.59	6.32	8.06	8.44	10.12	7.44	5.94	6.34	7.16	7.20	8.70	10.42
13	Escorts	6.56	5.35	3.47	2.56	3.92	4.86	7.61	5.60	4.13	5.14	8.36	9.61
14	Greav Cotton	2.92	3.26	5.09	6.21	9.80	12.27	12.16	13.54	13.43	8.91	8.27	7.45
15	Hind Dorr	1.09	1.76	1.54	1.53	1.60	2.14	4.24	3.22	2.83	3.83	5.40	4.15

	Oliver												
16	Hercul Hoists	5.25	4.14	5.05	7.25	7.43	7.24	6.44	5.64	4.79	5.63	5.95	7.36
17	Ingersol Rand	3.53	3	3.19	3.39	3.20	3.04	3.76	4.85	4.20	3.39	3.43	4.98
18	Ion Exchg	2.10	1.96	2.03	1.88	2.08	2.49	2.65	2.80	2.64	2.16	2.27	2.34
19	Int. Combs	1.57	2.08	2.11	2.47	3.10	4.92	5.89	5.98	4.96	4.08	3.99	3.98
20	Josts Engg	2.83	2.35	2.05	3.49	2.21	2.77	2.98	3.41	3.62	3.82	4.38	3.69
21	Kabra Extru	6.72	10.45	10.39	6.58	11.41	7.78	9.43	12.03	11.20	10.67	17.78	15.87
22	Larsen & Toubr	6.55	5.90	5.80	4.43	3.11	3.64	3.39	3.48	3.93	3.97	3.54	3.75
23	Laxmi Machin	11.67	13.01	10.19	13.71	19.21	23.61	24.12	41.35	39.37	21.49	21.71	22.23
24	Siemens	3.45	3.78	4.04	4.25	4.92	5.05	5.2	4.83	3.04	2.50	2.83	3.29
25	Sadbhav Engg	9.98	4.91	4.03	3.53	4.58	4.11	4.08	4.47	6.21	4.91	3.50	3.92
26	Sundram Fastn	5.52	4.67	4.52	5.10	5.98	5.82	5.03	5.27	5.33	5.56	5.74	6.22
27	Triveni Engg	26.47	14.02	14.29	16.70	13.35	16.34	15.21	14.07	11.06	8.63	8.98	7.51
28	Therma x	3.88	4.16	4.13	5.62	5.98	6.64	7.89	7.12	7.39	6.08	4.86	5.59
29	TRF	2.69	2.40	2.22	1.83	1.79	1.74	1.67	2.25	1.90	2.21	2.04	1.78
30	Vulcan Engg	2.61	1.36	1.34	1.89	2.24	1.28	5.97	12.26	4.71	3.32	3.27	1.71
31	Windsor Mach	2.43	2.37	2.24	2.97	4.29	12.55	14.58	15.95	17.49	18.81	22.81	26.39

Table : (7) : Creditors Turnover Ratio (Times) :

	Comp any /Year	1999 - 2000	2000 -01	2001 -02	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	2010 -11
1	ABB	5.88	5.79	5.80	5.53	5.53	5.29	4.80	4.34	3.84	3.65	3.84	3.66
2	ATV Proje	1.20	0.82	0.80	0.51	0.47	0.32	0.30	0.25	0.49	0.46	0.81	0.79
3	Atlas Copc	11.06	10.43	1.42	11.07	11.08	9.12	9.36	8.48	8.49	6.75	6.36	6.73
4	Alfa Laval	7.70	7.51	7.60	7.50	7.30	6.63	6.51	6.50	6.08	5.53	5.98	5.44
5	Bosch Rexro	8.48	8.69	8.47	8.70	8.46	7.76	7.60	7.02	7.06	5.80	6.63	4.45
6	Batliboi	2.77	2.73	3.25	4.00	4.24	4.24	4.24	4.15	3.96	3.44	3.96	3.88
7	Blue Star	7.01	7.06	6.98	6.99	6.95	6.91	6.86	6.18	5.98	5.26	4.80	3.92
8	Crompton Greav	6.88	6.18	6.63	6.52	6.50	6.29	6.87	5.98	5.90	5.53	5.53	5.21
9	Cimmco	1.33	1.39	2.20	2.16	1.96	2.01	1.94	1.88	1.83	1.73	1.85	3.76

10	Cum min	9.60	9.12	9.46	8.69	8.70	8.11	7.93	7.76	7.45	6.29	5.7 9	6.4 0
11	Eleco n	5.53	5.70	5.71	5.55	5.28	5.00	4.67	4.10	3.92	3.65	3.4 4	3.5 4
12	Elgi Equip	13.0 3	11.7 7	12.16	12.5 8	11.78	13.0 3	11.7 8	11.7 7	10.14	9.35	11. 75	8.9 0
13	Escort s	9.86	8.48	7.45	6.88	8.48	8.11	8.10	6.40	6.88	6.64	6.7 0	6.1 8
14	Greav es Cotto n	4.15	3.45	3.96	4.24	4.14	4.14	4.01	3.80	3.57	3.55	3.7 2	3.3 5
15	HDO	5.28	5.61	5.31	5.53	5.44	5.36	5.28	5.29	4.22	3.65	3.5 1	3.0 4
16	Hercu les Hoists	14.0 3	14.6 0	14.02	14.6 1	15.21	13.5 1	6.76	8.90	9.35	9.86	11. 77	8.6 9
17	Inger Rand	9.12	8.48	8.69	8.11	7.60	7.30	7.60	7.60	6.18	8.11	8.0 9	8.2 9
18	Ion Exch	4.45	4.24	4.01	3.96	4.06	4.03	3.92	3.72	2.99	2.94	2.8 9	2.6 8
19	Inte Com	5.88	6.08	5.36	5.88	5.79	6.18	6.17	5.79	5.44	4.73	5.2 0	5.2 3
20	Josts Engg	5.79	5.70	5.61	5.55	5.36	6.18	5.70	5.79	5.14	5.07	4.5 6	4.1 8
21	Kabr Extr	11.7 7	11.7 5	11.78	11.7 6	10.73	10.7 1	10.4 2	10.4 0	9.60	7.76	9.3 5	8.4 8
22	L & T	5.14	5.12	5.05	5.00	4.80	4.62	4.56	4.34	3.92	3.68	3.2 5	3.3 1
23	Laxm i Mach	8.48	8.29	8.11	8.45	7.93	8.11	8.48	7.30	6.18	6.51	7.1 5	6.2 9
24	Sieme ns	6.29	6.29	6.30	6.30	6.08	6.18	5.44	4.56	4.14	4.14	3.9 6	3.6 1
25	Sadbh av Engg	21.4 7	20.2 7	20.25	19.2 1	19.22	18.2 5	19.2 1	15.2 0	17.38	17.1 8	12. 16	13. 00
26	Sundr Fast	15.2 0	15.2 2	14.60	14.6 0	13.51	11.7 7	10.4 2	10.4 0	10.43	9.86	11. 06	9.3 5
27	Trive ni Engg	17.3 0	15.2 0	13.51	10.7 3	14.03	11.4 0	10.7 3	11.4 0	7.44	6.52	6.7 5	8.1 1
28	Ther max	9.86	9.85	9.81	9.60	9.60	9.60	8.90	8.90	7.60	6.88	7.0 1	5.5 3
29	TRF	4.51	4.24	4.45	4.45	4.34	4.19	4.18	4.05	3.65	3.25	3.0 4	2.7 6
30	Vulca n Engg	5.36	6.75	7.76	7.93	8.69	9.35	10.4 2	10.1 3	7.93	5.79	4.1 9	4.4 5
31	Wind sor Mach	9.60	6.63	6.18	6.08	6.29	6.76	6.77	6.77	6.63	6.51	5.7 0	5.7 8



Table : (8) : Fixed Assets Turnover Ratio (Times) :

	Compan y/ Year	1999 - 2000	2000 -01	2001 -02	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	20 10 - 11
1	ABB	3.33	3.96	4.28	5.54	7.63	8.63	10.2 5	12.0 2	11.1 7	8.03	7.09	6.2 6
2	ATV Proj	0.18	0.12	0.10	0.04	0.02	0.02	0.02	0.02	0.05	0.04	0.04	0.0 6
3	Atlas Copco	4.27	3.39	3.95	4.56	3.30	3.19	3.88	4.57	4.96	4.28	5.31	5.5 4
4	Alfa Laval	3.17	3.58	2.98	3.96	5.11	5.18	4.95	5.49	5.25	5.09	4.70	5.8 7
5	Bosch Rexro	2.09	2.67	3.35	4.55	5.78	6.10	5.76	5.59	5.74	4.93	4.51	4.2 7
6	Batliboi	0.86	0.56	0.76	0.93	1.04	1.20	1.44	1.44	1.03	0.93	1.28	1.2 2
7	Blue Star	3.63	3.64	3.89	4.77	5.35	6.13	6.48	7.44	8.83	8.44	7.47	7.9 5
8	Crompt Greav	2.5	2.0	2.26	2.19	2.39	2.83	3.4	4.21	4.39	4.63	4.95	4.6 2
9	Cimmco	1.60	0.87	0.68	0.52	0.52	0.52	0.53	0.46	0.12	0.32	2.16	2.0 1
10	Cummin	2.44	2.31	2.0	2.15	2.26	2.73	3.37	4.13	4.67	5.59	4.26	5.3 4
11	Elecon	1.26	0.99	0.95	1.26	1.26	2.2	2.71	3.74	3.39	2.83	2.41	2.4 2
12	Elgi Eqp	1.73	2.03	2.41	2.63	3.23	2.88	2.98	3.39	3.81	3.60	3.80	4.6 5
13	Escorts	2.34	1.92	1.50	1.02	1.11	1.14	1.95	2.23	2.11	1.48	1.38	1.5 7
14	Greav Cotton	2.72	2.37	2.20	2.55	3.84	4.30	4.75	4.80	4.23	3.28	3.81	4.4 4
15	HDO	2.63	2.98	2.67	3.06	3.27	3.69	5.71	7.16	8.38	9.27	11.0 2	10. 52
16	Hercu Hoists	2.73	2.98	2.37	3.01	3.72	3.56	3.02	3.38	3.09	2.79	2.13	2.8 8
17	Inger Rand	4.36	3.80	4.96	5.71	5.76	5.38	5.59	6.72	6.61	6.65	6.20	7.7 7
18	Ion Exch	2.13	1.91	1.98	2.09	2.29	2.77	3.51	4.73	4.63	3.59	4.05	4.6 0
19	Int Comb	0.88	1.07	1.05	1.17	1.43	2.11	2.83	2.86	2.90	2.68	2.40	2.3 7
20	Josts Engg	3.40	2.75	2.51	4.21	2.45	3.92	5.00	5.23	5.61	6.36	8.1	7.9 3
21	Kabra Extru	2.36	2.83	3.01	2.23	3.80	2.87	3.64	3.26	2.98	2.84	3.37	3.5 2
22	L & T	1.34	1.30	1.32	1.61	2.41	6.54	6.90	7.01	7.20	7.04	5.82	5.4 6
23	Laxmi Mach	0.75	0.87	0.69	0.96	1.10	1.53	1.93	2.36	2.23	1.15	0.91	1.3 8
24	Siemens	2.04	2.24	2.50	2.75	3.47	5.43	8.20	10.6 3	9.26	8.11	7.68	7.3 4
25	Sadbhav Engg	1.43	1.90	2.02	1.63	1.63	1.43	1.81	2.56	4.03	4.23	4.24	6.2 8
26	Sundr Fastn	1.81	1.66	1.61	1.76	2.15	2.30	2.26	2.34	2.01	1.72	1.62	2.0 2

27	Triveni Engg	3.81	2.07	2.50	2.91	2.54	3.24	2.36	1.25	1.12	1.24	1.41	1.09
28	Thermax	2.48	2.82	2.78	3.24	3.67	5.65	7.50	8.30	9.40	6.23	4.85	6.96
29	TRF	3.86	3.64	3.53	4.07	5.27	6.01	6.50	10.24	9.96	12.28	12.59	12.55
30	Vulcan Engg	3.26	1.33	0.62	0.68	1.20	1.79	11.14	17.97	8.21	9.99	19.32	13.09
31	Windsor Machn	1.64	1.69	1.29	1.14	1.05	1.46	1.59	1.88	1.78	1.95	3.12	3.92

Table : (9) : Net Profit Ratio (per cent) :

	Comp/ Year	1999 - 2000	2000 -01	2001 -02	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	2010 -11
1	ABB	6.81	6.24	8.26	8.45	6.82	7.36	7.96	8.28	8.00	5.68	1.00	2.52
2	ATV Proj	000	000	000	000	000	000	000	000	000	2.51	19.35	10.18
3	Atlas Copc	7.60	4.62	16.24	11.48	5.76	8.88	9.78	8.35	6.53	6.59	9.80	10.03
4	Alfa Lav	16.52	13.24	15.63	17.28	15.48	11.24	11.75	13.15	11.27	13.86	12.92	11.26
5	Bosch Rex	4.50	6.83	6.09	10.89	10.45	11.56	8.31	9.36	4.88	5.34	3.99	000
6	Batlibo i	0.20	000	000	0.14	2.03	8.94	8.51	10.32	7.76	000	000	4.27
7	Blue Star	4.89	4.68	5.46	3.61	4.68	4.27	4.18	4.46	7.83	7.19	8.35	5.43
8	Crom Grev	000	000	0.27	1.85	4.17	5.62	6.42	5.73	8.03	6.43	11.54	11.56
9	Cimmc o	000	000	000	000	000	000	000	000	000	000	8.05	8.69
10	Cummins	11.24	12.51	11.54	11.20	11.64	11.45	11.84	13.61	11.91	13.10	15.57	14.95
11	Elecon	2.03	0.20	000	000	1.31	3.48	5.92	7.40	8.12	5.96	6.18	7.24
12	Elgi Equip	4.13	2.66	5.71	5.14	6.55	7.50	5.45	6.08	8.64	8.14	9.46	10.48
13	Escorts	8.85	8.51	0.74	3.10	000	3.10	1.09	000	0.52	4.13	4.99	3.74
14	Grev Cottn	000	000	000	0.14	3.41	9.52	10.20	11.48	9.57	5.38	8.68	10.16
15	HDO	000	6.48	5.46	0.48	13.21	1.33	4.57	7.36	7.44	5.85	6.43	5.70
16	Herc Hoist	3.56	3.83	4.90	8.46	10.31	14.03	15.08	24.63	20.25	21.18	16.64	25.08
17	Ingr Rand	13.36	16.39	9.49	9.15	9.93	25.17	6.31	7.76	22.23	17.96	13.20	14.64
18	Ion Exch	000	000	2.80	0.20	0.21	0.22	1.70	1.47	2.26	0.34	1.32	2.13
19	Int Comb	000	000	0.52	0.90	2.90	4.80	8.55	10.36	12.34	10.09	11.34	9.52
20	Josts Engg	2.61	000	000	2.13	0.21	4.16	8.30	2.69	2.64	5.64	5.73	5.51
21	Kabra Extr	10.27	9.63	8.93	10.80	11.17	8.43	7.80	8.14	12.26	10.01	12.76	13.53
22	L & T	4.90	4.26	4.50	4.60	5.53	7.48	6.90	7.98	8.69	10.26	11.82	9.03
23	Laxmi Mach	4.87	4.90	3.31	4.76	9.05	7.37	11.06	11.12	10.98	7.92	9.15	9.31

24	Siemens	5.88	6.67	9.76	8.43	9.29	7.98	7.80	7.71	7.16	12.44	8.89	7.08
25	Sadbhav	3.20	3.86	3.16	1.90	2.19	3.41	4.48	5.32	5.83	5.95	4.22	5.38
26	Sundr Fast	11.37	7.80	7.57	9.82	8.42	7.32	5.75	5.92	5.73	1.19	5.62	5.80
27	Triveni	000	1.33	4.63	0.61	2.92	10.28	10.93	3.93	7.00	8.92	3.98	0.76
28	Thermax	8.37	000	5.47	9.37	9.45	6.00	8.26	9.04	8.87	9.33	4.62	8.09
29	TRF	3.88	2.50	7.64	000	1.96	1.99	3.30	5.88	11.78	8.73	7.30	0.12
30	Vulcan	3.15	000	000	17.19	000	000	000	8.79	000	000	8.05	000
31	Windso r Machi	000	000	000	000	000	000	000	000	000	000	6.40	5.61

Note : 000 denotes Loss.

## E-commerce and HR Challenges

Dr Nikhil Zaveri, Mr Sarvesh Trivedi

### Abstract

The off-line and on-line combination of doing business is getting due appreciation and accentuation in Indian Business and Industry. Entrepreneurs and Intrapreneurs are coming forward to exploit new opportunities at the global level through this combination. It is time to recognize the fact that the factors of competitiveness in this emerging economy will be very different from those in a purely traditional economy. The focus on management of physical flows will be diverted towards management of skills to deliver value to customers, suppliers, business partners, etc. firms will need managers who can work in crossover business and technology environments with hybrid business/technology skills, with multi-skilled rapid-learner teams. Electronic Commerce is accelerating the shift of power towards the consumer leading to fundamental changes in the way corporate relates to their customers and competes with one another. It has created demand for quick learners with some or many technical skills with unusual motivation, group skills, user orientation and keenness and willingness to learn.

Dot-com boom is a history. E-commerce is getting into the main stream of business. The realization is being felt that E-commerce means NOT dot-coms and the misperception is being rectified. The off-line and on-line combination of doing business is getting due appreciation and accentuation in Indian Business and Industry. Entrepreneurs and Intrapreneurs are coming forward to exploit new opportunities at the global level through this combination. Perhaps, new face of economy with renewed direction is welling up. E-commerce is now treated as E-business with a strategic perspective.

Evan Schwartz (Digital Darwinism, Boradway Publisher, June 1999) writes – “What will be the new economy look like?” (Which he calls web economy)

Will it be uncertain?	Absolutely
Unpredictable?	Most assuredly
Unusual?	Rather so
Unruly?	Quite often
Unsustainable?	It has been so far
Uncluttered?	Far from it
Undramatic?	No chance
Unsafe?	Bloody awful
Unrewarding?	Not, if you listen closely”

Today we are in 2013. What he predicted in 1999 is almost coming true. Uncertain and unpredictable and unusual to the extent that foreign exchange rates going haywire globally, the most influential economy of US is at brink of shutdown. This reflects the impending challenges before the companies in the coming future. Firms will have to undergo tyrannical competition for customer satisfaction under probably unruly business environ.....have to be dynamic, creative and innovative under uncluttered and undramatic business world.....have to develop ability to adopt and adapt new processes and approaches under the pressure of being challenged for unsustainable and unsafe practices.....have to maximize use of information power to the business advantage evolving teamwork with a defying behavior of being unrewarding.....have to be learning organizations.....so on and so forth.

It is time to recognize the fact that the factors of competitiveness in today's economy will be very different from those in a purely traditional economy. The focus on management of physical

flows will be diverted towards management of skills to deliver value to customers, suppliers, business partners, etc.

Therefore, immediate question arises what kind of people are required to run such firms? This is a recent manifestation of a fundamental challenge for many companies - the challenge of managing technology-related business innovation. Broadly, firms will need managers who can work in crossover business and technology environments with hybrid business/technology skills, with multi-skilled rapid-learner teams.

The firm requires two sets of skills – one is Technical skills and the other is Management skills. But the success of any organization lies in its ability to align the firm's technical capability with its business strategy which is, of course, difficult because of the mutual inability of the technical HR and management HR to understand each other's objectives and processes. Moreover, technical skills are difficult enough to manage because of their shorter life-cycle ; at the same time they are more easily specifiable and replicable than management skills which are specific to an organizational context or industry sector. Hence the focus is shifting to ways of developing a management skill set that is capable of generating business value from the firm's information and communication technology, i.e., firms will have to develop a creative link between organization's strategy & technology that supports it and managing technology applications that change very quickly. More importantly, "skills" per se will not be effective if they are not encircled by the "Attitude". Therefore, attitude towards self-motivated new initiatives, understand cultural diversities for business achievements, global outlook with a sense of appreciating countries' strength, ability to resist criticising countries' weaknesses, and ability to humanize with situations and capability of taking the lead when circumstances demand are some of the key areas of creating effectiveness in the business operations by the HR people in the organisations. Skills without Attitude will be like a bottomless pit. Firms will have to devise internal means and build resources to foster organizational learning to blend in e-commerce technologies and to experiment with e-commerce business practices. Thus demand for managers, having ability to learn and understand the vision of the employer and possessing skills and attitude which involve strategy, awareness and organizational change

management, is going to increase manifold. Moreover the critical variable in Electronic Commerce success is not the possession of skills in a collection of individuals but skills, attitude and competencies of a team as a whole. This will require not only right management approaches but also the deployment of the right set of skills and develop right attitude within the group. To cite an example to this is a failed attempt by a grocery store to establish an e-commerce site wherein the store's planning and implementation team included no one who could study the customer base, understand the demographics of on line shopping and design the site with the characteristics of the customers in mind. In another case of eToys, there were several problems with regard to product delivery issues during Christmas. It was found that there was much focus on web sites than the customer support and logistics. On the other hand, Onsale, an auction based company, is using the E-commerce as generation of information as converted into business intelligence for catching the customer continuously in order to maximize the profit. So valuable Team development is going to be a formidable task for the firms as it will involve vision power, long term perspective and ability to see through technology and business on the part of the top management. The crux is how E-commerce can be leveraged for business advantage.

However, if we look at the new breed of managers who are very young and fall in the age group of 25 -30, it is easier to train them for new economy because they are tuned to technology for advantage. It was, earlier, very difficult to deal with older generation managers who were accustomed to established business practices only. But, the new generation is throwing a new challenge of being "Learning Individuals". They are not trained for learning continuously as well as creating harmony in the group. This is because the challenge of being successful and desire to move up the fast in the professional ladder. Hence, the "Attitude" development is going to be the key in Human Resource Development.

CISCO has segmented the competencies of E-commerce Managers into Critical Traits and Core Competencies.

**Table 1**  
**Critical Traits and Core Competencies of E-commerce Managers**

**Critical Traits :**

- Ability to participate in or manage change.
- Building and maintaining strong sense of and for the mission and vision of the business.
- Having a curiosity for technology and how it can be applied to generate business value.
- Ability to sell and market themselves, their vision and their capabilities within and outside the organization to create visibility for themselves, their organization and their enterprise.
- Ability to anticipate, identify and respond to changing business priorities.
- Capability to become workaholic.

**Core Competencies :**

- Flexibility and adaptability
- Ability to manage complexity and change
- Ability to use process as key capability to enable dynamic product capability.
- Ability to understand human behaviour vs. organizational structure.
- Ability to move to more flexible and flat organizational structure to leverage internal and external resources.
- Ability to develop business foresight and strategic thinking.

(Source : www.cio.com, The CIO resource Library)

Electronic Commerce is accelerating the shift of power towards the consumer leading to fundamental changes in the way corporates relate to their customers and compete with one another. It has created demand for quick learners with some or many technical skills with unusual motivation, group skills, user orientation and keenness and willingness to learn. This is resulting into the shortage of quality Human Resource. In USA, E-commerce positions require primarily business management skills. Industry observers consider the position of CIO to be one that requires combination of business management skills and technical skills rather than only technical skills. Since business practices are getting IT driven, the role of technical professionals is changing to a greater extent.

Now, companies require business savvy employees who have the capability to understand how technical decisions may impact on companies' bottom line ; who can really understand how IT and management integrate ; who are team-oriented, market-focused, result-motivated.

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4. Titles of articles from journals and books: “quoted”.
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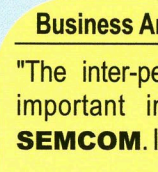
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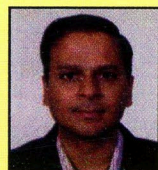
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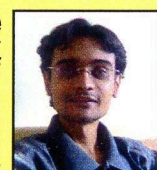
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Where the minds is led forward by  
thee into ever-widening thought and  
action.....  
Into that heaven of freedom, my  
Father, let my country awake.

Rabindranath Tagore

