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RESEARCH PAPERS

SUMEDHA
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Chief Editor Message

As SUMEDHA Journal of Management its Thirteenth issue, We look forward to the momentous growth of our Journal, increasing in their appeal, readership and relevance to the fast-changing world of Business Management. During these two and half years journey our journal has been critically evaluated by various institutions with similar line of interest and faculty fraternity. We have been consistently seeking advice from experts to continuously improve the quality of the journal. Our journal has been got Impact Factor from Index Copernicus value 5.20. On behalf of the Management, Editorial Board and Editorial Team, I express my profound gratitude to all our authors, reviewers, readers and patrons for offering their overwhelming support and I anticipate a continued and lively partnership for years to come.

All of us recognize the necessity for change, which results in progress. It gives way to new ideas and perspectives reflecting the current and emerging environment, which builds on the solid foundations of the past.

Last but not least valuable would be your response and suggestions on this issue. Kindly send us your views so that we can keep on upgrading our journal.

Thanking you

A Kotishwar
Chief Editor

Behavioral Finance: A Study on Gender Based Dilemma in Making Investment Decisions

– Mousumi Singha Mahapatra*
– Sunita Mehta**

Abstract

According to various conventional financial theories human beings behave rationally while making financial decisions. However, various studies have brought out that there are situations wherein human behavior gets influenced by moods and emotions which make humans behave in an unpredictable or irrational manner affecting their decision making. Whether the demographic and psychographic characteristics of the individuals in any way influence the behavioral investment decision making remains an unexplored area. This research takes up an important demographic variable gender and attempts to investigate the extent to which the variable influences investment decision making. The objective of the study is to find out whether gender differentiation plays an important role in influencing investment decisions and up to what extent men and women investors are influenced by behavioral bias. The study has implications for the finance industry as it attempts to analyze how behavioral and psychological factors influence different investors based on their basic gender differentiation and would also help to customize the portfolio with regard to their investment preferences.

Keywords: Behavioral Finance, Investment Decision Making, gender differentiation, risk appetite, anchoring bias.

Introduction

In spite of tremendous growth and development in Science and Technology, one question still remains unanswered is why People behave, as they behave. The plethora of studies on human behavior by various schools of thought has not been able to accurately predict and understand human behavior. Philosophers, Social Scientists, Psychologists, Management Experts have come out with innumerable models and approaches, but they have never been enough to explore this Pandora's Box - The Human Mind.

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As per the classical economic theory, human beings are completely rational in decision making, they carefully evaluate all the possible outcomes before taking any decision and they aim at maximizing outcomes (Jaiswal & Kamil, 2012). However, various studies have brought out that there are situations wherein human behavior gets influenced by moods and emotions which make humans to behave in an unpredictable or irrational manner which also affects their decision making. There is evidence from various researches, experimental and otherwise, which reveal repeated patterns of absurdity, discrepancy and ineffectiveness in the approach towards arriving at decisions and choices when humans are faced with uncertainty (Peter Bernstein, 1996). This irrational behavior of humans had given birth to the new research area in finance that is known as "Behavioral Finance". This is a relatively new field of financial research which seeks to combine behavioral and cognitive psychological theories with conventional economics and finance, in an attempt to provide explanations to why people make a certain kind of financial decisions. Thus behavioral finance has emerged as an upcoming field that studies the influence of psychology and emotions on financial decision making.

However, it still remains unexplored about the homogeneity of the impact of the behavioral factors on all individuals or whether the demographic and psychographic characteristics of the individuals in any way influence the behavioral investment decision. This research takes up an important demographic variable gender and attempts to investigate the extent to which the variable influences behavioral investment decisions.

The main aim of the study is to critically examine the behavioral finance theories and various behavioral factors and identify the various issues involved in investment decision making with reference to male and female investors. There is enough evidence to prove that human beings do not always behave in a rational manner whenever financial decision making issues are concerned and individual personality and emotions play an important role in the outcome. As emotional stability of male and female investors is different, this study attempts to examine how it impacts investment decisions. The study also examines the psychological factors that affect investment decision with reference to gender differentiation. The various psychological factors considered are: clarity in financial goals, risk appetite and anchoring bias.

Review of Literature

What is Behavioral Finance?

The study of Behavioral finance has generated interest as it helps to understand the behavior of financial practitioners and its subsequent impact on markets. Peter Bernstein, the founder editor of The Journal of Portfolio Management, in his book "Against the Gods - The Remarkable Story of Risk", published in 1996 stated "Behavioral

Finance analyses how investors struggle to find their way through the give and take between risk and return, one moment engaging in cool calculations and the next yielding to emotional impulses. The result of this mixture between the rational and not-so-rational is a capital market that itself fails to perform consistently in the way theoretical models predict that it will perform".

The theory of human rationality was challenged by a new generation of researchers headed by Daniel Kahneman and Amos Tversky (1974), who in their first research publication had discussed about "Judgment under Uncertainty : Heuristics and Biases". The article defined about three main heuristics in making judgment under uncertainty, namely: Representativeness, Availability and Adjustment biases. Kahneman and Tversky (1974) also stated that better understanding of these heuristics and biases may lead to improvement in judgments and decisions in situations of uncertainty. Though, these heuristic are highly economical and usually effective but sometimes they lead to systematic and predictable errors.

The various concepts of behavioral finance proposed by various researchers which determine the judgment and decision making are as given below:

Representativeness: Kahneman & Tversky (1972) described representativeness heuristic as a concept that is used while making judgments regarding the probability of an event under the state of being unsure of something. Kahneman & Tversky (1982) defined representativeness as the level to which an event's characteristics are similar to its parent population. Representativeness necessitates assessing an event and making a judgment as to how closely it corresponds to other events as found in the general population.

Overconfidence: Dittrich, Guth & Maciejovsky (2001) conducted an experiment and observed that two third of the participants are prone to be overconfident. They also examined that the investors after losing money become more confident. Confidence gives them more courage which plays a vital role for gaining success. Self-confidence is always considered as a positive trait but sometimes investors overestimate their skill and knowledge which has a tendency of indulging them into excessive trading.

Anchoring: It is a cognitive concept proposed by Tversky & Kahneman (1974) about the tendency of human mind to attach or anchor their thoughts to a reference point, inspite of not having any logical relevance or explanation for their decisions. Human beings estimate the final result by initiating from the beginning values about different situations. That primary value may be the partial calculation or the origination of a problem. Modifications are insufficient in both the cases (Slovic & Lichtenstein, 1971). Different introducing points come up with different approximations, which lead to primary values.

Gambler Fallacy: The lack of information or understanding leading to an incorrect assumption about the onset of events is called gambler fallacy. It happens when investors predict or assume something inappropriately leading to unexpected outcomes.

Availability Bias: The investors tend to give more weightage to evidence which is readily available leading to systematic biases while making investment decisions. The availability bias results in overestimation of the probability of occurrence of any event and investors over weight information readily available to the memory.

Adjustment heuristic: Adjustment is comprised of a series of discrete mini adjustments based with an anchor and evaluate whether a new perspective plausibly captures the other's perception (Epley & Gilovich, 2001). Adjustment bias simplifies the complicated assessment from others perspective. This heuristic is more useful when one's own perception is readily accessible but another perception is indirect. It is often employed for numerical prediction.

Mental Accounting: Thaler (1980) established the concept of mental accounting. Thaler (1999) stated that mental accounting is a set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities. It refers to the tendency of people to segregate their income into various mental accounts based on their source of income. People ascertain the source of money and purpose of each account and based on that they make their purchase decisions which help the decision makers to find out the set of points of reference for the account that determines the losses or gains.

Self-Control: Self-control bias is a human behavioral tendency that causes us to consume today at the expense of saving for tomorrow (Pompian, 2006).There is a tendency in investors to avoid losses and shield their investments. According to Thaler & Shefrin (1981), investors need to administer self-control and manage their overarching desires.

Kahneman and Tversky (1979) conducted a series of studies and criticized the expected utility theory proposed by Neumann and Morgenstern (1944) as a descriptive model of decision making under risk. They proposed the concept of "Prospect Theory", which challenged the rational behavior of humans and entirely changed the course of research with regard to human beings making investment decisions. They attempted to determine the behavior patterns of people and examined the basic tenets of utility theory which were very inconsistent when making choices under risky prospects. They found that people tend to underweight the probable outcomes in comparison to outcomes obtained under certainty. This is known as certainty effect, and it contributes to people making choices which are risk averse compared to choices involving certain losses. They also examined the tendency of general people to discard components that are shared by all prospects under consideration. This is known as isolation effect and it leads to inconsistent performance when the same choice is presented in different forms. Prospect theory is an alternative theory of choice in which value is assigned to gains and losses rather than to final assets and in which probabilities are replaced by decision weights. Decision weights are generally lower than the corresponding probabilities, except in the range of low probability. Overweight of low probabilities may contribute to the attractiveness of both insurance and gambling.

Kahneman and Tversky (1979) found that people valued gains and losses differently and took decisions on perceived gains rather than on apparent losses. An individual, who is basically a risk averter, becomes a risk seeker for a decision involving gains. Thus, if a person were given two identical choices, one articulated in terms of likely gains and the other in possible losses, people tend to choose the former. And this is also known as "loss-aversion theory" (Kahneman and Tversky, 1979). For example, suppose an investor was presented with the same mutual fund by two different financial advisors. The first advisor told that the mutual fund had an average return of 7% over the past five years and the second advisor told that the mutual fund had seen above average return in the past 10 years however had been declining in the recent years. According to prospect theory, even though the investor is offered with the same mutual fund, he or she is more likely to buy the mutual fund from the former advisor, who articulated only a high rate of return in the previous years instead of talking about a high and a declining rate of return in the recent years.

In 1992, Tversky and Kahneman modified the prospect theory which included cumulative weights of decision and extended the theory in several aspects. This theory was called cumulative prospect theory. It allowed different weighing functions for gains and losses and applicable to uncertain as well as to risky prospective situations with a number of outcomes. To explain the characteristic curvature of the value function and the weighing functions, two principles namely diminishing sensitivity and loss aversion had been invoked. After a series of experiments they confirmed a distinctive pattern of risk behavior of people, which was risk aversion for gains and risk seeking for losses at high probability and risk seeking for gains and risk aversion for losses at low probability.

Barberis, Huang & Santos (2001) studied about the asset prices in an economy where investors derived direct utility not only from the consumption but also from the fluctuations in the value of their financial wealth and they preferred to be loss averse over these fluctuations and the degree of loss aversion depended on their prior investment performance. This framework helped in explaining high mean, excess volatility and predictability of stock returns, and also relationship with the growth of consumption.

The design of the model was influenced by prospect theory and the experiments conducted by Barberis, Huang & Santos (2001) provided evidence on how prior outcomes affect risky choices.

Jonathan Myers (1999), founder of psychonomics.com, an investment website stated that the way to improve financial returns was to match investment with investor's psychology and needs. One of her study was about the role of gender in investment decision making. Mayer (1999) found that male investors were more focused on goals and outcomes of their investment and had more tolerance towards risk with high level of confidence whereas women were not. Women were multi focused and had less tolerance towards risk. In another study by Brad & Terrance (2001) titled "Boys will be Boys: Gender, Overconfidence and Common Stock Investment" found similar results regarding the investment behaviour of male and female investors.

In India very few studies has been conducted on gender specific investment behaviour. Out of these a study by Pal & Gill (2007) on Investment Decision Making was an intensive empirical analysis and found that female investors had lower level of investment awareness, confidence and risk tolerance capabilities and were more cautious about their investment, whereas males had an opposite attitude towards their investment.

Objectives of the Study

The core objective of the study is to find out whether gender differentiation plays an important role in influencing investment decision and up to what extent men and women investors are influenced by behavioral bias.

Research Methodology

The study had its main focus on the clarity of financial goals, risk appetite and influence of anchoring bias between male and female investors. Both primary and secondary data had been used in the study. The secondary data was collected from the various journals and books. The primary data was collected through a structured questionnaire. Individual households were considered for the purpose of analysis as it was assumed that they are less likely to have knowledge about application of behavioral theories in decision making, hence, they would provide answers to the questionnaire without any bias.

The study followed a descriptive research design and had mainly employed primary data for the purpose of analysis. A non-probability sampling method which is a mixture of convenience and purposive sampling technique had been used in the study. The individuals who are earning and are involved or interested in investment had been considered as a sample. The questionnaire was sent to the respondents through their email ids and also social media like Facebook was used for data collection. The final size of the sample was 64 respondents. The chi-square test was used for inferring the collected data. The study is limited to the Hyderabad-Secunderabad region only. The demographic profile of investors is shown in Table 1 and Figure 1.

Hypothesis

The following null hypotheses were formulated to study whether gender difference has any significant impact on investment behaviour and vulnerability to concepts of behavioral finance.

H1.1: There is no significant difference between male and female investors with regard to clarity of financial goals.

H1.2: There is no significant difference between male and female investors with regard to risk appetite.

H1.3: There is no significant difference between male and female investors with regard to exposure of anchoring bias.

Data Analysis and interpretation

1. Clarity in financial goals of male and female Investors:

Clarity in financial goals indicates the clear understanding of the investors about their expected targets regarding the quantity of investment, return on investment and total time period of the investment. The responses of male and female investors in terms of clarity in financial goals have been tabulated in Table 2 and Figure 2.

Table 2 shows there is not much difference between male and female investors in terms of clarity in financial goals. Only 28.1% of total respondents are very clear about their financial goals and 50% are somewhat clear and 21.9% of respondents are not at all clear about their financial goals.

Calculated Chi-Square = 3.320,

P- Value= .190

Degree of Freedom = 2

Level of significance = 0.05

The critical value of Chi-Square = 5.99 at α = 0.05 and df = 2.

Since the calculated Chi-Square value =3.320 is less than the critical value, the null hypothesis is accepted. Also on comparing the P- Value = 0.190 with the significance level of 0.05, the null hypothesis is not rejected. This means there is no significant difference between male and female investors in terms of clarity in financial goals.

2. Risk appetite of male and female Investors:

Risk appetite means whether the investors are willing to take risk with an expectation of high return. The amount of fluctuation in return on investment an investor can bear is the risk appetite of the investor. The investors who are ready to take high risk for high return are called aggressive investors and those investors who are not ready to take any risk for their investment and are satisfied with the minimum possible returns are the conservative investors. The responses of male and female respondents with regard to their risk appetite are shown in Table 3 and Figure 3.

Table 3 clearly shows that males are more risk aggressive than females and with regard to moderate risk seeker no female respondent fell in that category as per the response. And there is same percentage of high and moderate risk seekers in male investors. Out of total sample 45.3% are found to be risk neutral, out of which 28.1% are female and 17.2% are male. Total 34.4% respondents are risk averse.

Calculated Chi-Square = 11.163,

P- Value= 0.011

Degree of Freedom = 3

Level of significance = 0.05

The critical value of Chi-Square = 7.82 at α = 0.05 and df = 3.

Since the calculated Chi-Square value =11.163 is less than the critical value, the null hypothesis is rejected. Also by comparing the P- Value = 0.011 with the significance level of 0.05, the null hypothesis is rejected. This means there is a significant difference between male and female investors with regard to risk appetite.

3. Anchoring effect on male and female Investors:

Anchoring is a cognitive heuristic in which decision are made based on an initial anchor. That initial anchor could be any information received from friends or some other source. Table 4 and Figure 4 show that there is no gender differentiation in terms of anchoring bias and both genders get less influenced. Only 35.9% of total respondents get influenced where as 42.2% respondents do not get influenced and rest 21.9% respondents are not always influenced by anchoring bias.

Calculated Chi-Square = 1.777,

P- Value= 0.411

Degree of Freedom = 2

Level of significance = 0.05

The critical value of Chi-Square = 5.99 at α = 0.05 and df = 2.

Since the calculated Chi-Square value =1.777 is less than the critical value, the null hypothesis is not rejected. Also on comparing the P- Value = 0.411 with the significance level of 0.05, the null hypothesis is not rejected. It means there is no significant difference between male and female investors when it comes to anchoring bias in their investment decision.

Findings and Conclusion

The empirical results of the study suggest that both male and female investors are very clear and focused about their financial goals while investing and both genders get influenced by anchoring bias when they invest. But there is a significant difference in both genders with regard to risk appetite. The empirical results suggest that the percentage of males displaying risk taking and risk averse behavior is more than females and percentage of females is more when it comes to risk neutral behavior. So we can conclude that male investors invest money based on their return and safety prospective and react accordingly. Expectation of more returns motivates them to take more risk and when they look for the safety in their investments they become risk averse.

Implication of the Study

The study will be of great relevance to the various stock holders. First it will enhance the existing body of knowledge in terms of the behavioral aspects of male and female investors. The study will also have a great implication for finance industry to analyze the whole population and check how behavioral and psychological factors influence different investors based on their basic gender differentiation.

Also the significant variation in the financial behavior of men and women would help them to customize the portfolio for each with regard to their investment preferences. The financial service industry, especially investment advisors would be able to take a call on making gender specific behavioral adjustments and income specific behavioral adjustment to their portfolio advice.

Limitations:

The study has been confined to only individual male and female investors to study the gender specific investment behavior. The study has been limited to the twin cities of Hyderabad and Secunderabad, the analysis and findings should be considered in the same line.

Recommendation & Conclusion

The human mind has always been a mystery for all and a plethora of research has been conducted to unravel the mystery. However, it is imperative to continue striving towards understanding the role and influence of human psychology on Decision Making, especially in investment decisions. This study can be a curtain raiser for further studies on the Behavioral Dimensions and their influence not only on Investment Decisions, but on decision making in general.

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Table 1: Demographic profile of respondents

		Female	Male	Total
Age of Participants	Less than 25 years	7	7	14
	25 - 35 years	14	12	26
	35 - 45 years	5	13	18
	More than 45 years	2	4	6
	Total	**28**	**36**	**64**
Educational qualification	Graduate	19	9	28
	Post graduate	8	21	29
	Professional degree	1	3	4
	Doctorate	0	3	3
	Total	**28**	**36**	**64**
Employment	Self employed	2	4	6
	Government Job	3	9	12
	Private job	18	21	39
	Business	5	2	7
	Total	**28**	**36**	**64**
Income level of participants	Less than 3 Lakhs	17	15	32
	3 -5 Lakhs	6	8	14
	5 - 8 Lakhs	5	5	10
	More than 8 Lakhs	0	8	8
	Total	**28**	**36**	**64**

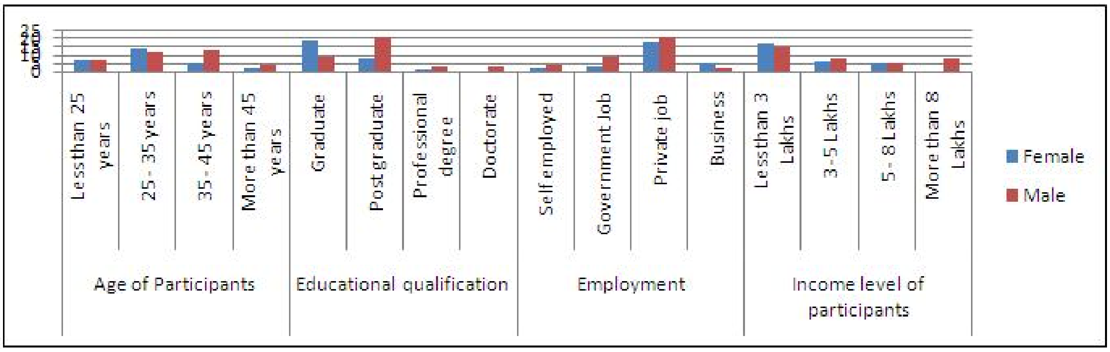

Figure 1: Demographic profile of investors

Table 2: Gender and Financial goals

Financial Goals	Gender		
	Male	Female	Total
Very Clear	12 (18.7%)	6 (9.4%)	18 (28.1%)
Somewhat Clear	19 (29.7%	13 (20.3%)	32 (50%)
Not at all Clear	5 (7.8%)	9 (14.1%)	14 (21.9%)
Total	36 (56.2%)	28 (43.8%)	64 (100.0%)

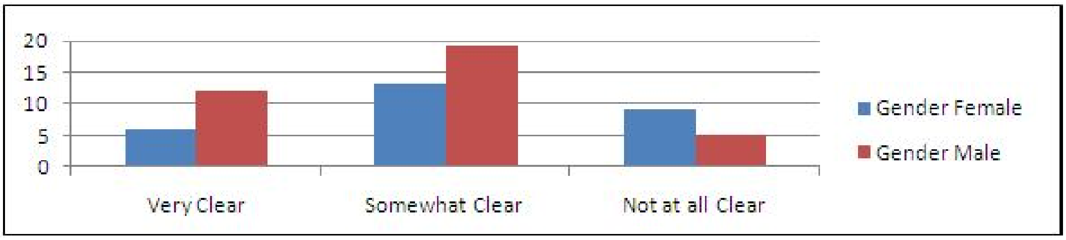

Figure 2: Gender and Financial goals

Table 3: Risk Appetite and Gender

Risk Appetite	Gender		
	Male	Female	Total
High Risk Seeker	6 (9.4%)	1 (1.5%)	7 (10.9%)
Moderate Risk Seeker	6 (9.4%)	0 (0.0%)	6 (9.4%)
Risk Neutral	11 (17.2%)	18 (28.1%)	29 (45.3%)
Risk averse	13 (20.3%)	9 (14.1%)	22 (34.4%)
Total	36 (56.3%)	28 (43.7%)	64 (100.0%)

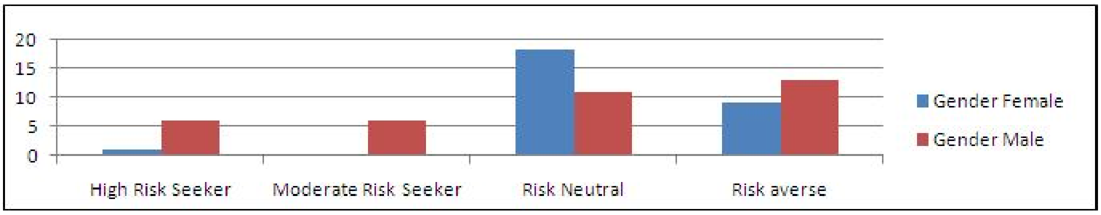

Figure 3: Risk Appetite and Gender

Table 4: Gender and Anchoring effects

Anchoring Effect	Gender		
	Male	Female	Total
Get influenced by Information	15 (23.4%)	8 (12.5%)	23 (35.9%)
Not always get influenced by Information	6 (9.4%)	8 (12.5%)	14 (21.9%)
Do not get influenced by Information	15 (23.4%)	12 (18.8%)	27 (42.2%)
Total	36 (56.2%)	28 (43.8%)	64 (100.0%)

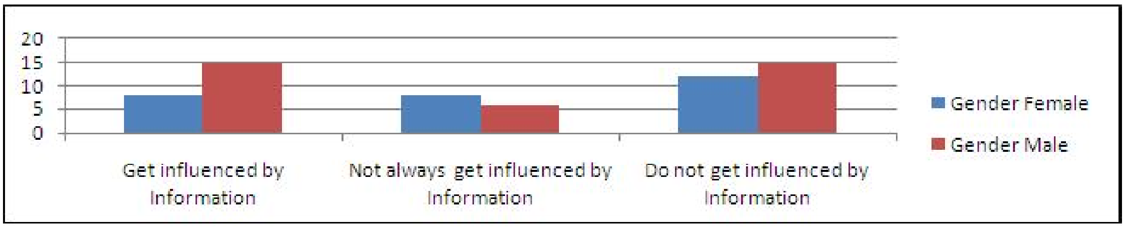

Figure 4: Gender and Anchoring effects

Econometric Analysis of Spot and Futures Indices of MCX

– Pardhasaradhi Madasu*

Abstract

Testing the market efficiency and the effective functioning of the price discovery process of the futures markets is one of the major areas of interest for both academicians and industry leaders. Several studies has examined the co-movement or co-integration of two or more indices of stock prices by using various econometric models. The present paper examines the historical performance of various indices published by Multi-Commodity Exchange of India and also explores the relationship between the spot and futures market. Descriptive Statistics were used to analyze the various characteristics of the time series data relating to the spot and futures indices of MCX. For the purpose of ascertaining the relationship between the Spot and the Futures commodity prices Granger Causality tests were performed and these tests have revealed the there is proof of informational flow between spot and futures market. The study reveals that certain commodities such as Energy, Agri and Metal have information flow between Spot and Futures market. In some cases there is bi-directional flow of information and in some other cases there is only uni-directional flow of information. To generalize the results further studies have to be made by comparing the data from various commodity exchanges within India and commodity exchanges across some of the emerging economies.

Keywords - Multi commodity exchange, spot and futures market, national stock exchange

1.0 Introduction

Commodities are regarded as separate assets in the domain of all assets class. It is perceived that commodity markets are volatile. Therefore, the price volatility drives the demand for hedging the risk in the commodity market. Producers and consumers often seek ways of hedging risk and trading risk. In response to this need, derivative markets for commodity risks trading arose, and their use has become increasingly widespread. Instruments traded in these markets include financial instruments such as futures and forward contracts, options, swaps, and physical instruments like inventories.

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Future contracts are among the most important of these instruments, and provide significant information about cash and storage markets. Development of commodity futures and options markets is very vital to any economy.

The commodity markets in India have been performing well in the recent past and the reason for this decent performance is the reforms and repeated changes in the rules and regulations relating to the commodity markets in India. To quote the most important improvements that occurred during 2003, it can be said that the lifting of ban against futures trading in all the commodities and granting recognition to the three electronic exchanges, namely National Multi Commodity Exchange of India (NMCE), Multi-Commodity Exchange of India (MCX) and National Commodity and Derivatives Exchange (NCDEX). Apart from these three exchanges two more exchanges namely Indian Commodity Exchange (ICEX) and ACE Commodity and Derivative Exchanges got recognition in 2009 and 2010 respectively. The concentrated efforts of the regulators and government have yielded results in terms of increase in the volume of trades in the commodity derivative markets in India. The total value of commodities traded on India's exchanges during 2011 - 12 exceeded 181 trillion rupees ($3.5 trillion) in the fiscal year 2010-11, constituting a 65% increase from the previous year. Metal and energy derivatives account for 88% of trading value, with agricultural commodities totaling 12%. Market participants include corporate users of agricultural products, metals, and energy, as well as small and medium size businesses that rely on exchanges for hedging and price discovery. India's largest commodity exchange, the Multi-Commodity Exchange (MCX), was a mere idea ten years ago, yet is now the third largest commodity futures exchange in the world based on total number of trades. MCX grew in trading volume by 12% in 2012, despite the global exchange traded derivatives market contracting by 15%. India's commodity sector has generated over 1.5 million jobs by 2012, and has impacted the lives of millions more. India has become a global leader in commodity trading, and the development of these markets has created jobs and propels economic growth. The year 2011- 12 was a momentous year for the Indian commodity markets because of MCX becoming first Indian Commodity Exchange to get listed. The listing has brought MCX on par with other global exchanges that are listed such as NASDAQ, NYSE Euronext, ICE, CME Group and SGX. Over the period of 11 years MCX has become India's No.1 commodity futures exchange by garnering a market share of 86% in FY 2012 as against 82% in FY 2011. In the FY 2012 - 13 the market share of MCX has grown to 87.3%. Since 2011-12 the MCX stood as world's third largest commodity futures exchange in terms of volume of contracts.

As the Indian commodity markets experienced substantial growth since 2003 onwards and has gained global recognition the researchers nationally and internationally were conducting surveys on whether there is relationship between the inflation in the spot prices of commodity and the futures trading in commodity markets. The fundamental theory of financial markets state that futures market has two important economic functions viz. price risk management and price discovery. In general it is believed that futures prices act as an accurate indicator of the spot price expected at maturity of the futures contract. This concept can be referred as price discovery function of the futures markets . It is believed that an effective price risk management and an accurate price discovery can be possible in an efficient markets .The price discovery function in general states that the prices in the Spot and Futures markets should be systematically related.The spot and futures markets will behave in the same fashion provided the new information is factored into the prices of both these markets equally

In general, expectations of future commodity prices are a critical determinant of spot prices, and this linkage depends on the capacity to store commodities in inventory. Transactions in thespot market require the seller to accept that the price received is adequate compensation for forgoing the opportunity to hold the commodity in inventory to sell later. (For producers of commodities, a similar calculation applies to the decision to produce an extra unit of the commodity today versus in the future.) Likewise, the buyer must accept that the benefit of purchasing now outweighs the benefits of waiting to buy later.Accordingly, the spot price embodies an expectation of what prices will be in the future. As a corollary, changes in expectations of future supply and demand conditions will show up as movements in both current spot and futures prices.

Numerous studies were conducted in developed economies to understand the market efficiency in various segments of financial and commodity markets. Similar studies in emerging economies like India were conducted on limited scale. The studies which were related to test the market efficiency of the financial markets tried to analyze the efficiency concept using the approach of co-integration between the spot and futures market or by using causality tests. In the co-integration framework, the price discovery function implies the presence of an equilibrium relation binding the two prices together. If a departure from equilibrium occurs, prices in one or both markets should adjust to correct the disparity. In tests relating the causality the influence of spot market on futures market or vice versa is tested using appropriate econometric tools such as Johansen Co-Integration,Granger Causality tests, VECM and Bivariate EGARCH .

In this background, the present study analyzes the performance of commodity markets India and also examinesthe co-integration between the spot and futures commodity market in India and also tests the causality between the spot and futures market by using the data of spot and futures indices published by Multi-Commodity Exchange of India for the period of April 2006 to March 2014. The rest of the paper is organized into three sections. The second section highlights both theoretical and empirical literature. Section 3 presents methodology and data. The last section summarizes the empirical results and findings.

2.0 Literature Review

The present section outlines both theoretical as well as empirical literature on market efficiency, price discovery and volatility spillovers in the spot-futures markets in the International and Indian context. Initially the studies relating to international markets has been reviewed and later the studies relevant from Indian context have been reviewed.

The earlier studies relating to price discovery role of futures prices has been done in 1983. Garbade and Silber (1983) first presented a model to examine the price discovery role of futures prices and the effect of arbitrage on price changes in spot and futures markets of commodities. Mooosa (2002) re-examined the Garbade and Silber (1983) model with the objectives of finding out if the crude oil future market perform the function of price discovery and risk transfer. The study uses the daily data of spot and one-month future prices of WTI crude oil covering from 2 January 1985 to July 1996. The study found that 60% of the price discovery function is performed in future market. The result also showed a fairly elastic supply of arbitrage service. This study shows that Garbade and Silber model is more suitable for description of intraday behavior of spot and future prices.

Two of the prominent studies that were conducted during the early 2000's were of Zhong et al. (2004) and Zapata, Fortenbery and Armstrong (2005). Both these studies examined the price disvoery ability of the commodity futures markets. The Studies of Zapata, Fortenbery and Armstrong (2005) also studied the co-integration and causality relationship between spot and futures markets. Zhong et al. (2004) investigated the hypotheses that the Mexican stock index futures markets effectively served the price discovery function, and that the introduction of futures trading led to volatility in the underlying spot market using a total of 799 daily observations which covers the period 15 April 1999 to 24 July 2002. By using VECM and EGARCH models, the empirical evidence showed that the futures price index was a useful price discovery vehicle and future trading had also been a source of instability for the spot market. The study by Zapata, Fortenbery and Armstrong (2005) examined the relationship between 11 future prices traded in New York and the World cash prices for exported sugar by considering the observation from January 1990 to January 1995. They found that the future market for sugar leads the cash market in price discovery. However, they also found unidirectional causality from future price to spot but not vice versa. The finding of co-integration between futures and cash prices suggests that sugar future contract is a useful vehicle for reducing overall market price risk faced by cash market participants selling at the world price. Further it was found through impulse response function that a one unit shock in the future price innovation generates a quick (one month) and positive response in futures and cash prices, but not vice versa.

Studies with respect to Indian context also examined the price discovery function of futures markets in a particular exchange or the studies made an attempt to analyze the informational flow between two commodity futures exchanges or the studies tried to examine the price discovery function among the futures traded for various commodities and the studies also have analyzed the comparative price discovery efficiency between stock futures market and commodity futures market. To quote the prominent studies in this category we can mention the studies of Thomas and Karande (2001), Kumar and Sunil (2004), Gupta and Belwinder (2006) and Praveen, Sudhakara (2006), Roy (2008) and Ghosh (2010a). The brief review of these studies is given below:

Thomas and Karande (2001) analyzed price discovery in India's custorseed market, Ahemedabad and Bombay by using daily closing data on future and spot prices, which spans from May 1985 to December 1999. The study tested the information flow between the exchanges viz. whether Ahemedabad futures markets is influencing the Bombay futures market or vice versa. They found that out of four, three seasonal contracts in Bombay future prices lead the Ahemedabad future prices while the March contract in Ahemedabad future prices lead the former one. Despite having smaller volume, the Bombay dominants the future prices over the Ahemedabad prices for all contracts except the contracts maturing at the time of harvest. This study shows that markets that trade exactly the same asset, in the same time zone, do react differently to information and also small market may lead the large market.

Kumar and Sunil (2004) investigated the price discovery in six Indian commodity exchanges for five commodities. The study has analyzed the spot and futures of these five commodities across six Indian commodity exchanges.They have engaged the ratio of standard deviations of spot and future rates for empirical testing of ability of futures markets to incorporate information efficiently. Besides, the study has empirically analyzed the efficiency of spot and future markets by employing the Johansen co-integration technique. They found that inability of future market to fully incorporate information and confirmed inefficiency of future market. However, the authors concluded that the Indian agricultural commodities future markets are not yet mature and efficient.

Gupta and Belwinder (2006) examined the price discovery mechanism in the NSE spot and future market. The study uses the daily closing values of index future S&P CNX Nifty, from June 2002 to February 2005. By using the techniques like Johansen and VECM, it was empirically found that there was bilateral causality between the

Nifty index and futures. Besides, it was also found that there exists stronger casual relation from Nifty futures to Nifty index as compared to the vice-versa.

Praveen and Sudhakara (2006) attempted to study a comparison of price discovery between stock market and the commodity future market. They have taken Nifty future traded on National Stock Exchange (NSE) and gold future on Multi Commodity of India (MCX). The result empirically showed that the one month Nifty future did not have any influence on the spot Nifty, but influenced by future Nifty itself. The casual relationship test in the commodity market showed that gold future price influenced the spot gold price, but not the contrary. So this implies that information is first disseminated in the future market and then later reflected in the spot market.

Two studies conducted by Roy (2008) and Ghosh (2010) have yielded contradictory results with respect to the effectiveness of the futures (especially wheat futures) markets in exchanging of information between the spot and futures markets. Roy (2008) argues that Indian wheat futures markets are well co-integrated with their spot markets by taking a sample of 32 wheat futures contracts. The study concludes that there is a bidirectional causality mostly observed in select contracts from 2004 to 2007. A lead-lag relation has been found between two markets. In addition, Roy also determines the convenience yield of wheat futures for explaining hedging efficiency and rate of convergence among futures and spot markets of wheat. As opposed to this, Ghosh (2010) finds out completely different results. He has put forward the evidence on the ineffectiveness of the futures markets in affecting the physical market prices of wheat. It is also evident in his study that both futures and physical markets are not exchanging information. Even futures market does not follow any information on arrival, prices, and so on in the physical markets, nor does the physical market take any information of futures market into account.

Taking the above given prominent studies into consideration it can be inferred that there is a inter-relationship between the spot and the futures markets of various degrees in different commodity exchanges. Due the technology advancement of the developed economies and the easy flow of information between market segments many studies conducted in those markets have revealed that there was a spillover affect among spot and futures markets. The present study examines the co-integration and causality between the four major spot and futures indices published by the Mult-Commodity Exchange of India.

3.0 Methodology and Data

The price discovery effectiveness of the futures market and inter-temporal relationship between the spot and the futures market are analyzed and concluded through use of co-integration and causality tests. The research studies many time make an attempt to answer the most important question that is 'Does co-integration between two variables or time series data imply causality?'. In basic terms the co-integration tests tries to examine the long-run and short-run relationship among variables while the causality tests indicate the information on which variable the influencing the other variable under study. Testing causality among variables is one of the most important and, yet, one of the most difficult issues in financial market analysis From econometric stand point of view causality refers to the "Granger Causality". Most of the research undertaken in the area of stock since the early 1990s have extensively analyzed the co-integration among markets, international dependencies and the market efficiencies using Granger Causality tests. There are three basic Axioms of Granger-Causality model and they are a) An event can only be the cause of another event if it precedes it in time, a future event can thus never be the cause for an event in the past b) There should not be any redundancy in Ωt and c) All causal relationships remain constant in their direction over time. Only the strength of the relationship or the time lags may change but never the general direction.

In the present paper the co-integration and causality between the pair (one index representing futures prices and the other representing spot prices of a specified commodity or the broad commodity market in general) of indices namely MCXCOMDEX and MCXSCOMDEX, MCXAGRI and MCXSAGRI, MCXMETAL and MCXSMETAL and finally MCXENERGY and MCXSENERGY are examined Co-integration testing can be performed in a bivariate or multivariate framework. However, given that the present study considers only two indices as a pair (spot and futures indices) the bivariate framework of co-integration and causality are relevant. To check whether or not two or more variables are co-integrated, it is necessary to first verify the order of integration of each variable by performing unit root tests. Two of the most commonly used techniques for unit root testing are the ADF and PP tests. In both cases, the null hypothesis of a unit root is tested against a stationary alternative.Generally the unit root test take the Null Hypothesis (H_O) as the series has got unit root which means the time series under observation is 'not stationary' and the alternate hypothesis (H1) states that the data is 'stationary'. For the present study ADF tests were applied to test the presence of unit root in the time series data. The lag selection for the ADF tests and further analysis was done using the lag selection criteria. Johansen Co-integration test and Granger-Causality Test were conducted for stating the findings and conclusion.

3.1 Data Sources

The data for the present study has been collected for the period of financial year 2006 to 2014 from the website of the Multi-Commodity Exchange of India. The market share is the major reason for selected the MCX as the exchange for data collection and analysis. The closing prices of all the 8 indices (both spot and futures) were collected and converted in monthly averages. In total 96 monthly averages of all the 8 indices were computed and analyzed. The study has considered closing values of MCX Price Indices rather than individual commodity prices. Figure 1 depicts the co-movement of MCXCOMDEX and MCXSCOMDEX for the study period. Figure 2 depicts the co-movement of the sub-indices of both spot and futures closing prices. After conducting the preliminary analysis using the graphical approach the data was further analyzed for the presence of unit root. Next, the Johansen Co-integration test was conducted .

4.0 Empirical Results and Findings

The results and findings are divided into three major sections viz. findings with respect to performance, findings with respect to co-integration and causality analysis.

Table 1 depicts the summary statistics of the eight indices of MCX. The average closing prices of the Spot Commodex and Spot Agri are higher than the Futures Commodex and Futures Agri indices. On the other hand the average closing prices of Futures Energy and Futures Metal are more than the averages closing prices of Spot Energy and Spot Metal. Further, except in Metal indices in all other indices the Spot Index is reflecting more standard deviation than the Futures Index.

Table 2 shows the results of ADF unit root test. Based on the 5% level of significance the Null Hypothesis for all eight tests were accepted. In the case of unit root test is the null hypothesis is accepted it implies that the time series is having a unit root which implies that the variable is not stationary. The data for further analysis has to be checked for unit root after first differencing.

Table 4 highlights the results of Johansen's Co-integration. From the table it can be inferred that Agricultural indices are having co-integration between spot and futures market. In the other cases the integration is not to be disclosed with the data at level.

Table 5 discloses the causal relationship between the four futures indices. Based on the 5% level of significance it can be seen that the MCXENERGY is influencing MCXCOMDEX. The causal influence is from MCXENERGY and not vice versa. In other cases the causal influence between the pairs is not to be seen.

Table 6 reveals the causal relationship between the four spot indices. From this table some interesting fats can be observed:

- MCXSAGRI has an influence on MCXSCOMDEX
- MCXSENERGY has an influence on MCXSCOMDEX

- MCXSCOMDEX has an influence on MCXSENERGY
- MCXSMETAL has an influence on MCXSCOMDEX
- MCXSCOMDEX has an influence on MCXSMETAL

From the above results it can be inferred that in spot market the bi-directional informational flow is evident in Metal and Energy commodity markets whereas in the case of Agricultural products the flow of information is from specific index to the broad based index.

Conclusion

Based on the data collected from the MCX (being one of the largest commodity futures exchange in India and also Asia) it can be concluded that the commodity markets with respect to certain commodity are efficient and the price discovery mechanism in these specified markets is functioning well. However, a further analysis based on the comparative study of different commodity exchanges in India and other emerging economies would reveal more insights such that the results can be generalized.

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Figure 1
Co-Movement of Spot and Futures Indices -
April 2006 to March 2014

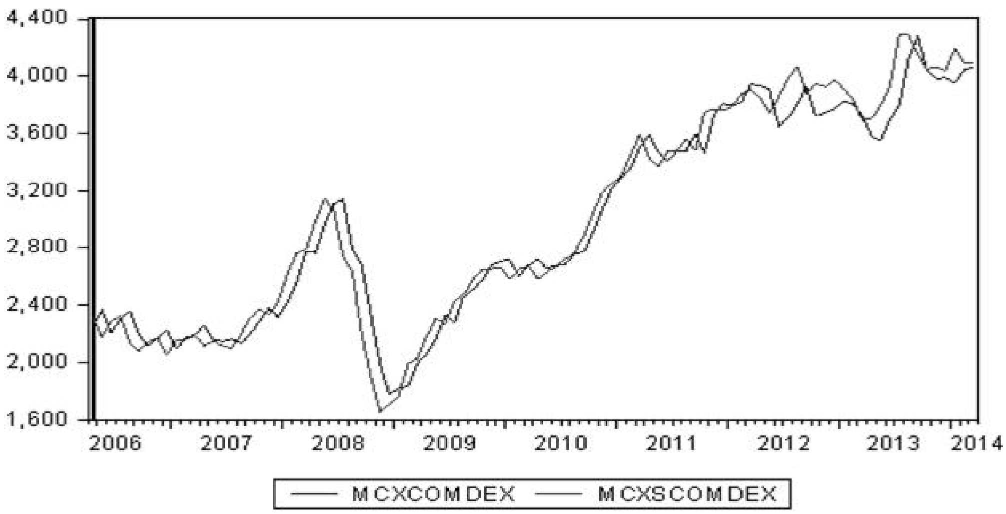

Figure 2
Co-Movement Of MCX Futures Indices
April 2006 - March 2014

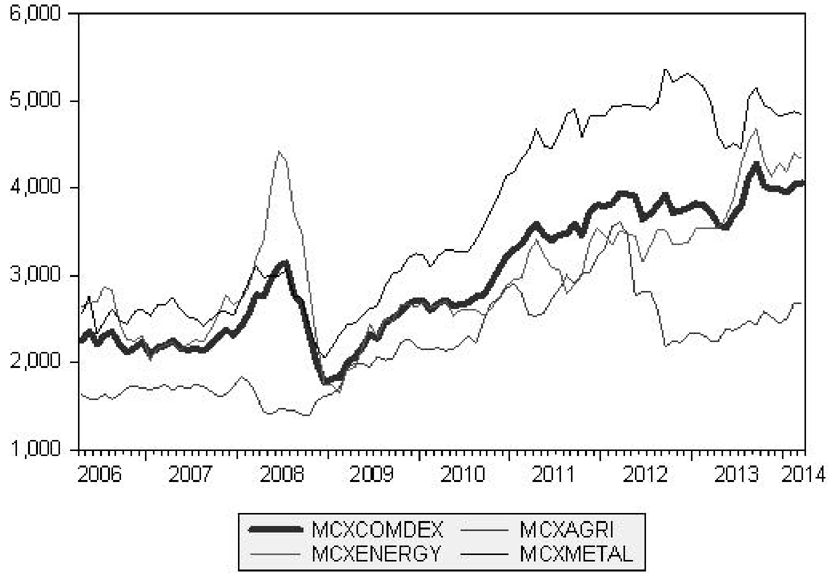

Figure 3
Co-Movement Of MCX Spot INdices
April 2006 to March 2014

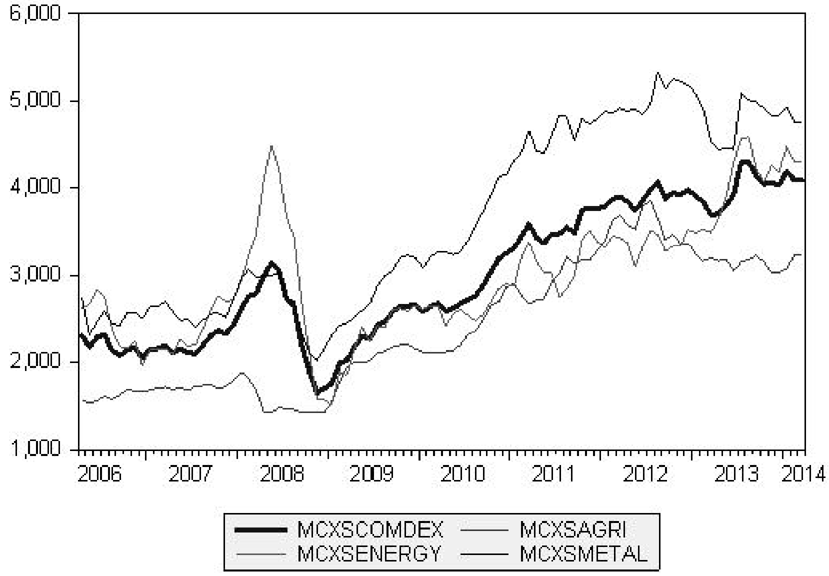

Table 1 : Summary Statistics

Statistics	*MCX COMDEX*	MCXS COMDEX	MCX AGRI	MCXS AGRI	MCX ENERGY	MCXS ENERGY	MCX METAL	MCXS METAL
Mean	2972	2996	2196	2417	3003	2981	3642	3639
Median	2769	2767	2188	2190	2856	2843	3254	3254
Std. Dev.	716	768	541	747	711	740	1066	1056
Kurtosis	-1.46	-1.44	-0.39	-1.43	-0.45	-0.49	-1.63	-1.65
Skewness	0.136	0.128	0.517	0.243	0.447	0.382	0.217	0.160
Range	2505	2636	2220	2440	3035	3063	3325	3301
Minimum	1775	1656	1392	1427	1650	1524	2051	2024
Maximum	4280	4292	3612	3866	4685	4587	5377	5325
Monthly Obs.	96	96	96	96	96	96	96	96

Table 2 - Results of Unit Root Test with ADF procedure when variables are at Level

Index		Augmented Dickey-Fuller test statistic – t Statistic	Prob*	Null Hypothesis Accepted or Rejected
1	MCXCOMDEX	-0.744456	0.8295	Accept Ho
2	MCXSCOMDEX	-0.955531	0.7661	Accept Ho
3	MCXAGRI	-1.212423	0.6666	Accept Ho
4	MCXSAGRI	-0.941018	0.7710	Accept Ho
5	MCXENERGY	-2.031777	0.2730	Accept Ho
6	MCXSENERGY	-2.001676	0.2858	Accept Ho
7	MCXMETAL	-0.621725	0.8597	Accept Ho
8	MCXSMETAL	-0.566228	0.8720	Accept Ho
Exogenous – Constant (Model 1)				
Null Hypothesis – Time Series has a Unit Root – time series not stationary				
Alternate Hypothesis – Time Series has no Unit Root – time series is stationary				
Critical Values of ADF t-statistic as reported by EVIEW S 7 at 1%, 5% and 10% are -3.500669, -2.892200 and -2.583192 respectively. These critical values are compared to the ADF t-statistic.				
Criteria for Acceptance or Rejection of Null Hypothesis – If the absolute (ignoring the negative sign) test statistic viz. t-statistic is more than the critical value than the null hypothesis is rejected and alternative hypothesis can be accepted. Accepting Ho implies that the time series has got unit root and is not stationary.				
Prob.* value if less than 1%, 5% or 10% than Ho can be rejected otherwise Ho has to be accepted.				
All the Coefficients of Y(-1) is negative in all the above cases hence the model is viable.				

Table 3 : Johansen's Cointegration Test Results

Pairs	Index	Hypothesized No. of CEs	Eigenvalu e	Trace Statistic	0.05 Critical Value	Prob.**	Ho Accept or Reject
1	MCXCOMDEX & CXSCOMDEX	None	0.060600	6.551295	15.49471	0.6303	Accept
		At Most 1	0.007898	0.737464	3.841466	0.3905	Accept
2	MCXAGRI & MCXSAGRI	None	0.183009	20.48912	15.49471	0.0081	Reject
		At Most 1	0.018021	1.691270	3.841466	0.1934	Accept
3	MCXENERGY & MCXSENERGY	None	0.194206	20.08121	14.26460	0.0054	Accept
		At Most 1	0.036030	3.412648	3.841466	0.0647	Accept
4	MCXMETAL & MCXSMETAL	None	0.199982	21.43348	15.49471	0.0056	Accept
		At Most 1	0.007319	0.683171	3.841466	0.4085	Accept
Accepting Ho implies that the variables are not Co-Integrated							

Table 4 : Pairwise Granger Causality Tests Between Four MCX Futures Indices

Sample: 2006M04 2014M03				
Lags – 2				
#	Null Hypothesis	Obs.	F-Statistic	Prob.
1	MCXAGRI does not Granger Cause MCXCOMDEX	94	11.6167	3.E-05
	MCXCOMDEX does not Granger Cause MCXAGRI		0.08656	0.9172
2	MCXENERGY does not Granger Cause MCXCOMDEX	94	9.95557	0.0001
	MCXCOMDEX does not Granger Cause MCXENERGY		6.26212	0.0029
3	MCXMETAL does not Granger Cause MCXCOMDEX	94	3.80327	0.0260
	MCXCOMDEX does not Granger Cause MCXMETAL		1.45335	0.2393
4	MCXENERGY does not Granger Cause MCXAGRI	94	0.06905	0.9333
	MCXAGRI does not Granger Cause MCXENERGY		2.35802	0.1005
5	MCXMETAL does not Granger Cause MCXAGRI	94	0.34483	0.7093
	MCXAGRI does not Granger Cause MCXMETAL		7.80424	0.0008
6	MCXMETAL does not Granger Cause MCXENERGY	94	4.45016	0.0144
	MCXENERGY does not Granger Cause MCXMETAL		3.72147	0.0280

Table 5 : Pairwise Granger Causality Tests between four MCX Spot Indices

Pairwise Granger Causality Tests between four MCX Spot Indices				
Sample: 2006M04 2014M03				
Lags – 2				
#	**Null Hypothesis**	**Obs.**	**F-Statistic**	**Prob.**
1	MCXSAGRI does not Granger Cause MCXSCOMDEX	94	6.70479	0.0019
	MCXSCOMDEX does not Granger Cause MCXSAGRI		0.18932	0.8279
2	MCXSENERGY does not Granger Cause MCXSCOMDEX	94	8.22085	0.0005
	MCXSCOMDEX does not Granger Cause MCXSENERGY		4.85804	0.0099
3	MCXSMETAL does not Granger Cause MCXSCOMDEX	94	6.44893	0.0024
	MCXSCOMDEX does not Granger Cause MCXSMETAL		4.13020	0.0193
4	MCXSENERGY does not Granger Cause MCXSAGRI	94	0.73781	0.4811
	MCXSAGRI does not Granger Cause MCXSENERGY		4.31566	0.0163
5	MCXSMETAL does not Granger Cause MCXSAGRI	94	0.34426	0.7097
	MCXSAGRI does not Granger Cause MCXSMETAL		7.49020	0.0010
6	MCXSMETAL does not Granger Cause MCXSENERGY	94	4.20102	0.0181
	MCXSENERGY does not Granger Cause MCXSMETAL		4.48777	0.0139

Table 6 : Pairwise Granger Causality Tests between four MCX Spot and Futures Indices

Pairwise Granger Causality Tests between four MCX Spot and Futures Indices				
Sample: 2006M04 2014M03				
Lags – 2				
#	Null Hypothesis	Obs.	F-Statistic	Prob.
1	MCXSCOMDEX does not Granger Cause MCXCOMDEX	94	373.632	5.E-44
	MCXCOMDEX does not Granger Cause MCXSCOMDEX		0.77927	0.4618
2	MCXSAGRI does not Granger Cause MCXAGRI	94	6.51020	0.0023
	MCXAGRI does not Granger Cause MCXSAGRI		7.12381	0.0013
3	MCXSENERGY does not Granger Cause MCXENERGY	94	1630.41	8.E-71
	MCXENERGY does not Granger Cause MCXSENERGY		1.24851	0.2919
4	MCXSMETAL does not Granger Cause MCXMETAL	94	1662.95	3.E-71
	MCXMETAL does not Granger Cause MCXSMETAL		0.76879	0.4666

Automated Teller Machines Usage in India: Emerging Challenges

– Dr. K. Sudhakara Rao*

Abstract

Automated Teller Machine (ATM) has become very popular among people all around the world. This is due to its easy to carry, usage as plastic money and any time operational which is not in case of banks. Consumers continue to list the location of ATMs as one of their most important criteria in choosing a financial institution, for that banks are willing to open more ATMs for the purposes of providing greater convenience and attracting more customers.With the help of ATM the user can perform several banking activities. Fast development of banking technology has various advantages and disadvantages to banking activities and transactions are the advent of ATM. As we know the security threats in banking systems are increasing day by day. The account holder will be given the ATM card and private PIN (Personal Identification Number) or password. Crime which is happening in ATMs became a serious issue that affects not only customers but also bank operators.This paper is focussed to analyse the cases of ATM usage and fraud occurrences within some banks in India. This research work identifies the common ATM frauds, security threat and maintenance cost problems. These frauds are perpetuated and then proper security recommendation that should be adhered to by both the banks as financial institutions and the ATM users in order to eliminate or reduceit to the barest minimum.

Keywords: Automated Teller Machine, Safety, Security and Maintenance Cost

Introduction

There are very fast changes occur in the traditional banking operation system. Twenty years back a bank was involved only with customers when they were at premises of bank. But during this new time a bank provides many more services to the customer's at their doorsteps. The entire banking system has changed drastically. In traditional banking system a manual teller had worked. But now scenario has changed and one of its most valuable services to customers is providing cash through Automated Teller

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Machines (ATMs) at any timeanywhere. ATM offers significant benefits to banks and their customers.

Nowadays ATM is very familiar, quite a popular interface to a bank. ATMs are electronic banking machines located in different places and the customers can make basic financial and non-financial transactionswithout help of bank staff and it is a more convenient for users to access their bank accounts.The ATM optimal deployment strategies offer theopportunity to provide greater convenience and to attractmore customers by covering the money market withsufficient ATM facilities. These strategies also providegreater cost efficiency by finding the optimal number ofATMs to be installed and greater profitability by increasingthe ATM user base in order to earn much more transactionsand services fees as well as through the inflow of depositsfrom the depositors who consider ATM availability as a mainfactor in choosing their banks. ATMs have become acompetitive weapon to commercial banks whose objective isto capture the maximum potential customers.

An ATM machine is not a single device, but a collection of a few other devices. It has a display and a keypad as the main interface. A card reader is used to read information of the ATM card, issued to each account holder availing of the ATM facility. An ATM card can be used to perform transactions on one account only. A printer is used to print receipts of transactions. A deposit box, to accept deposits, is also available. Before performing operations via the ATM, the customer has to logonto the ATM. To logon, the customer has to swipe the card and enter the PIN correctly, which are validated by the system. The facilities provided by the ATM are available as operations executed by the ATM.

Personal Identification Number (PIN)

PIN(Personal Identification Number)or password is an important aspect in ATM system, which is commonly used to secure and protect financial information of customers. PIN is the numeric password for use at the ATM. The PIN is separately mailed / handed over to the customer by the Bank while issuing the card. This PIN has to be reset to a new PIN by the customer. Most Banks force the customers to change the PIN on the first use. PIN number need to be remembered by the card owner and it should not be shared with others to prevent unauthorized access. If he forgets PIN, the customer may contact the card issuing bank branch and apply for new PIN.

Review of Literature

ET Bureau (2011), The Reserve Bank of India has asked banks to use technology more effectively with a focus on bringing down costs and improving customer services in its information technology (IT) vision document for 2011-17. Further, the committee, in the report, specifies the role of IT in banking ?with the major objective being balancing the three Cs - cost, control and customer services.

Khan and Mahapatra (2009) investigate the service quality of Internet Banking based on seven quality dimensions, i.e. reliability, accessibility, user friendliness,privacy/ security, efficiency, responsiveness using the factoranalysis. It was found that customers are satisfied with thereliability of the banks but dimension, user friendliness arenot satisfied.

Devlin(2002), if a bank already has a reputation for technicalinnovation, its customers are likely to feel comfortable withmore technology. But if a large share of its profits or growthcomes from older customers who prefer personal service, itcould be unwise to push ATMs too hard. Banks marketingmanagers need to continuously assess the customer'sdecisions-making process as well as the information ofattitudes, preferences and satisfaction of automated services.It is of little use for an organization to attempt to position anoffering by emphasizing a particular attributes that do notconstitute significant choice criteria in target market.

Objectives of the Study

The objectives of the study are as follows;

- To study the problems faced by customers while using ATM services.
- To identify various frauds associated with the ATM.
- To know the influence of ATMs' maintenance cost in ATMs usage.
- To verify the preventive measures taken by the banks to avoid ATM frauds.
- To enhance the security of customers using ATM.

ATM Services

The following major services are available from ATM Network round the clock:

- Balance enquiry
- Mini Statement
- Cash withdrawal
- Deposit
- Funds transfer among accounts
- Donations

- Cash advances / withdrawals against Credit Cards
- Payment of bills
- Free SMS alerts registration
- Mobile recharging
- Cheque book request
- Change password

ATM Security

Symantec Corporation said their recent report 'State of Financial Trojans of 2013' states that India ranks seventh in the number of computers compromised by banking Trojans.There are some security constraints with ATM cum Debt card facility. Bank provides a 4-digits password called PIN with ATM cum Debit card which user can change at any time through ATM machine. This password is static type i.e. once set it; access will be done after using this. Users set the password with easy going numbers like date of birth, vehicle number etc. in most cases so the chances to hack it more. This is the main problem by which this work was focussed. There are various attacks like shoulder surfing, data skimming, fake machine etc.

a. Every ATM shall have cameras which shall view and record all persons usingthe machines and every activity at the ATM but not limited to: cardinsertion, PIN entry, transaction selection, cash withdrawal, card taking, etc.However, such cameras should not be able to record the key strokes ofcustomers using the ATM.

b. Where a surveillance camera is used, it should be kept secretly to avoid thievesremoving or damaging or compromising it.

c. Networks used for transmission of ATM transactions must be demonstrated tohave data confidentiality and integrity.

d. All ATMs must be located in such a manner that guarantees safety and securityof users and confidentiality of their transactions.

e. ATMs should not be placed outside buildings unless such ATM is bolted to thefloor and surrounded by structures to prevent removal.

f. Additional precaution must be taken to ensure that any network connectivityfrom the ATM to the bank or switch is protected to prevent the connection ofother devices to the network point.

g. Where the user of an ATM blocks his image for camera capture, the ATM shallbe capable of aborting the transaction.

"ATMs have reduced the work load, but many banks do not care to deploy even a single security guard at their ATM kiosks."

ATM Frauds

Fraudsters use several ploys to fool ATM users;

The accused used to install a chip underneath the button meant to enter the PIN of ATM card. When people using the ATM would feed their pin number, the machine would not respond, due to the chip fixed underneath the button. The accused then used to enter the ATM kiosk and tell people that the machine was not working. People then used to leave, and the accused after removing the chip, would use a fake ATM card, feed the PIN code pressed earlier by those wanting to withdraw money, and then press the enter button to withdraw the money. In some cases the accused used to target ATMs visited by fewer people and would hang around inside waiting for a target. Once a user swiped his card and entered his PIN, it won't yield any result. The user would wonder for a while and leave, thinking the machine was not working. But the accused would then remove the chip and empty the account.

Fraudsters would deactivate an ATM's keypad by inserting a chip next to the '*' or '#' key. A user would find the screen blank even after entering his PIN and leave the machine, thinking it was not working. The gang would then remove the chip and complete the transaction. They had also used adhesives instead of chips.They tampered the ATM by keeping the 'hash' or 'star' key pressed using gum or tape. They used to watch over the customer from behind and notice the PIN as he keyed it in, later using it to withdraw money.They fix a fake keypad over the regular one at the ATM machine which can capture the users' key strokes and record his PIN number.

An interstate gang, which is believed to have filched around Rs. 25 crore from banks by utilizing a technical flaw in ATMs, the gang opened around 500 bogus accounts in different states, using identity cards issued by multilevel marketing companies to their staff. Upon receiving the ATM cards for the bogus accounts, they deposited around Rs. 10,000 in each account. Members of the gang then travelled across the country and withdrew money from the bogus accounts through ATMs. When the ATM dispensed cash, they would not collect one currency note. The machine would retrieve the uncollected note and send an error message indicating that the money was not collected by the customer. As ATM's sensors cannot count the money being retracted into the machine, it registers the transaction as cancelled or one to be reversed. Thus the bank ended up paying the entire money back to the customer's account.

Cash Retraction Discontinued From ATMs

Cash retraction is a facility in the ATM where the dispensed cash will be taken back by the ATM machine, if the cash is not collected by the cardholder within a stipulated time which is generally 10-15 seconds. As per the RBI Mandate, many banks have discontinued the cash retraction facility from ATMs. Do not forget to collect your cash, as the cash will not be retracted by the ATM machine and cash will remain in the slot till the time cash is not collected.

Maintenance Cost

Statistics show there's plenty of room for ATMs to grow. Though maintenance is an issue, banks seem to be willing to pick up the tab for greater. Bank ATMs are on the cusp of a blistering pace of growth. Going by estimate, these are set to double over the next three years. There's also more technological innovation coming in to make them more feasible. The banks themselves are opening a large number of new branches. Due to this, there will also be more ATMs, going forward. However, an increased number of ATMs doesn't necessarily bring big bucks for banks. Currently, if you calculate the electricity, property, maintenance and security costs, an ATM would cost aroundRs. 50,000 per month for a bank, to cover these costs, it would require a bank to record at least 5,000 transactions every month, or about 170 transactions a day. The national average for daily transactions per ATM stands at about 125-130 day. Then, how is this business profitable?

No charges are payable for using other Banks' ATM for cash withdrawal and balance enquiry, as RBI has made it free under its "Free ATM access policy" since April 01, 2009. But from 1stJuly 2011 onwards, five free transactions per month allowed in Savings Bank Account on other bank. For transactions beyond this minimum number of transaction in Savings Bank account and for every transaction in Current account on other bank ATMs, banks charge maximum of Rs. 20/- per transaction.However, the home bank has to pay the other banks Rs. 15 per financial transaction and Rs. 5 per non-financial transaction, even though the transaction may be free to customers.But he can transact any number of times on ATMs of the bank where he has an account.

The Indian Banks' Association (IBA) wants RBI to put a cap on free transactions at ATMs.Many banks have a huge number of accounts who have very small balances. Now, if these people go and access some other ATM and not its own, for every such transaction they have to pay that bank Rs. 17 (including taxes). They are not earning anything from that account, how can they bear these charges forever? The banks have told RBI all transactions above five should be charged even if the customer uses own his bank's ATMs. Bankers have sought an increase in the fee of Rs 15 to Rs 18 for all transactions, including non-cash transactions like balance enquiry. A working group set up to look into this had suggested a rise in charges. Even now, five free transactions are enough to meet the withdrawal requirements of most of the account holders. For balance enquiries, SMS is a more convenient option.

Banks have cited an increase in maintenance cost as the reason for the demand. With a sharp rise in the number of ATMs in the last few years, which is about 140,000 now in the country, per ATM transactions have fallen below 100 a day. Ideally, an ATM should get at least 200 hits daily. All bank branches will have on-site ATMs.

The Reserve Bank of India has reduced free transactions in other bank ATMs to three per month in six metropolitan cities from November, 2014 onwards. Banks have also been allowed to levy charges beyond five transactions per month at own-bank ATMs.

Outsource ATM Management to Cut Transaction Costs

Banks should outsource most of their ATM management functions to third parties to reduce transaction costs. Former Finance Minister Pranab Mukherjee told top bankers at a meeting.Where he stressed on the opexor operational expense model for an ATM expansion in the country rather than the usual capex or capital expenditure model. Under the opex model, third parties install and manage ATMs and get paid for each transaction. In the capex model, a bank has to manage everything-from the selection of sites to buying the ATMs and managing them on a daily basis.

The opex model is gaining ground. In India, as per the recent MOF (ministry of finance) directive, all PSU (public sector unit) banks will be deploying close to 63,000 ATM's in the next two years under the opex model. The success of this model is based on finding the right site where one can get maximum footfall. This will allow banks to understand better their channel performance as it will now be managed by experts.Under this model, contracts are given for three to five years after which the service provider can change banks. The bank, in its tender, spells out the location it wants and the number of ATMs needed. Under the capex model, any transaction would cost a bank Rs. 12-18 if the customer uses its own machines and Rs 17-25 if using an ATM of another bank. Under the opex model, the cost comes down to Rs 5-6 per transaction in case of own bank transaction.

The bankers point of view, "It is a win-win for the bank as well the service provider but banks have to be on guard whether the total number of transactions that the service providers submit to us are genuine or not. Also, a problem that we have faced is that the service provider wants to change the location of a particular ATM because there were not enough clicks for the company to break even. That defeats the purpose from a bank's perspective and gives the bank a bad name."

As per the researcher opinion, the opex model could help banking expand in rural areas also, as the number of ATMs swell, managing them could be a problem for banks. "Not all banks are technologically that advanced to maintain so many ATMs on their own. Also, as any industry matures, outsourcing becomes the norm because availability of capital is scarce and banks would not want to spend the capital on capital expenditure. Opex is the way forward.

Brown Label ATMs

The brown label has come up as an alternative to the bank-owned ATMs. Brown label ATMs are those Automated Teller Machines where hardware and the lease of the ATM machine is owned by a service provider, but cash management and connectivity to banking networks is provided by a sponsor bank whose brand is used on the ATM. In view of the high cost of ATM machines and RBI's guidelines for expansion of ATMs, the concept of Brown Label ATM network is likely to expand at a brisk pace in next few years.While funding is not a problem for bank, installing ATMs was a time-consuming process. This begins from identifying a site, negotiating with the landlord, arranging connectivity and power and finally doing up the interiors. Many banks, big and small both are incorporating this process in their system. In the recent years, there is a visible shift in the way banks look at the ATM business. From the earlier model where banks used to buy outright the ATM machines and bear the cost of service, they are now preferring brown label ATMs i.e. where the machine and service is outsourced.

To ensure the distribution of ATMs is more even and systematic, the finance ministry has recently decided to outsource 63,000 new ATMs of public sector banks to third party service providers under the brown label system. In exchange, a bank pays the service provider with a per transaction fee, called the interchange. Currently, the card issuing bank is chargedfor every cashand non-cash transaction. "So, if a player can bid for charges below that amount, banks would entrust them to deploy new ATMs".

White Label ATMs (WLAs)

In terms of existing rules/regulations, only banks are permitted by RBI to set up ATMs as extended delivery channels. The investments in ATMs have been leveraged for delivery of a wide variety of banking services to customers across the banking industry and expanded the scope of banking to anytime, anywhere banking through interoperable platforms provided by the authorised shared ATM Network Operators / Card Payment Network Operators. Although there has been nearly 25 % year-on-year growth in the number of ATMs, their deployment has been predominantly in Tier I & II centres. There is a need to expand the reach of ATMs in Tier III to VI centres. In spite of the banks' pioneering efforts in this direction, much needs to be done. Keeping this in view, RBI has reviewed the extant policy on ATMs. Accordingly, RBI has been decided to permit non-bank entities incorporated to set up, own and operate ATMs in India.

The Reserve Bank of India (RBI) released guidelines in June 2012 for introduction of "White Label ATMs" with a view to expand banking services in the country. Traditionally, ATMs have respective bank's logo. So just by looking, this is SBI's ATM, this is ICICI's ATM and so on. But White label ATM doesn't have such Bank logo, hence, called White Label ATMs. Non-bank entities that intend setting up, owning and operating ATMs, would be christened "White Label ATM Operators" (WLAO) and such ATMs would be called "White Label ATMs" (WLAs). They will provide the banking services to the customers of banks in India, based on the cards (debit/credit/prepaid) issued by banks. Non-bank entities would be permitted to set up WLAs in India, after obtaining authorisation from RBI under the Payment and Settlement Systems (PSS) Act 2007. Such non-bank entities should have a minimum net worth of Rs 100 crore as per the latest financial years' audited balance sheet, which is to be maintained at all times. WLAO is permitted to have more than one Sponsor Bank. Cash management, inter-bank funds settlements and customer grievance redressal at the WLAs will be the responsibility of the Sponsor Bank. For this purpose, the Sponsor Bank should have necessary arrangement with the WLAO. Maintenance and servicing of the WLAs shall be the sole responsibility of the WLAO.

The authorised non-bank entity would have the freedom to choose the location of the WLA. Only cards issued by banks in India (domestic cards) would be permitted to be used at the WLAs in the initial stage. Acceptance of deposits at the WLAs, by the WLAO would not be permitted. The WLAO would be permitted to display advertisements and offer value added services as per the regulations in force from time to time.The first five transactions are free,beyond that banks will take a call on charging customers. The WLA operator is entitled to receive a fee from the banks for the use of ATM resources by the banks customers, likethe "Interchange" fee payable to "acquirer" bank under the bank owned ATM scenario. WLAs are not permitted to charge bank customer directly for the use of WLAs.The WLAs, for which the RBI has issued licences, will also help in penetration. These will be private label ATMs and will not be any bank's brand.

The scheme and number of WLAs sought to be installed would need to be indicated at the time of application. The details of the schemes are shown in Table 3.

Table 3: The Details of the WLAs Schemes

Centre	City	Population is	Scheme A	Scheme B	Scheme C
Metropolitan	Tier 1	10 lakh and above	A minimum of 1000 WLAs in 1st year, Double in 2nd year and 3 times of 2nd year installed WLAs in 3rd year.	A minimum of 5000 WLAs every year for three years.	A minimum of 25,000 WLAs in the first year and at least another 25,000 in the next two years.
Urban		1 lakh and above			
Semi-Urban	Tier 2	50,000 to 99,999			
	Tier 3	20,000 to 49,999			
	Tier 4	10,000 to 19,999			
Rural	Tier 5	5,000 to 9,999			
	Tier 6	Less than 5,000.			
The ratio would be applicable			1:3	1:2	1:1

The ratio of Scheme A would be applicable 1:3, i.e. if a company wants to setup one WLA in Tier I to II centres.Then, the company must install 3 WLAs in Tier III to VI centres, in all schemesout of which installed in Tier III to VI centres, a minimum of 10 % should be installed in Tier V & VI centres. No switchover of schemes is permissible without prior permission from the Reserve Bank of India.

As many as 17 entities had sought the RBI nod for WLAs. The Reserve Bank of India has issued the certificate of authorisation to four non-bank entities for setting up and operating white label ATMs (WLAs) in India. The entities which got the permission are Tata Communications Payment Solutions; Prizm Payment Services, Mumbai; Muthoot Finance, Kochi and Vakrangee Limited, Mumbai. Tata Communications Payment Solutions has become the first company to launch this service in India under the brand name "Indicash".Indicash' is symbolic of 2 words 'India' & 'Cash'. It has a tie up with 37 banks to start with. So now we will soon see branded non-bank third party white label ATM machines in the country.

RBI Guidelines to Prevent the Fraud at POS

As per Reserve Bank of India (RBI) guidelines, from 1 December 2013, all debit card transactions at retail outlets will need to be validated using the existing ATM PIN. The move was introduced to reduce the incidence of frauds in payment systems. Based on the recommendations of a working committee to enhance card transaction security, RBI issued a circular on security issues and risk mitigation measures. According to the apex bank, transactions at ATMs and points of sale (PoS) constitute a major proportion of card-based transactions in the country. RBI stated that though a PIN validation is necessary for cash withdrawal at ATMs, most card transactions at PoS are not enabled for any additional authentication (other than signature). It further said that most of the cards issued by banks in India have magnetic stripes and the data stored on such cards is vulnerable to skimming and cloning. Hence, it was decided that all debit card transactions will now have PIN as an additional level of authentication. With the new rule, when a merchant swipes or inserts your debit card in a PoS machine, he will first enter the amount. Then the PoS machine will prompt for a PIN, which you will have to enter to complete the transaction. This PIN is the same one that you use at ATMs. If you don't punch in your PIN, the bank will decline the transaction. You get three chances to enter the right PIN. If the fourth attempt is also wrong, your card will get blocked. This is similar to the process at ATMs.

Bankers' Advice to Prevent the Frauds

- If you want to avoid losing your money in an ATM skimming case, follow simple checks before you put your card into the slot. Don't use ATM machines where the keyboard seems to protrude or is displaced - it may be a fake keypad which can capture the key strokes. Do not punch in your PIN more than once and guard your PIN from onlookers. And be very paranoid in these times of cyber frauds.
- If the keypad of the ATM machine looks odd, do not use it for a transaction. If the ATM machine prompts you for your PIN more than once, something could be fishy. Avoid punching in the PIN more than once.
- If the card slot seems broken or has parts jutting out, do not use the machine. Fraudsters could have installed a skimmer, a device used to collect card information. "In case a user's card gets stuck in the machine and there is a friendly 'do-gooder' entering the ATM cubicle to help, pass the offer, call the bank and block the card. The entire episode may be a staged trap".
- Unsuspecting people give their PIN to staff during a card swipe for billing which is a big mistake. "When making a card transaction at an outlet, ensure that nobody is looking over your shoulder when you punch in the PIN in a swipe machine. At a shopping mall or a retail outlet, people swipe cards at a swiping machine provided by the bank, the staff first swipe it on a small, black-coloured device attached to the billing machine screen and then swipe it in the machine. The first swipe is to store the card data in the mall's or retail outlet's system for accounting. Though there is no other motive, it exposes the user's card to risk".
- Hiding the keypad while punching in your PIN is a good idea. If there is a hidden camera in the ATM to capture your keystrokes, it will be of no use to the fraudster. "Skimmers are almost transparent and difficult to spot. If you see a suspicious attachment on the card slot, do not use that machine and inform the bank".

- If one is a victim of banking fraud, he/she should contact the bank within a few minutes of getting the SMS and lodge a complaint with the bank for a refund. "After filing a complaint, the bank would investigate the case and refund the amount to the customer if they find that the card has been misused without the customer's fault. At the ATM, make sure the kiosk has a CCTV. Do not enter if there is more than one person at the machine".
- Considering that you will be using your PIN while using your debit card, always insists on entering the PIN yourself. Never share your debit card ATM PIN with anyone, including the merchant. While using your card on PoS machine, if you suspect something unusual, do not use the machine and report it to the bank immediately. Using PIN for debit card transactions is one of the security measures that RBI has been introducing.

Suggestions

- A suspect would think twice before committing any offence if he sees a guard stationed at the ATM kiosk.The guard can easily prevent people from entering an ATM kiosk if they are wearing caps or helmets.
- The police regularly touch with the bank officials about the safety and security in the ATM kiosks. During night, patrolling teams check on all the ATMs in their jurisdiction. During the day, police teams hardly visit them, banks should appoint security guards at all their ATM kiosks.
- There was lack of clear guidelines from the RBI about security arrangements in ATM kiosks, most confirm provision of closed circuit television cameras (CCTV) and "caretakers" at all ATM kiosks.
- The banks will work on an advanced warning system at ATM kiosks. "The ATMs should be linked to the nearest police station where an alarm will ring should anything out of the ordinary occur".
- Many banks have outsourced operations of their ATMs to a third-party service provider and they are responsible for the security as well. On banks part, they ensure regular surprise checks at the kiosks by senior bank officials and have also embedded the teller machines into the floor of the kiosk to rule out any attempt to take it away. Recordings of the CCTV cameras inside the ATM are kept for at least six months.
- The CCTV was in place at most of the ATMs, these cameras only offered a 90 degree view and did not cover the entire ATM kiosk.

- ATMs were covered with either film or stickers that hindered the view of what was happening inside the kiosks.
- Bankers should instruct to lock ATM shutters once these are pulled up, so that criminals cannot pull them down easily in the event of committing a crime.
- Many ATMs are watched over by aged security guards who would be unable to defend themselves, let alone protect a customer.
- The PIN number should not be written on the card, as in such cases the card can be misused if card is lost / stolen.

Conclusion

A 44-year-old woman was attacked brutally inside an ATM kiosk in Bangalore. The Bangalore assault has come as an eye-opener for the banking sector too. Many bank officials said it was the much-needed wake-up call for enforcement agencies to frame tighter laws for operations of ATMs.The officials of many public and private sector banks said their responsibility was to follow RBI guidelines, which they are doing, but the police are responsible for the law and order.Compared to crowded bank branches with long queues, people prefer to use ATMs for their simple daily transactions especially for cash withdrawals. Although some more complicated banking transactions and even credit applications can be handled by ATMs, people see ATMs mostly as cash dispensers.

The biggest challenge that we face while deploying ATMs in India is the availability of power. So we use solar power in certain pockets. Another challenge is environmental conditions. We have machines which work in even 45 degrees Celsius temperature.The other aspect is security. As ATM penetration increases, there will be chances of frauds and crimes. Even now we see some rudimentary crime happening such as thieves picking up machines; so we now bolt machines to the ground. We have also seen some sophisticated crime happening such as card skimming, wherein your card data gets compromised. From the technology perspective, we are coming up with anti-skimming devices.

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Evolution, Growth and Challenges in E-commerce Industry : A Case of India

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Abstract

E-commerce has become a disruptive force by bringing in a lot of modifications in the existing business models and leading to customer satisfaction. Its showing tremendous growth rate fuelled by boom in telecom and internet connections. Industries like travelling, banking, media, advertising, retailing have utilized the benefits being provided by E-commerce. These industries have added E-commerce as another channel for increasing sales and customer satisfaction. E-commerce combined with social media tools have become a very potent way of being in touch with the customers. Also E-commerce helps in right data mining for the players. Through data mining players can take the best decision based on extensive analytics on customer data. Currently just like offline players the E-commerce players are also trying to bring in atmospherics variables so as to take customer satisfaction to customer delight. But along with such a rosy scenario there are also some challenges present in the way of the juggernaut named E-commerce. These challenges need to be faced to build up a much broader market. This paper will try to understand the different trends in the E-commerce industry, the factors of its boom and lastly the challenges underlying.

Keywords: E-commerce, Telecom, Data security, Plastic money, Cash on Delivery.

Introduction

E-commerce is providing a great competitive edge to today's businesses. The term E-commerce stands for Electronic Commerce. In other words it means the business being transacted over the electronic medium of internet. The webstore or website which sells products and services through B2C mode i.e. business to consumer taking help of digital shopping cart platform and allowing the payment through digital channels is called electronic retail store. This business is mainly carried out through Electronic Data

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Interchange or EDI system. The influence and impact of E-commerce is quite visible in different areas of businesses starting from customer service to product design. It also carries out provision for evolving information based business process management, building connections with customers through the extensive use of social media, online order taking, product purchasing, taking expert advise and suggestions, reverse logistics, loyalty management etc. It helps and contributes greatly in Supply Chain Management by reducing time and cost with regard to Order Management. It also helps greatly in providing customer satisfaction through reverse logistics. Its contribution in Supply Chain Management has greatly benefitted companies in areas of overhead cost control. In India E-commerce is at a very nascent stage. But the future scenario of this sector looks to be very promising. Several so called portals have shifted towards E-commerce. Most of the E-commerce companies are adopting the market place model in order to sell a variety of products to take customer satisfaction to the level of customer delight. With the entry of MNC E-commerce companies like Amazon, Groupon, Alibaba and tremendous growth experienced by homegrown companies like Snap Deal, Jabong, Flipkart it seems E-commerce is going to rise as the next sunshine industry in India.

Objectives of Study

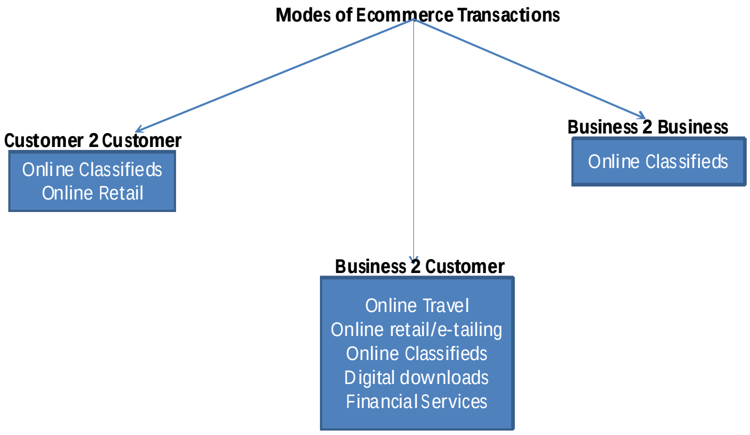
a. To study about the evolution of E-commerce industry in India.

b. To study the factors responsible for the growth of E-commerce in India.

c. To study the challenges faced by companies in E-commerce industry.

Different Modes in E-Commerce

E-commerce transactions can be divided into 3 main types. In other words services can be provided to customers through 3 different ways. These are as per the below:



SOURCE: ERNST & YOUNG REPORT

- **Online Travel:** Buying, bus, rail and air tickets, hotel booking, purchase of package tours.
- **Online Retail:** Purchase and sale of products such as books, gifts, mobiles, accessories, electronic & kitchen appliances.
- **Online Classifieds:** Portals connecting buyers and sellers by providing classified space for advertisement by the sellers.
- **Digital downloads:** Paid music, video and games download.
- **Financial Services:** Online sales of Banking, Financial Services and Insurance products.

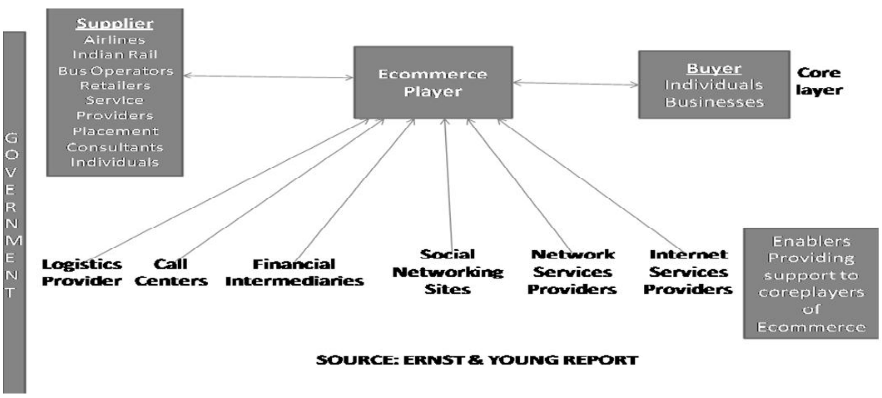
Business-to-Consumer(B2C): This segment generates the highest amount of revenue in the E-commerce segment. Online travel traditionally has been experiencing the lion's share of E-commerce activities. Off late electronic retail and online financial transactions are also experiencing a big growth. Online financial services has converged with online retail thus generating a huge amount of money for players in this segment.

Consumer - to- Consumer(C2C): India's C2C market currently is at a nascent stage. But the entry of new players is providing the much needed momentum in this segment. With VCs pumping in money in this segment this segment has shown good potential.

Business -to-Business(B2B): The SME segment uses this medium heavily to promote their products. As the financial strength of the players in SME segment is limited they can't promote their products heavily in the traditional media streams like electronic and print. Trade through B2B portals help these players bringing visibility and awareness for the players which in turn lead to more sales.

Key Stakeholders

A number of stakeholders are involved in the value chain of E-commerce which are as per below:



SOURCE: ERNST & YOUNG REPORT

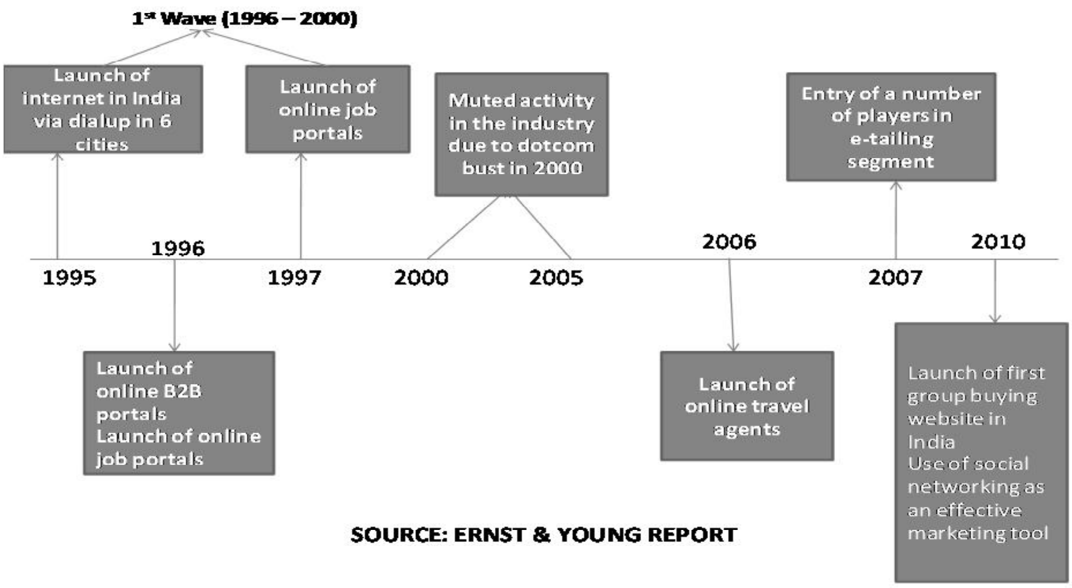
With the entry of businesses from different sectors joining the E-commerce bandwagon the supplier list is experiencing a big growth right now. With customer centricity model in mind companies are emphasizing more and more on customers. Big investments are taking place with regard to Customer Relationship Management(CRM) by setting up facilities for one to one contact with customers. Companies have resorted to innovations to provide better and better services to customers. In order to drive towards better cost control and efficiency all the stakeholders in the value chain are trying to bring a paradigm shift in their business processes. Basically three types of processes are evident in this area:

Product Flow: Movement of goods from suppliers to end-consumers through E-commerce and logistics players.

Information Flow: This flow is acting as a very crucial part in today's business scenario. Constantly in and out flow of information has to take place for overall process efficiency. That's why information flow is taking place suppliers to E-commerce players to buyers. Again information flow is taking place from the stakeholders to E-commerce player.

Monetary Flow: Payments from consumers to E-commerce players and or suppliers or vice versa through the different financial intermediaries taking the help of electronic data interchange.

Evolution of E-Commerce in India



The evolution of E-commerce in India took place in 2 phases. These phases are discussed as per the below:

1st Phase of Evolution

Employment Websites: The 1st phase also experienced the arrival of employment websites. This brought a big change in the HR scenario of corporates. Before 1991 mostly Government companies used to recruit candidates through newspapers and magazines. This was the first time when Indians experienced a new type of medium to enquire about jobs.

Online Matrimonial: The year 1996 saw the birth of the first online matrimonial in India. Shaadi.com is one example of online matrimonial site. The online matrimonial industry brought a big change in the Indian mindset regarding arranged marriages. Different categories of consumers now resort to these sites based on different communities, divorcees, NRIs, professionals, HNIs etc.

Institutional Directory: In 1996 the first online Institutional Directory took birth in India. Liberalization, Privatization and Globalization(LPG) drove the growth of these online directories. These directories enable the buyers and sellers to easily connect with each others for more business.

2nd Phase of Evolution

Internet based Travel: Internet based travelling boomed during this time. A lot of Low Cost Airlines like Air Deccan, Spice Jet, Jet Lite took birth. The birth of these airlines gave birth to the opportunities of virtual booking. Also Indian Railways decided to open their Online Reservation wing. This also brought a big spurt in online booking of tickets. Further the virtualization of hotel bookings and introduction of bus booking portals brought in lots of customers interested to carry out online booking.

Social Networking: Social Networking sites have been entangled in the E-commerce industry during this phase. Players in the industry have adopted various social networking sites in order to generate hype and community interaction among their target group of customers.

Electronic Retail: A big boom has taken place in the electronic retail industry. Electronic retail companies have carried out a lot of value additions in their services portfolio to satisfy the customers. Companies are carrying out different permutations and combinations with regard to business models so as to bring more profitability, productivity and efficiency. Companies like Flipkart,Jabong,Yepme are big examples in this industry.

Group Buying: Group Buying sites like Snap Deal, Groupon India have boomed during this time taking the help of VC funding.

Current E-commerce Market Size in India

Years	Market Size in billion dollars
2007	2
2008	3.2
2009	4
2010	6.9
2011	9.9
2012	11
2013	13
2021	Projected growth to 90

Source: IAMAI & Economic Times.Travel constitutes 81% of the above market

Growth of E-tailing in India

Years	CAGR
2009	
2010	58%
2011	53%
2012	57%
2013	53%
2017 – 2020	40 -50%

Source: Crisil, IAMAI, PWC

Factors Responsible for Growth of E-commerce in India

The several factors responsible aiding the growth of E-commerce in India are mentioned below:

Growth in Internet Usage: Internet penetration currently is standing at 15.1 %. In 1997 the internet penetration was just 0.2%. With current absolute number standing at 243 million people India's number of internet users is 10 times the population of India. This number also indicates that India has crossed USA as the second largest internet user market in the world. Other than using internet as the primary medium of communication, online media and video consumption is also rising in the country. India has also risen as the 2nd largest market for Facebook with total user base of 90 million.

Use of Plastic Money: Use of plastic money has brought a sea change in the spending pattern of consumers. Plastic money has brought a number of options in purchasing products and services. India has become a major market for all the global card transaction companies like VISA, Master Card, American Express. Some of the features and advantages due to which plastic money use is increasing are more purchasing power, time saving, extra safety. Use of credit and debit cards will experience more growth in the near future. Net-banking has also grown at the rate of 74%.

Use of Devices: The use of different devices is aiding E-commerce in a big way. Annual mobile commerce touched the figure of $38 billion in 2013. In 2011 the figure was $13.6 billion. 84 percent of smartphone users even also use their phones during browsing in offline retail stores with the purpose of checking out web or the site of the company. E-commerce is also boosted by the increasing use of tablets. Purchase of tablets will constitute 75% of all sales in the near future. With the introduction of phablets, E-commerce is going to experience higher growth rates in the near future.

Growth in disposable income : The Indian economy has been growing at a healthy pace for the last 23 years after liberisation. Almost 20 crores people got out of the poverty line in the period 1994-2014. In terms of PPP India is currently the 3rd largest economy in the world. India is going to become the 5th largest consumption market in the world. Thus a lot of disposable income has got generated in the Indian economy. This is further fuelling the E-commerce industry.

Additional services of players: The players have added a number of additional vale added services so as to provide delight to the customers. Players have added features like Cash On Delivery, presence of offline stores, free apparel trials which have benefitted the customers very much thus fuelling growth.

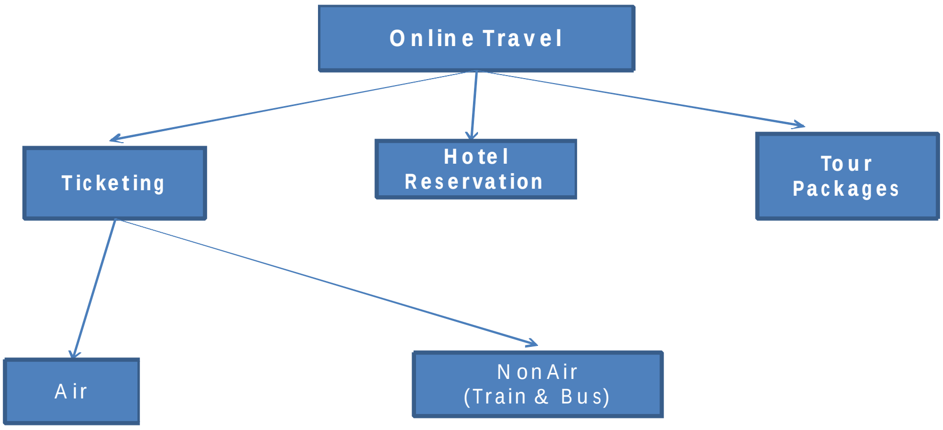
Different verticals of e-commerce in India

Commodity Distribution in E-Tailing

Commodities	Distribution percentage
Baby Products	2%
Electronics	34%
Apparel & accessories	30%
Books	15%
Beauty and personal	10%
Home and furnishing	6%
Healthcare	3%

Source: Internet and Mobile Association of India Research

Online Travel



Services provided in Online Travel

Source: Ernst & Young Report

Online travel penetration by segments

Segments	Percentage
Train Travel	40%
Air Travel	50%
Hotel Reservations and Tour Packages	5%
Bus Travel	4%

Source: Ernst & Young Report

Online travel penetration by operators

Operators	Distribution percentage
Offline Agencies	58%
OTA	34%
Air Operators	8%

Source: Ernst & Young Report

Online Classifieds

Recruitment	Matrimonial	Real Estate	Automobiles	B2B
Charges for job listing and employer branding	Subscription fees from customers	Subscription fees from developers, builders and brokers for property listings	Generation of leads for multifarious purpose related to automobiles	Charges of subscription which include services like creating websites, microsites, catalogues and search engine optimization
Charges for resume database access	Advertising fees	Advertising fees	Subscription and brokerage charges	Advertising fees
Charges for job seeker value added service			Charges for automotive listings	
Advertising fees			Advertising fees	

Source: Ernst & Young Report

Investments in e-commerce industry in India

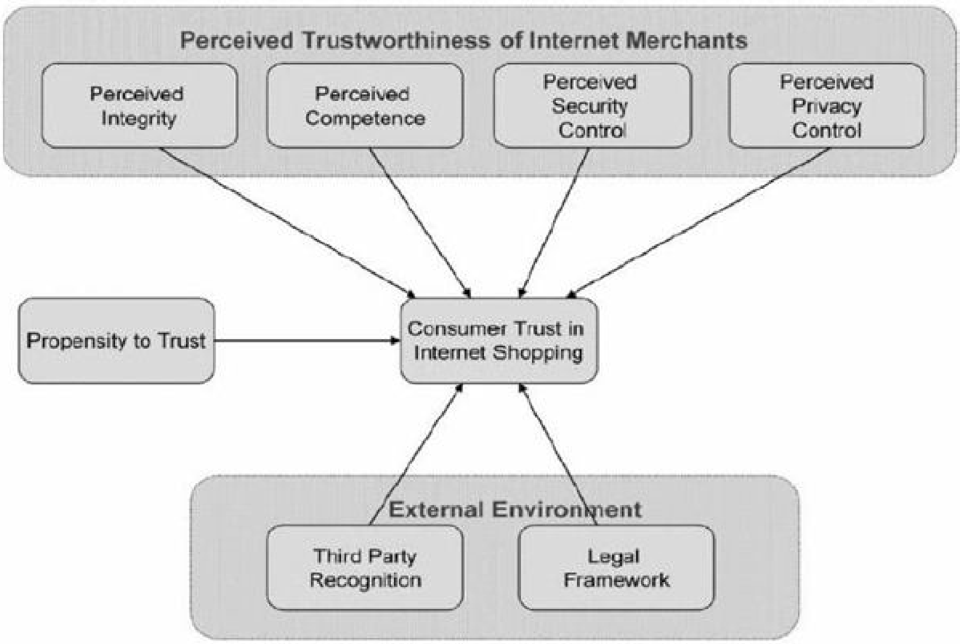
Venture Capitalists	No. of deals in E-commerce industry
Accel Partners	53
Helion Ventures	37
Nexus Venture	36
Tiger Global	35
Kalaari Capital	24
IDG Ventures	20
SAIF	17

Source: Economic Times and Venture Intelligence

Companies	**VC Investors**
Flipkart	Tiger, Accel
Myntra	Tiger,Accel,Kalaari,IDG
Snapdeal	Kallari,Nexus
Firstcry	SAIF,IDG
Lenskart	IDG
Zivame	IDG
Shopclues	Helion,Nexus
Zovi	SAIF,Tiger

Source: Economic Times and Venture Intelligence

Consumer Behavior in E-commerce



Source: Mittal, Arjun. , " E-commerce-Its Impact on Consumer Behavior", Global Journal of Management and Business Studies,Vol 3,Number 2(2013),pp 131-138.

Trust is a very important factor in the world of E-commerce. Previously trust deficit was a big issue faced by players in the E-commerce industry. Right now that deficit is weaning away. As per Mayer,David and Schoorman(1995) "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trust or, irrespective of the ability to monitor or control that other party". This definition is widely recognized as one of the best definitions of trust. Trust in electronic retailing is lesser than brick and mortar retailing(Cassell and Bickmore,2000).

Flow is another vey important factor in the context of E-commerce. According to Mihaly Csikszentmihalyi(1977,1988)flow is the feeling sensed by people when they are carrying out transacations.The concept of flow must give a feeling of smoothness in the mind of the customer. As per Nilan, M, Chen, H., Wigand, R.(2000), the feature of flow must generate a feeling of keenness in carrying out the transaction. The resultant feeling of comfort generated by flow must engage the customer."Flow" must generate a feeling of control and ownership in the mind of consumers(Bennett, 2005, p. 135).Thus flow plays a big role in the world of E-commerce. Online cues play a very important role in making the researchers to understand the different aspects of consumer behavior.

Challenges Faced by E-commerce Players In India

In India E-commerce players are fighting with a volley of challenges which are acting as impediments in the great Indian E-commerce story. These challenges can be enumerated as follows:

Merchandise return by Indian consumers: As most of the customers are first time buyers they still now don't know regarding what and what not to expect from E-commerce players These customers under the influence of cyber atmospherics purchase the products. But later they may disagree with their previous buying decision. Thus reverse logistics take place which present some unique challenges to the players.

Issue of postal addresses: Postal addresses in India are very unique. Many times experienced post men find it tough to deliver letters. For E-commerce players postal addresses make life a lot complicated provided the huge complications in India's administrative divisions based on blocks and sub blocks. Often it has been observed a Pin Code may extend to an area where per square km people is found to me more than 10000. That presents really some big challenges.

Penetration of internet: In India internet penetration is still a big issue. As per data found in 2013 only 15% of the population was connected to internet. Also a big area of the country remains without power for most of the time in a day. Thus without getting power people can't get connected to the internet.

Problem of payment gateways: Payment gateways in India are another challenge. Payment gateways are entrances through which the customers carry out transactions. Often the payment gateways crash and also the features in the gateways does not fit in the computers and mobiles.

Infrastructural issues: Infrastructural bottlenecks are a big headache in India. As per an estimate of the Government of India, the country needs investments worth of $3 trillion to develop its crumbling infrastructure. The Government of India is inviting foreign investors with open hands to come to India to invest. Japan has promised to invest $ 35 billion over the next 5 years. China has plans to invest $ 20 billion over the next 5 years. A large number of towns and villages remain out of access for E-commerce companies due to the absence of proper all weather roads.

Impact of competition: A large number of biggies have joined the Indian E-commerce bandwagon. MNCs like Amazon, Groupon are investing in huge numbers to take advantage of the burgeoning Indian market. These companies are joined by Indian giants like Flipkart,Jabong, SnapDeal. Amazon has decided to invest $2 billion in the Indian market. Flipkart has already pulled up funds worth of $ 1 billion from the Indian market. Again Flipkart has merged with another giant Myntra. The presence of these giants is placing huge challenges before the new entrants. As a result many of the new entrants remain unprofitable even after a few years of operation.

Cash on delivery as the preferred mode of payment: In India Cash on Delivery is the preferred style of payment by consumers which affects the profitability of companies due to the presence of associated cost. The overdependence of E-commerce companies on cash on delivery to fuel their sales is risky, as most of the companies are running through losses. 60% of the sales in India takes place through Cash on Delivery route as pointed out by Big4 audit firm KPMG and Internet and Mobile Association of India . This is continuing though some of the companies have witnessed sales growth of more than 500%. Additional standard operating procedures necessary in cash-on-delivery orders, longer duration of payment, greater returns,wrong addresses are hurting the margin of companies in this industry. As these transactions carry 3% additional cost so as a result overall 30% cost burden is getting added in the value chain.

Feature phones in most hands: Most of the mobile phones being used in India are feature phones rather than smartphones even though mobilesusage have increased in India. As such these consumers can't carry out transactions in the E-commerce channels. In India the rapid use of smartphones is still to come in a big manner. But within the next 2 years that scenario will change with the introduction of entry level smartphones. Within the next few quarters smartphones starting at Rs.1500 is going to come in India which will change the scenario.

Typical Indian consumer behavior: The fight for breakeven continues for the Indian E-commerce companies due to the lesser preference for online payments, lesser disposable income, lesser penetration, power problems and the malpractices of some of the companies spoiling the perception of consumers, Complaints regarding the online frauds,data security breach have risen by 30 percent in the last 2 years as pointed out through different studies.

Entry of MNCs in the E-commerce Industry in India: MNCs like Amazon,Alibaba,Ebay being cash rich can wipe out the smaller startups from the industry. With the help of high technology and online marketing skills these companies can generate a lot of excitement for customers thus generating resultant sales.They possess huge amount of experience,knowledge with regard to last mile logistical connectivity. Now these companies have started entering into India which spell big trouble time for the smaller Indian startups.

Conclusion

A lot of conclusions can be drawn from the above discussion of E-commerce and its different issues. Really E-commerce has given birth to one great revolution which is changing the traditional business models of companies. New methodologies have been created. Both time and distance are acting as very minor factors now. E-commerce has risen as the future of a number of sectors. Broadband connections lead to the acceptability of internet in India. Internet usage is expected to increase more with the introduction of 3G and 4G technologies in the telecom industry. By 2020, one third population of India will be connected through internet. India's potential is clear from the hectic amount investments different MNCs are carrying out in India. Facebook expects to have its next billion customers from India only thus contributing in its growth of digital advertising. After steam, electrical and IT, India is going to witness an Internet economy. The role of the Government will be to provide a proper framework to the sector to have more prosperity. At present the sector is facing a lot of challenges as discussed above. In addition to these some more challenges faced by the sector are privacy, data security, IPR laws which need to be addressed at the earliest. However in the long run these issues will be given the desired care and India's E-commerce sector will give birth to the next Amazon ,Alibaba,Ebay from the country itself.

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Impact of Green Banking Initiatives on The Level of Carbon Foot Print - An Empirical Study

– Ms. M. Ramila*
– Dr. S. Gurusamy**

Abstract

This paper investigates how far the green banking initiative has reduced the level of carbon footprint. Now-a-days the carbon footprint levels are drastically increasing to reduce its usage the banking industry introduced the new concepts called green banking. Its main aim is to bring paperless banking towards customers. The aim of the present study is to examine the impact of green banking initiative on the level of carbon footprint. To achieve this objective, the hypothesis were framed and the study found that Green banking initiatives such as retail electronic payment system adopted by the banker contributes to the great extent to reduction on the level of carbon foot print.

Keywords: green banking, carbon footprint, retail electronic payment systems, paperless banking

1.1 Introduction

To compact climate change impact, resultant from global warming phenomenon, most of the energy-intensive industries, especially in power, manufacturing, transport and infrastructure sectors are gradually switching over to industrial and economic development with low carbon intensity options. To reduce the carbon footprint, the banking industries is playing an important role in economy. In this aspect they introduced the concept called green banking. It means promoting environmental - friendly practices and reducing your carbon footprint from your banking activities (Clark Schultz (2012). One of the products of green banking is retail electronic payment system. A retail electronic payment system includes ECS, NEFT/EFT and RTGS.

Carbon Footprint - it is historically defined as "the total sets of greenhouse gas emissions caused by an organizations, events, products or a person"

Electronic Clearing Service (ECS) - it is a retail payment system that can be used

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to make bulk payments / receipts of a similar nature especially where each individual payment is of a repetitive nature and of relatively smaller amount. This facility is meant for companies and government departments to make/receive large volumes of payments rather than for funds transfers by individuals. ECS is further divided into two types - ECS (Credit) to make bulk payments to individuals/vendors and ECS (Debit) to receive bulk utility payments from individuals.

National Electronic Funds Transfer/Electronic Funds Transfer (NEFT/EFT) - it is a system whereby anyone who wants to make payment to another person / company etc. can approach his bank and give instructions / authorisation to transfer funds directly from his account to the bank account of the receiver / beneficiary. Complete details such as the receiver's name, bank account number, account type (savings or current account), bank name, city, branch name, etc., should be furnished to the bank at the time of requesting for such transfers so that the amount reaches the beneficiaries' account correctly and faster.

Debit Cards

Debit cards can be of two types. One which is issued by banks to account holders only and the other in which a pre-loaded amount is stored and operates in collaboration with a service provider/seller. Generally, debit cards are also ATM cards.

Credit Card

Credit card system is a credit facility extended to a user who is issued a plastic card which can be used in place of cash for making any type of payment/purchase.

1.2 Review of Literature

Neetu Sharma, Sarika. K and Gopal. R (2014), found that the green banking concept is new to the banking industry; the level of awareness among the customers is low. They identified that most of the customers are using green banking products without being aware of the 'Green Banking'. They suggested that banks in India should adopt Equator Principles Policy in their operations. Finally, the authors concluded that reduction of carbon can be achieved only when all the sectors cooperate for sustainable development of the economy.

Md. Sharif Hossain and Md. Tanvir Ahmed Kalince (2014), conducted a study to know the impact of green banking on banks' performance. They considered six variables which impact the banks' performance such as loans and advances, deposits and other accounts, paid-up capital, investments, green banking and profit after tax. The authors found that the green banking has positive impact and investment has negative impact on banks' performance. Further they found that there was an bi-directional causality between profit after tax and investment, between profit after tax and deposit and other accounts; they also found unidirectional causality in loan, paid-up capital to profit after tax, from loan and deposits and other accounts to investments and from loan to paid-up capital. They suggested that the Bangladesh banks have to conduct more green banking activities to increase their profitability in operations. Finally, the authors concluded that if all the banks acted in responsible manner, then our world would become a better place for our future generations.

Mukesh Kumar Verma (2012), examined that the banks in India are far away in the implementation of green banking practices in banking operations. Banks in India have now started to take some initiatives in adopting green banking practices. The author found that the public and private sector are performing better in providing green finance to customers than the foreign sectors. They concluded that banks have to literate their customers about green banking and adopt all strategies in building bank image.

Hardeep Singh and Bikram Pal Singh (2012), analyzed that green banking usually will reduce paper work in institutions besides creating awareness among banking people about environmental friendly practices in operations. The authors found in their study that banks in India are far behind in green banking activities when compared with developed countries. They suggested that to compete with developed countries banks in India have to create awareness, implement and follow green banking in their day to day business operations.

1.3 Statement of Problem

Our economy facing so many constraints related to environment. One of the major problems is carbon footprint levels which is increasing drastically every year leading to environmental degradation.

1.4 Objective

"To examine the impact of Green banking Initiatives on the level of Carbon foot print

1.5 Scope of the Study

This study is attempted to analysis the impact of green banking initiatives on the level of carbon footprint. For this purpose the year wise data of retail electronic payment system (Green banking Product) and the usage of carbon footprint (2004 - 2012) are considered for the study.

1.6 Limitation of the Study

There are various sources creating carbon emission in the environment such as industrial emission etc. This study attempts to examine the impact of green banking initiatives on the level of carbon foot print by keeping other sources of carbon emission constant (ie. Ceterius Paribus), like industrial wastage, industrial garbage etc.

1.7 Hypothesis of the Study

Ho: There exist no influence on the Retail Electronic payment System (ECS, NEFT, Debit card and Credit Card Usage) on the level of carbon foot print.

H1: There exist influence on the Retail Electronic payment System (ECS, NEFT, Debit card and Credit Card Usage) on the level of carbon foot print

1.8 Source of Data

This study is based on secondary data obtained from Reserve bank of India website and World Bank website

1.9 Methodology

This study is empirical in nature. Multiple regression analysis has been employed to establish the influence of Retail Electronic Payment System (ECS, NEFT, Debit card and Credit Card Usage) on the level of carbon foot print.

2. Analysis and Interpretation

In this section, the researcher attempts to present the empirical results obtained from statistical analysis namely multiple regression analysis. Level of Carbon foot print is considered as dependent Variable and Green banking initiatives employed by the banks ie, Retail Electronic Payment System which includes Electronic Clearing System (ECS), National Electronic Fund Transfer (NEFT), Usage of Debit card and Credit card are considered as independent variables.

Dependent Variable: Carbon Foot Print

Table 1 : Model Summary

Model	R	R square	Adjusted R square	Standard error of the estimate
I	.999[a]	.998	.996	.0045954

Source: Computed data

From Table 1, it is found that R2 value is 0.999, adjusted R2 value is 0.998. This shows that the variance ranges from 99.9% to 99.8%. The independent variables namely Electronic Clearing Services (ECS), National Electronic Fund Transfer (NEFT), Credit card and Debit card transactions are able to create high variances on the level of carbon foot prints. Green banking initiatives such as retail electronic payment system adopted by the banker contributes to the great extent to reduction on the level of carbon foot print. This leads to the subsequent verification of regression model fit in the following ANOVA table.

Table 2 : ANOVA

Model	Sum of squares	df	Mean square	F	Sig.
Regression	.045	4	.011	529.878	.000 (a)
Residual	.000	4	.000		
Total	.045	8			

Source: Computed data

From Table 2, it is found that the regression fit coefficient F=529.878, p=.000 are statistically significant at 5% level. Therefore, it can be concluded that the independent variables namely Electronic Clearing Services (ECS), National Electronic Fund Transfer (NEFT), Credit card and Debit card transactions considered for the regression model and it is more appropriate to demonstrate the regression model. The following correlation table clearly explains the individual influence of significant variables from the domain of independent variables.

Table 3 : Coefficient table

Model I	Unstandardised Coefficient		Standardised coefficient	T	Sig.
	B	Standard error	Beta	B	Standard error
Constant	-.668	.129		-5.193	.007
ECS	-.011	.021	-.054	-.520	.630
NEFT	-.043	.028	-.467	-1.535	.200
Credit card	.199	.059	.440	3.393	.027
Debit card	.237	.060	1.095	3.946	.017

Source: Computed data

From Table 3, it is found that usage of debit card (t= 3.946, p=.017) play a major role in implementing green banking initiatives by reducing the level of carbon foot prints. Increase in number of credit card transactions (t=3.393, p=.027) significantly augments the bank's profitability and also helps in reducing the level of carbon foot prints. Information Technology initiatives such as Electronic Clearing Services (ECS) (t=-1.535, p=.200) and National Electronic fund transfer (NEFT) (t=-.520, p=.630) which is undertaken by the banker, in turn relieves the stress on the existing paper based fund transfer and clearing system. Thus the null hypothesis is rejected, and the researcher confirms that there exist collective influence on the Retail electronic payment system such as ECS, NEFT, usage of debit and credit card on the reduction in the level of carbon foot print. This result is reliable with the prior studies undertaken on green banking initiatives in different countries.Hardeep Singh and Bikram Pal Singh (2012), analyzed that green banking usually will reduce paper work in institutions besides creating awareness among banking people about environmental friendly practices in operations. The authors found in their study that banks in India are far behind in green banking activities when compared with developed countries. They suggested that to compete with developed countries banks in India have to create awareness, implement and follow green banking in their day to day business operations. Mukesh Kumar Verma(2012), examined that the banks in India are far away in the implementation of green banking practices in banking operations. Banks in India have now started to take some initiatives in adopting green banking practices. They concluded that banks have to literate their customers about green banking and adopt all strategies in building bank image. Furthermore, Retail Electronic payment system adopted by the banks as the green banking initiatives contributes to the great extent in reduction of level of carbon foot prints and promoting environment sustainability.

3. Conclusion

From the present study it is found that the usage level of debit and credit card transactions play a major role in implementing green banking initiatives by reducing the level of carbon foot prints. Information technology initiatives such as ECS and NEFT/ EFT also reduce the level of carbon footprint but it is not that much effective when compare with card based transactions as Electronic Clearing Services and NEFT/EFT are the practices adopted by the bankers. Card usage transactions is customer oriented which is working more effectively in implementing green banking initiatives. Thus, green banking initiatives adopted by the banks by the way of retail electronic payment systems are effectively working in reduction of carbon footprint.

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"An Analysis of Investment Alternatives Preferred by Women Employees of the Railway Sector" - With Special Reference to Tinsukia District of Assam

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Abstract

If cash would be only accumulated and not invested, that would be an inefficient way to create wealth. Money has to be employed, and that can be made with the help of investments. The behaviour of investor differs from person to person due to various factors such as their age, race, level of education, level of earning, level of savings, gender etc. Investment behaviour is influenced by a number of factors and gender is also considered to be one of the important factor influencing investment decisions. Both male and female invests differently. In the present paper an attempt has been made to identify the investment behaviour of working women based on age . The study is carried out with the objectives to identify the investment preference of working women among various investment alternatives, to identify the time period preferred, to find out the source of information preferred for investment and to check out the awareness level of the women employees working in North - east Frontier Railway (Tinsukia division) of Assam.

Keywords - Investment, Investment behaviour, investment avenues, preference, investment awareness.

Introduction

Investments are generally instruments that allow us to receive a higher amount of money than was spent. Investments are instruments required for those who have some free funds available and want to have more benefits from that capital in the future. If cash would be only accumulated and not invested, that would be an inefficient way to create wealth. Money has to be employed, and that can be made with the help of investments. Every investment is made with expectation to get more money than was invested in the beginning although it is not always guaranteed. But if something is acquired with on purpose to make money from it in the future, this is an investment[1].

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The behaviour of investor differs from person to person due to various factors such as their age, race, level of education, level of earning, level of savings, gender etc. Investment behaviour is influenced by a number of factors and gender is also considered to be one of the important factor influencing investment decisions. Both male and female invests differently. It is said that men are risk takers; women want to play it safe. This is a general fact that men usually think about return but the women balance with risk and return in their investment. In most of the cases the women want to earn stable income. While framing investment portfolio, women are considered about safety, liquidity and profitability but men mostly think about profitability alone[2].

Review of Literature

The following are some of the literature which have been reviewed in context to carrying out the study.

Samudra, A., & Burghate, M.A. (2012)[3] in their paper tried to know the preference of the investment instruments and the various objectives of investment of the middle class households in Nagpur. The result showed that the bank deposit remains the most preferred option followed by Life Insurance. The least preferred investment option found was real estate. The research also found that high return is the objective of large number of respondents for investment while liquidity of the investment instrument was the least desired feature.

Kathuria, L.M., & Singhania, K. (2010)[4] conducted a study with an objective to analyze the level of knowledge regarding various investment avenues and present investment practices of employees of private sector banks in Ludhiana city. Findings of the study revealed that print media and websites were the two most important source of information that helped the respondents to make investment decisions. Further, the study revealed that a large majority of the respondents have invested in secured investments like PPF and post office saving schemes.

Raj, V.M.S., & Murugan, A. B. (2011)[5] carried out a study to identify the factors influencing the selection of mutual fund schemes. The study identified self decision as the most influencing factor for scheme. The other sources influencing scheme selection in the order of importance are friend's suggestions, broker recommendation and advertisement.

Garg, K., Kumar, D., & Garg, M.C. (2009)[6] Carried a paper with the objective to identify the behaviour pattern of investor towards investment in life insurance sector. The study concluded that investor before buying life insurance policies, generally thinks of its retirement benefits, risk coverage, tax benefits and family protection.

Sellappan, R., Jamuna, S., & Kavitha, Tnr.(2013)[7] tried to gain knowledge about the marital status and age factors influencing the investment behaviour of women towards financial instruments with special reference to Erode district. The study concluded that married women are more curious in making investment than the unmarried. As well as the younger are mostly likely to invest in shares, mutual unds, insurance and fixed deposit than the older one.

Hira, T.K., & Loibl, C. (2007)[8] in a report showed that women in general invest less money and invest their money in less risky investments compared to men. Women were found to be more risk averse and find making investment decisions stressful, difficult and time consuming when compared to men.

Remi, A., & Oyewole, A. (1992)[9] made an study to identify how the saving level of co-operative fishermen affects their investment in the riverine area of Nigeria.The result of the study suggests that the savings of the people, the acquired level of technology and the level of education, together with their total consumption, significantly determine people's level of investment.

Sultana, S.T. (2010)[10] states that Indian investors even if earn high income, well educated, salaried prefers to invest in financial products which give risk free returns which means that they are conservative investors and prefer to play safe.

Christiansen, C., Joensen, J.S & Rangvid, J. (2010)[11] investigated how changes in marital status affect the decision to take on financial risk. The paper studied how the same investor changes behaviour after a change in marital status, compared to investors who do-not experience a change in marital status. The study found out that marraige causes men to reduce the fraction of wealth they hold in risky assets, they increase risk after divorse. For women,it is the other way around.

Objectives of the Study

The present study is undertaken by considering the following objectives in mind-

(a) To identify the various investment alternatives in which the women employees of railway sectors have invested their money on the basis of age.

(b) To identify the time period which is preferred by the women employees of railway sector to invest their money based on age.

(c) To identify the various source of information for investment of the women employees of railway sectors based on age.

(d) To investigate the awareness level of the women employees of railway sectors as regard various investment avenues based on age.

Scope of the Study

The scope of the study is limited to North-east Frontier Railway(Tinsukia division) of Assam.

The justification for the selection of this sector is as follows-

North-east Frontier Railway (Tinsukia Division) is chosen as it is one of the biggest sector in Tinsukia district with a large number of personnel in its various departments. It employees a very large number of employees and therefore the proportion of women employees working here is found satisfactory for carrying out the desired study.

Methodology of the Study

For the purpose of the present study, the universe shall consists of women employees working in North-east frontier Railway(Tinsukia Division) of Assam. The total population size of the study is 471. A Sample of 35% i.e.,165 has been selected from the population of women employees working in this organisations.

The table below shows the categorisation of sampled women working in railway sector on the basis of age.

Table - 1 : Age profile of respondents

Age	Number of women employees in Railways
20-30 years	31 (19%)
30-40 years	47 (29%)
40-50 years	42 (25%)
50-60 years	45 (27%)
Total	165 (100%)

Source : survey data

From the above table it has been found that, out of 165 respondents 19% belongs to 20-30years, 29% belongs to the age group 30-40yrs, 25% belongs to 40-50yrs and 27% belongs to 50-60yrs,

Method of Data Collection and Data Analysis

The research is based on purposive sampling followed by convenience sampling method. Data has been collected through both Primary as well secondary source. The technique adopted in the present study for collecting primary data is the general administration of the questionnaire method. The questionnaire framed for the purpose of study involved close ended questions The secondary data has been collected through various journals and websites. In the present research work various tools of statistical analysis, using SPSS(version 13), tables, cross tables are done.

Analysis of Data

The study is an attempt to find out the various Investment alternatives in which the women employees of railway sectors have invested their money on the basis of age, to identify the time preference, to find out the sources of information and to investigate the awareness level of the women employees of railway sectors as regard various investment avenues based on age. The results of the study are tabulated and analysed below -

1. The response for the first objective i.e, the various investment alternatives in which the women employees of railway sectors have invested their money on the basis of age are as follows-

Table - 2 : Various Investment avenues in which investment has been made by the respondents

Age	Total number of respondents	Fixed deposit	Government bond	Mutual fund	Post office deposit	Gold	Shares	Insurance
20-30	31	52%	13%	16%	48%	39%	00%	100%
30-40	47	43%	06%	09%	64%	26%	02%	91%
40-50	42	60%	14%	21%	69%	26%	07%	83%
50-60	45	49%	09%	07%	67%	16%	02%	89%
Total	165	51%	11%	13%	63%	25%	03%	90%

Source -survey data

If overall picture is considered then Life insurance policy was found to be highly preferred avenue in which large percentage (i.e. 90%) of women employees have invested their money, which was followed by investment in post office deposit(63%) and Fixed deposit(51%). The least preferred avenues found was shares(03%) followed by government bond(11%) and Mutual fund(13%). On the basis of age, investment in Life insurance policy was found to be mostly preferred by the respondents belonging to all the age groups i.e, 20-30, 30-40 years, 40-50 years and 50-60 years which was again followed by investment in post office deposit by the respondents of 30-40 years, 40-50 years and 50-60 years age group. It was also found that respondents from the age group of 20-30 years have not at all made investment in shares. A very meagre percentage of respondent i.e. 2%, 7% and 2% from the age group 30-40 years, 40-50 years and 50-60 years were found having investment in shares.

2. The response for the second objective i.e., the time period which is preferred by the women employees of railway sector to invest their money based on age are as follows -

Table - 3 : Time Preference for investment of women employees working in Railway sector based on age

Age(years)	Short term	Medium term	Long term
20-30	13%	65%	22%
30-40	09%	66%	25%
40-50	05%	64%	31%
50-60	20%	47%	33%
Total	12%	60%	28%

Source - survey data

From the above table it has been found that the women working in railway prefer medium term as the most suitable time period for which they invest their money irrespective of their age. The second preferred period is long term followed by short term.

3. The response for the third objective i.e., identification of the various source of information for investment of the women employees of railway sectors based on age are as follows -

Table - 4 : Source of Information for Investment of women employees of Banking and Railway sector based on age

Age (years)	Newspaper	Financial Advisor	Family	Friends	Internet	Magazine	No source
20-30	16%	26%	48%	55%	16%	00%	19%
30-40	04%	21%	38%	38%	04%	02%	28%
40-50	31%	12%	29%	50%	12%	07%	21%
50-60	16%	09%	40%	40%	02%	00%	16%
Total	16%	16%	38%	45%	08%	02%	21%

Source - survey data

From the above table it has been found that in case of railways the most preferred source of information for investment of overall women irrespective of their age was friends (45%) followed by family(38%) and the least preferred source was Magazine(02%) followed by Internet(08%). There were 21% of the respondents who said that they do-not have any source of information for investment and they take investment decision of their own.

Age wise source of information for investment of women employees working in Railway

From the survey it has been found that the women employees who were in the age group of 20-30 years highly prefer family (55%) to have information before making investment. In the age group 30-40 years and 50-60 years family and friends are the two most important source of information for investment. Respondents in the age group of 40-50 years highly prefer friends (50%) for having information before investing. Magazine is seen as the least preferred source of information of the respondents belonging to all the age groups.

4. The response for the fourth objective i.e., identification of the awareness level of the women employees of banking and railway sectors as regard various investment alternatives based on age are as follows -

Table - 5 : Awareness level about various investment alternatives of women employees working in railways on the basis of Age

Age (years)	Bank Fixed deposit		Government Bond		Mutual Fund		Post Office Deposit		Gold		Shares		Insurance	
	Heard of	Aware of	Heard of	Aware of	Heard of	Aware of	Heard of	Aware of	Heard of	Aware of	Heard of	Aware of	Heard of	Aware of
20-30	100%	94%	35%	19%	58%	26%	100%	97%	100%	100%	32%	10%	100%	100%
30-40	100%	79%	38%	17%	57%	21%	100%	77%	100%	100%	17%	02%	100%	96%
40-50	100%	90%	55%	26%	64%	29%	100%	93%	100%	100%	21%	05%	98%	95%
50-60	00%	87%	42%	18%	53%	13%	98%	87%	100%	100%	24%	07%	100%	96%
Total	100%	87%	43%	20%	58%	22%	99%	87%	100%	100%	23%	05%	99%	96%

Source - survey data

In case of railway, large numbers of respondents were found who do-not have any idea about shares (77%) followed by government bond (57%), and mutual fund (42%). Fixed deposit and Gold are the investment avenue about which 100% of the respondents have heard of. Apart from fixed deposit and gold other investment avenue about which most of the respondents have heard of is insurance policy (99%) followed by post office deposit (97%). 100% of the respondents were found to be fully aware of about gold, followed by Insurance policy (96%), post office deposit and bank fixed deposit. (each 87%).

Awareness level of railway respondents on the basis of age

Large percentage of respondents in the age group 20-30 years have not heard of about shares (68%) followed by government bond (65%) and mutual fund (42%). 100% respondents have heard of about bank fixed deposit, post office deposit and gold. Least percentage of respondents were found to be aware of about shares (10%) followed by government bond (19%) and mutual fund (26%).

In the age group of 30-40 years, very less percentage of respondents have heard of about shares (17%) followed by government bond (38%), mutual fund (57%) and public provident fund (57%). Least percentage of respondents are aware of about shares (2%) followed by government bond (17%), mutual fund (21%).

In the age group of 40-50 years, it was found that, 100% of the respondents have heard of about bank fixed deposit and gold. Very less percentage of respondents have heard of about shares (21%) followed by government bond (55%), mutual fund (64%). The least preferred investment avenues is mutual fund (29%). In the age group of 50-60 years, 100% of the respondents have heard of about bank fixed deposit, gold and insurance. Only 34% respondents have heard of about shares followed by government bond (42%), and mutual fund (53%), post office deposit (98%). Least percentage of respondents were found to be informed about shares (7%) followed by mutual fund (13%), government bond (18%).

Major interpretation

1. Insurance policy was found to be most preferred investment avenue in which maximum number of respondents has invested money which is followed by post office deposit. The least preferred investment avenue was shares
2. Medium term has been found as the most preferred time period for which the respondents are interested to make investment.
3. Family and friends are the two most important source of information for investment by the respondents of railways.
4. Magazine was found to be the least preferred source of information for investment of the respondents belonging to all age groups
5. Bank fixed deposit and gold are the investment avenue about which respondents of all the age group from railway sector have heard of.
6. As maximum number of respondents are not aware of shares, government bond, mutual fund so less number of respondents investment is seen in these alternatives.
7. Again as large number of respondents are aware of about bank fixed deposit, insurance, post office deposit, gold, so good investment in these alternative is seen.
8. Mutual fund is an investment avenue about which large number of respondents have heard of but very few of them are actually aware or informed about it.

Conclusion

From the above study, it has been found that whatever be the age, the women employees shows quite similar kind of behavior in choosing an investment alternative. There are various sources of information for investment such as internet, magazines yet women were found mainly relying on their family and friends for having information as regard investment. Less awareness level about various investment alternative has shown impact on investment decision of the women employees. Therefore, it is important to increase the awareness level of women employees, so that they can have a wide choice of investment.

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Performance of the Entrepreneurs : A Case Study of the Select Retail Establishments in Visakhapatnam

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Abstract

This paper attempts to study about the performance of entrepreneurs of the select retail establishments. The present study is based on both primary and secondary data. The results revealed that a whopping majority of 97.2 per cent of the total sample respondents purchased the goods as and when required. In the present marketing scenario only the quality goods are purchased by consumers and inferior goods does not have any market. For this reason a majority of 98.9 per cent of the respondents are maintaining quality goods. Among all the Media of advertisements stickers, newspapers, television and radio are used by the majority of the respondents. A huge majority of 81.7 per cent of the total 360 sample respondents are satisfied and happy with the present sales position. Maintaining good customer relations, improving sales and reasonable pricing are playing dominant role in improving their business. Generally jewellery and electronics and electricals businesses are capital intensive and they invested more capital. And their sales turn over per month is more when compared to other two categories. It is surprising to note that all the 360 respondents of all the categories of business have earned profit below 2 years of commencement of the business. And about 77.8 per cent of them earned 21% to 30% profit. Respondents' perception about his economic background reveals that a highest majority of 76.6 per cent electronics and electricals and 73.3 per cent jewellery respondents perceived themselves in higher income group because they earned more income.

Introduction

The term "entrepreneur" was applied to business initially by the French economist, Cantillon, in the 18th century, to designate a dealer who purchases the means of production for combining them into marketable products. Another Frenchman, J.B.

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Say1, expanded Cantillon's- ideas and conceptualized the entrepreneur as an organiser of business firm, central to its distributive and production functions. Beyond stressing the entrepreneur's importance to the business, Say did little with his entrepreneurial analysis. According to J. B. Say, "an entrepreneur is the economic agent who unites all means of production, the labour force of the one and the capital or land of the others and who finds in the value of the products which results from their employment, the reconstitution of the entire capital that he utilizes and the value of the wages, the interest and the rent which he pays as well as profit belonging to himself. He emphasized the functions of co-ordination, organisation and supervision. Further, it can be said that the entrepreneur is an organiser and speculator of a business enterprise. The entrepreneur lifts economic resources out of an area of lower into an area of higher productivity and greater yield.

According to E.E. Haggen2, an entrepreneur is an economic man who tries to\maximize his profits by innovations. Innovations involve problem-solving and the entrepreneur gets satisfaction from using his capabilities in attacking problems. The New Encyclopedia Britannica3 considers an entrepreneur as "an individual who bears the risk of operating a business in the face of uncertainty about the future conditions." Leading economists of all schools, including Karl Marx, have emphasised the contribution of the entrepreneurs to the development of economies, but Joseph Schumpeter, who argues that the rate of growth in an economy depends to a great extent on the activities of entrepreneurs, has probably put greater emphasis on the entrepreneurial function than any other economist.

Joseph A. Schumpeter4 thus writes: "The entrepreneur in an advanced economy is an individual who introduces something new in the economy - a method of production not yet tested by experience in the branch of manufacture concerned, a product with which consumers are not yet familiar, a new source of raw material or of new markets and the like." Schumpeter further states that entrepreneur's function is to "reform or revolutionize the pattern of production by exploiting an invention or more generally, an untried technological possibility for producing a new commodity." Briefly, an entrepreneur is one who innovates, raises money, assembles inputs, chooses managers and sets the organisation going with his ability to identify them. Innovation occurs through (1) the introduction of a new quality in a product, (2) a new product, (3) a discovery of a fresh demand and a fresh Source of supply and (4) by changes in the organisation and management. In the case of a developing economy like ours, the concept is being understood differently. Entrepreneur in a developing economy is one who starts an industry (old or new), undertakes risk, bears uncertainties and also performs the managerial functions of decision-making and coordination. He also puts the new process based on technological research into operation. Even if he imitates any technique of production from a developed economy, he is called an entrepreneur. In point of fact, entrepreneurship in developing economies is one form of labour that tells the rest of labour what to do and sees to it that it gets things done. Unlike in the developed industrial world, emphasis is not put (nor is there any need for it only on "Schumpeterian innovations") in the case of developing countries.

Objectives of the study

1. To examine the performance of the entrepreneurs of the select retail establishments in Visakhapatnam.
2. To offer some suggestions towards improving the performance of entrepreneurs of the select retail establishments in Visakhapatnam.

Hypotheses

1. There is no significant mean difference in the opinion of the respondents belonging to the four business categories on reinvestment of profits in the same activity and annual income of the respondents.
2. Perception about respondents' economic background has no significant association with the four categories of business.

Research Methodology

Survey method has been followed for the study. Both primary and secondary sources of data are used. Well structured questionnaire is designed to elicit necessary data and details from the entrepreneurs of the select retail establishments in Visakhapatnam. The secondary data were collected from the books, journals, magazines and web portals. A proportionate stratified random sampling method was employed to elicit the necessary information from the entrepreneurs in Visakhapatnam. The sample size of 360 entrepreneur respondents representing 206 general shops (including fancy, kirana, footwear, books & stationery, medical stores), 30 each in textiles and jewellery shops and 94 in electronics and electricals shops in Visakhapatnam has been duly selected. The primary data collected from the respondents has been analysed with the help of statistical package for social sciences (SPSS), percentage analysis, ranking method and Chi-Square test has been employed for testing the hypothesis.

This paper focuses on the important issues like A. Production B. Marketing C. Finance.

A. Production

1. Opinion on purchase by requirement

Table 1 : Respondents opinion on purchase by requirement

Category of Business	Yes	No	Total
General	204 99%	2 1%	206 100%
Textiles	28 93.3%	2 6.7%	30 100%
Jewellery	28 93.3%	2 6.7%	30 100%
Electronics & Electricals	90 95.7%	4 4.3%	94 100%
Total	**350 97.2%**	**10 2.8%**	**360 100%**

Respondents' opinion on purchase by requirement is furnished in table no.1.It is evident from the table that a whopping majority of 97.2per cent of the total sample respondents are purchasing the products as and when they require. The remaining 2.8per cent of them purchased the products in advance. It is clear from the table that according to the category wise analysis 99 per cent of the general, 95.7per cent of the electronics & electricals and 93.3per cent each of the textiles and jewellery respondents are purchasing the goods as and when required.

It is observed that majority of the respondents do not want to store the goods because they incur more capital which is inadequate to the majority of the respondents. If they purchase the goods as and when required they incur less capital and they will be in a comfortable position.

2. Opinion on centralized purchase practice

Table 2 : Respondents opinion on centralized purchase practice

Category of Business	Yes	No	Total
General	82 39.8%	124 60.2%	206 100%
Textiles	10 33.3%	20 66.7%	30 100%
Jewellery	12 40%	18 60%	30 100%
Electronics & Electricals	34 36.2%	60 63.8%	94 100%
Total	**138** **38.3%**	**222** **61.7%**	**360** **100%**

Table no. 2 deals with the respondents' opinion on centralized purchase practice. A vast majority of 61.7per cent of the total sample respondents is not practicing centralized purchase, where as 38.3per cent of them are practicing centralized purchase. Among the four categories about 66.7per cent of the textiles respondents are not doing centralized purchase and 33.3per cent of them are doing centralized purchase. As far as electronics & electrical respondents are concerned 63.8 per cent of them are not practicing centralized purchase and 36.2 per cent of them are doing centralized purchase. With regard to general respondents 60.2 per cent of them are not practicing centralized purchase and 39.8per cent of them are doing centralized purchase. About 60per cent of jewellery respondents are not practicing centralized purchase and the balance 40 per cent of them are doing centralized purchase.

The above table concludes that a majority of 61.7 per cent of the respondents are not practicing centralized purchase because many respondents do not have branches as such they need not adopt centralized purchase practice.

3. Inventory level maintenance

Table 3 : Inventory levels maintained by the respondents

Category of Business	Daily	Weekly	Monthly	Quarterly	Half Yearly	Yearly	Total
General	38 18.5%	78 37.9%	76 36.9%	14 6.7%			206 100%
Textiles		12 40%	14 46.7%	4 3.3%			30 100%
Jewellery		4 3.3%	22 73.4%	4 3.3%			30 100%
Electronics & Electricals	8 8.4%	30 31.9%	48 51%	6 6.6%	2 2.1%		94 100%
Total	46 12.8%	124 34.4%	160 44.4%	28 7.8%	2 0.6%		360 100%

It could be observed from the data presented in table no. 3 that out of the total sample respondents around 44.4 per cent of the respondents maintained monthly inventory followed by 34.4 per cent maintained weekly inventory, 12.8 per cent of them maintained daily inventory, 7.8 per cent respondents maintained quarterly inventory and a negligible percentage of 0.6 per cent of the respondents maintained half-yearly inventory.

It may be noted that maintaining inventory is common in retail establishments. As such the respondents are maintaining inventory according to their requirement.

4. Perception on the quality control of the products

Table 4 : Respondents perception on quality control of the products

Category of Business	Yes	No	Total
General	202 98.1%	4 1.9%	206 100%
Textiles	30 100%		30 100%
Jewellery	30 100%		30 100%
Electronics & Electricals	94 100%		94 100%
Total	**356** **98.9%**	**4** **1.1%**	**360** **100%**

Respondent perception on the quality control of the products is depicted in table no.4. It is interesting to note that a huge majority of 98.9 per cent of the total sample respondents are maintaining quality for their products. A very less percentage of 1.1per cent of the total sample respondents are not maintaining quality for their products, in which 1.9per cent of the general respondents are not maintaining quality products. Among the categories cent percent each of textiles, jewellery and electronics & electrical and 98.1per cent of general respondents are maintaining quality for their products.

In the present marketing scenario only the quality goods are purchased by consumers and inferior goods does not have any market. For this reason a whooping majority of 98.9per cent of the respondents are maintaining quality products. Now-a-days consumer is the king in the market and the entrepreneurs have to give quality goods to the consumer in order to satisfy their wants. It is proved in the study that almost all the respondents are maintaining quality for their goods.

B. Marketing

5. Mode of distribution of the product

Table 5 : Mode of distribution of the products

S.No	Mode of distribution	General	Textiles	Jewellery	Electronics & Electricals
1	Direct sales	94 (45.6%)	16 (53.3%)	14 (46.7%)	34 (36.2%)
2	Through wholesales	132 (64.1%)	18 (60%)	2 (6.7%)	42 (44.7%)
3	Through Retailers	84 (40.8%)	16 (53.3%)	10 (33.3%)	54 (57.5%)
4	Through Dealers	64 (31.1%)	14 (46.7%)	8 (26.7%)	50 (53.2%)
5	Through Branches	42 (20.4%)	4 (13.3%)	4 (13.3%)	20 (21.3%)

The mode of distribution has been described in table no.5. About 53.3per cent textiles, 46.7per cent jewellery, 45.6per cent general and 36.2per cent electronics & electricals respondents are doing their business by direct sales. Regarding 64.1 per cent general, 60.0 per cent textiles, 44.7per cent electronics & electricals and 6.7 per cent jewellery respondents are resorting to wholesale business. As far as 57.5per cent electronics & electricals, 53.3per cent textiles, 40.8per cent general and 33.3per cent jewellery respondents are doing their business through retailers. About 53.2per cent electronics & electricals, 46.7per cent textiles, 31.1per cent general and 26.7per cent jewellery respondents are doing their business through dealers. Further, about 21.3per cent electronics & electricals 20.4per cent general and 13.3per cent each of textiles and jewellery respondents are performing their business through branches.

It can be concluded that the respondents are using all channels of distribution for marketing their products. In the present marketing scenario they cannot resort to one or two channels of distribution to market their products, for the above reason they are using all the channels to market their goods.

6. Advertisement about products

Table 6 : Respondents opinion on advertisement about products

Category of Business	Yes	No	Total
General	66 32.1%	140 67.9%	206 100%
Textiles	16 53.3%	14 46.7%	30 100%
Jewellery	12 40.0%	18 60.0%	30 100%
Electronics & Electricals	44 46.8%	50 53.2%	94 100%
Total	**138** **38.3%**	**222** **61.2%**	**360** **100%**

Respondents' opinion on advertisement about products is revealed in table no. 6. A huge majority of 61.2 per cent of the total sample respondents are not advertising their products in any mode of advertisement. About 38.3 per cent of the total sample respondents are using advertisement to market their products. The category wise analysis reveals that 67.9 per cent general, 60.0 per cent jewellery, 53.2 per cent electronics & electricals and 46.7 per cent textiles respondents are not resorting to any advertisement. But 53.3 per cent textiles, 46.8 per cent electronics & electricals, 40.0 per cent jewellery and 32.1 per cent general respondents are resorting to different media of advertisement.

The table concludes that a majority of 61.2 per cent of the total sample respondents are not using any advertisement to market their products. The reason might be that most of the shops are small in nature and unable to spend money on advertisement.

7. Media of advertisement

Table 7 : Media of advertisement

S.No.	Media of advertisement	General	Textiles	Jewellery	Electronics & Electricals
1	News papers	50 75.8%	16 100%	10 83.3%	38 86.4%
2	Magazines	20 30.3%	8 50%	2 16.7%	16 36.6%
3	Radio	18 (27.7%)	12 75%	6 50%	18 40.9%
4	Television	12 (18.2%)	6 37.5%	4 33.3%	24 54.6%
5	Films	6 9.1%	6 37.5%	4 33.3%	10 22.7%
6	Stickers	60 90.9%	12 75%	12 100%	42 95.5%
Total		**66 100%**	**16 100%**	**12 100%**	**44 100%**

It is interesting to note that all the 138 sample respondents who are resorting to advertisement are advertising their products through different Media..Regarding newspapers advertisement cent per cent of textiles, 86.4per cent of electronics & electricals, 83.3per cent jewellery and 75.8per cent general respondents used newspapers for advertising their products. About radio advertisement 75.0per cent textiles, 50.0per cent jewellery, 40.9per cent electronics & electricals and 27.7per cent general respondents are resorting to radio advertisement. In television advertisement 54.6per cent electronics & electricals, 37.5per cent textiles, 33.3per cent jewellery and 18.2per cent general respondents are using television as media for advertisement. About cent per cent of jewellery, 95.5per cent of electronics & electricals, 90.9per cent of general and 75.0per cent of textiles respondents are using stickers for advertising their products.

From the above table no.7 it may be concluded that among all the Media of advertisement stickers and newspapers are used by majority of the respondents. In good olden days entrepreneurs used radio as their media of advertisement up to the invention of television. Entrepreneurs are now again using radio for their advertisement because of the development of F.M radio. Now people are listening to radio songs along with T.V. So the entrepreneurs are using both the Media for advertisement.

8. Opinion on present sales position

Table: 8 Respondents opinion on present sales position

Category of Business	Satisfied	Unsatisfied	Total
General	170 82.5%	36 17.5%	206 100%
Textiles	20 66.7%	10 33.3%	30 100%
Jewellery	24 80%	6 20%	30 100%
Electronics & Electricals	80 85.1%	14 14.9%	94 100%
Total	**294** **81.7%**	**66** **18.3%**	**360** **100%**

Respondent opinion on present sales position is denoted in table no.8.It is observed from the table that a huge majority of 81.7per cent of the total sample respondents are satisfied with the present sales position. The remaining 18.3per cent of them is dissatisfied. Among the four categories highest percentage 85.1per cent electronics & electricals respondents are satisfied with present sales position followed by 82.5per cent general, 80.0per cent jewellery and 66.7per cent textiles respondents are satisfied with the present sales position. Regarding unsatisfied respondents are concerned 33.3per cent textiles, 20per cent jewellery, 17.5 per cent general, and 14.9per cent electronics & electricals respondents are not satisfied with the present sales position.

The above table concludes that a vast majority of 81.7per cent of the total sample respondents are satisfied and happy with the present sales position. This shows that the majority of respondents are able to sell their products to the customers without any difficulty.

9. Reasons for improvement of the business

After asking few questions on production and marketing, the researcher asked the respondents opinion on how to improve their business and depicted in table no.9.Ranking method is followed to find out how the respondents want to improve their business. Majority of the total sample respondents opined that maintaining good quality will improve their business and gave 1st rank to that opinion. Good customer relation occupied 2nd rank, improve sales recorded 3rd rank, reasonable pricing got 4th rank, low profit margin occupied 5th rank, market research is given 6th rank, advertising recorded 7th rank, last but not the least for installment sales is given 8th rank.

Table: 9 Respondents opinion on reasons for improvement of the business

Reasons	1	2	3	4	5	6	7	8	Weighted Rank
Maintain good quality	290 (2320)	106 (742)	36 (216)	36 (180)	36 (144)	10 (30)			**1 (3632)**
Improve sales	48 (384)	92 (644)	82 (574)	56 (280)	54 (216)	10 (30)	14 (28)	4 (4)	**3 (2610)**
Low profit margin	12 (96)	30 (210)	68 (408)	94 (470)	90 (360)	28 (84)	24 (48)	14 (14)	**5 (1690)**
Good customer relations	126 (1008)	92 (644)	70 (420)	38 (190)	28 (112)	4 (120		2 (2)	**2 (2388)**
Reasonable pricing	18 (144)	34 (238)	78 (468)	86 (430)	86 (344)	36 (108)	22 (44)		**4 (1776)**
Market Research	4 (32)	8 (56)	20 (120)	38 (190)	18 (72)	146 (438)	74 (148)	52 (52)	**6 (1108)**
Advertising	2 (16)	8 (56)	10 (60)	20 (100)	38 (152)	82 (246)	172 (344)	38 (38)	**7 (1012)**
Installment sales	2 (16)	4 (28)	6 (36)	6 (30)	10 (40)	34 (102)	48 (96)	240 (240)	**8 (588)**

It may be concluded that maintaining good quality, good customer relations, improvement in sales and reasonable pricing are playing dominant role in improving their businesses.

10. Difficulties encountered in trading the products

Table 10 : Respondents perception about the difficulties encountered in trading the products

Reasons	1	2	3	4	5	Weighted Rank
Mortality	38 (190)	58 (232)	90 (270)	130 (260)	44 (44)	**4 (996)**
Perish ability	48 (240)	68 (272)	134 (402)	84 (168)	26 (26)	**3 (1108)**
Climate conditions	100 (500)	130 (520)	62 (186)	52 (104)	16 (16)	**2 (1326)**
Lack of finance	164 (820)	94 (376)	36 (108)	62 (124)	4 (4)	**1 (1432)**
Bad customer relation	16 (80)	22 (88)	36 (108)	28 (56)	258 (258)	**5 (590)**

The different difficulties encountered in trading the products are portrayed in table no.10.The respondents gave 1st rank to lack of finance, 2nd rank to climate condition, 3rd rank to perishability, 4th rank to mortality and 5th rank to bad customer relations.

Lack of finance, climatic conditions and perishability are playing dominant role in difficulties encountered in trading the products. Most of the entrepreneurs are having inadequate finance and doing the business. It is proved in the study that majority of the respondents are having inadequate finance and gave 1st rank to that opinion.

C. Finance

11. Capital employed (In Rs)

Table 11 : Capital employed (In Rs)

Category of Business	Below 50,00,000	50,00,0001- 100,00,000	Above 1,00,00,000	Total
General	96 46.6%	52 25.2%	58 28.2%	206 100.0%
Textiles	12 40.0%	10 33.3%	8 26.7%	30 100.0%
Jewellery	0 00.0%	8 26.7%	22 73.3%	30 100.0%
Electronics & Electricals	7 7.5%	7 7.5%	80 85.0%	94 100.0%
Total	**115 31.9%**	**77 21.4%**	**168 46.7%**	**360 100.0%**

Capital employed by the respondents is given in table no.11. About 46.7per cent of the total sample respondents invested above 1 crore capital. In this group the highest per cent of 85.0 is revealed by electronics & electricals respondents and the lowest 26.7 per cent is revealed by textiles respondents. Regarding the capital employed below rupees fifty lakhs by the total sample respondents is 31.9 per cent. About 21 .4per cent of the total sample respondents invested capital in between rupees fifty lakhs to one crore. Regarding capital invested below rupees fifty lakhs the highest per cent of 46.6 is attributed to general respondents and lowest 7.5 per cent to electronics & electricals. Regarding capital employed in between rupees fifty lakhs to one crore highest per cent of 33.3 is attributed to textiles and lowest per cent of 7.5 is devoted to electronics & electricals.

Generally jewellery and electronics & electricals businesses are capital intensive. And it is proved in the study that jewellery and electronics & electricals respondents invested more capital than the other two categories.

12. Sales turnover per month (In Rs)

Table 12 : Respondents' sales turnover per month

Category of Business	Below 5,00,000	5,00,001-10,00,000	10,00,001-15,00,000	15,00,001-20,00,000	
General	110 53.4 %	36 17.5%	60 29.1%	0 00.0%	206 100.0%
Textiles	10 33.3%	9 30.0%	5 16.7%	6 20.0%	30 100.0%
Jewellery	0 00.0%	5 16.7%	7 23.3%	18 60.0%	30 100.0%
Electronics & Electricals	4 4.3%	10 10.6%	70 74.5%	10 10.6%	94 100.0%
Total	**124 34.4%**	**60 16.7%**	**142 39.4%**	**34 9.5%**	**360 100.0%**

Respondents' sales turnover per month is given in table no.12. A majority of 39.4 per cent of the total sample respondents sales turnover per month is in between rupees 10,00,001 -15,00,000, followed by 34.4 per cent of the respondents sales turnover is below rupees 5,00,000. About 16.7 per cent of them are in between rupees 5,00,001 - 10,00,000 and 9.5 per cent of them are in between rupees 15,00,001-20,00,000. Regarding category wise analysis below rupees 5,00,000 sales turnover the highest percentage of 53.4 per cent goes to general and lowest percentage of 4.3 per cent goes to electronics & electricals. Regarding rupees 5,00,001- 10,00,000 sales turnover the highest percentage of 30.0 per cent denoted to textiles and lowest percentage of 10.6 per cent denoted to electronics & electricals. Regarding rupees 10,00,001- 15,00,000 the highest percentage of 74.5 per cent attributed to electronics & electricals and lowest 16.7 per cent is attributed to textiles. For 15,00,001 to 20,00,000 sales turnover the highest percentage of 60.0 is attributed to jewellery and 10.6 per cent to electronics & electricals business.

Now-a-days the cost of gold per gram is high and it is proved in the study that the jewellery respondents' sales turnover per month is more when compared to other categories. On the other hand the electronic goods have become necessity to the people as such the sales turnover of electronics & electricals respondents is next to jewellery respondents.

13. Sources of finance

Table 13 : Sources of finance

S.No	Sources of finance	General	Textiles	Jewellery	Electronics & Electricals	Total
1	Own capital	206	30	30	94	360
2	Loan from financial institutions	148	30	8	94	280
3	Assistance from relatives and friends	206	30	30	94	360
4	Private finance	112		8		120

Various sources of finance are depicted in table no: 13. All 360 respondents invested own capital and in addition to that they have taken loans from financial institutions 280, assistance from relatives and friends 360 and private finance 120 respondents. Category wise analysis reveals that 148 general, 30 textiles, 8 jewellery and 94 electronics & electricals respondents took loans from financial institutions. About 112 general and 8 jewellery respondents took loans from private finance.

It may be concluded that only own capital is not enough to run the business and they have to depend on various sources of finance. For the above reason they have taken loans from different sources to carry their business effectively. Mostly the respondents are depending on relatives and friends and private finance. Hence it is suggested to the government that they should come forward with new schemes of loans to encourage new entrepreneurs and old entrepreneurs.

14. Return on capital employed by the respondents

Table 14 : Return on capital employed by the respondents

Category of Business	11%-20%	21%-30%	Total
General	58 28.2%	148 71.8%	206 100.0%
Textiles	0 00.0%	30 100.0%	30 100.0%
Jewellery	22 73.3%	8 26.7%	30 100.0%
Electronics & Electricals	0 00.0%	94 100.0%	94 100.0%
Total	**80** **22.2%**	**280** **77.8%**	**360** **100.0%**

Return on capital employed by the respondents is illustrated in table no: 14. A vast majority of 77.8 per cent of the total sample respondents declared 21% to 30% profit and 22.2 per cent of them said 11% to 20% profit. Category wise analysis reveals that 73.3 per cent jewellery respondents received 11% to 20% profit and 28.2 per cent of general respondents earned the same percentage, whereas cent per cent of textiles and electricals and electronics respondents earned 21% to 30% profit and about 71.8 per cent of the general and 26.7 per cent jewellery respondents are in the range of 21% to 30% profit.

Overall we can conclude that the profits earned by the respondents are adequate. Even in high competition in the present business environment the respondents are earning good profits and it is a healthy sign for the new entrepreneurs to start their business without any fear.

15. Factors influencing the decline of profit in the business

Table 15 : Various factors influencing the decline of profit in the business

S. No.	Factors	1	2	3	4	5	6	7	8	9	Weighted Rank
1	Lack of demand	80 (720)		60 (420)	60 (360)	80 (400)		80 (240)			4 (2140)
2	Increase in competition	220 (1980)	80 (640)	60 (420)							1 (3040)
3	Introduction of new products by competitors	60 (540)	220 (1760)	80 (560)							2 (2860)
4	Technical obsolence		60 (480)	80 (560)	80 (480)	140 (700)					3 (2220)
5	Increase in material cost			80 (560)	80 (480)	140 (700)	60 (240)				5 (1980)
6	Increase in labour cost				80 (480)	140 (700)	140 (560)				6 (1740)
7	Increase in overheads				60 (360)		160 (640)	140 (420)			7 (1420)
8	Govt regulations								360 (720)		8 (720)
9	Any other									360 (360)	9 (360)

The factors influencing the decline of profit in the business is divided into 9 categories and furnished in table no: 15. The respondents were asked to rank the factors according to their order of merit. The total sample respondents gave first rank to increase in competition, 2nd rank to introduction of new products by competitors, 3rd rank to technical obsoelnce, 4th rank to lack of demand, 5th rank to increase in material cost, 6th rank to increase in labour cost, 7th rank to increase in overhead cost, 8th rank to government regulations and 9th rank to other reasons.

The table concludes that increase in competition, introduction of new products by competitors and technical obsolence are the major factors that hampered the profits. In the present business scenario the competition for business is increasing day by day and they are trying to introduce new products with advanced technology to more customers. Moreover present generation people are not using old technology goods and demanding for new products with high technology. The study also proved that the above three factors are playing dominant role in reducing the profit of the business.

16. Reinvestment of profits in the same activity

Table 16 : Reinvestment of profits in the same activity

Category of Business	Yes	No	
General	146 70.9%	60 29.1%	206 100.0%
Textiles	25 83.3%	5 16.7%	30 100.0%
Jewellery	24 80.0%	6 20.0%	30 100.0%
Electronics & Electricals	86 91.5%	8 8.5%	94 100.0%
Total	**281** **78.0%**	**79** **22.0%**	**360** **100.0%**

Chi-Sq - 16.661, P-Value - 0.001

Respondents' opinion on reinvestment of profits in the same activity is portrayed in table no: 16. A whopping majority of 78.0 per cent of the total sample respondents revealed that they have reinvested the profits in the same activity and balance of 22.0 per cent of them did not reinvest the profit in the business. The category wise analysis reveals that vast majority of 91.5 per cent electronics & electricals, 83.3 per cent textiles, 80.0 per cent jewellery and 70.9 per cent general respondents have invested their profits in the same activity.

The table concluded that a majority of 78 per cent of the respondents have reinvested their profits into the business. The reasons might be that they want to develop the existing business instead of starting new business and to earn more profits.

The above table portrays that respondents who were from general category of business opined significantly differently from the remaining categories followed by Jewellery category and the opinion of these four categories of businesses is statistically significant at 5 per cent level as per the p-value 0.001 and chi-square test 16.661. Hence the hypothesis is rejected and variables are dependent to each other.

17. Reasons for not reinvesting the profits in the same activity

Table 17 : Respondents opinion on reasons for not reinvesting the profits in the same activity

S.No	Reasons	1	2	3	4	5	Weighted Rank
1	To meet consumption needs	50 (250)	10 (40)	8 (24)	4 (8)	7 (7)	1 (329)
2	To divert funds to other business	6 (30)	35 (140)	10 (30)	10 (20)	18 (18)	4 (238)
3	For acquisitions of fixed assets	8 (40)	40 (160)	12 (36)	6 (13)	13 (13)	2 (261)
4	For investment in banks	7 (35)	32 (128)	22 (66)	5 (10)	13 (13)	3 (252)
5	For money lending				60 (120)	19 (19)	5 (139)

Table no: 17 explains the reasons for not investing the profits into the business. Likert's five points scale was used to these opinions and weighted scores were computed to find in-depth of the reasons. The opinion of 79 respondents who did not reinvest profits into the same business were taken into consideration.

It is found from the table that the reason to meet consumption needs stood first rank with 329 points, second rank with 261 points to acquisition of fixed assets, third rank with 252 points for investment in banks, fourth rank with 238 points to divert funds to other business and fifth rank with 139 points to lending money to others.

As per the perception of the respondents, it is concluded that to meet consumption needs and acquisition of fixed assets are the major reasons for not re-investing the profits into the business. It is to be noted that because of the high stand of living, high medical and educational expenses most of the respondents are using their profit to meet their consumption needs instead of reinvesting the profits into the business.

18. Earning profits after commencement of business

Respondents' opinion on profits earned after the commencement of business is presented in table no.18. It is surprising to note that all the 360 respondents of all the categories of business have earned profit below 2 years of commencement of business.

Table 18 : Earning profits after commencement of business

Category of Business	Below 2 Years	Total
General	206 100.0%	206 100.0%
Textiles	30 100.0%	30 100.0%
Jewellery	30 100.0%	30 100.0%
Electronics& Electricals	94 100.0%	94 100.0%
Total	**360** **100.0%**	**360** **100.0%**

19. Annual income of the respondents

Table : 19 Annual incomes of the respondents

Category of Business	Annual income				Total
	1-2 lakhs	2-3 lakhs	3-4 lakhs	Above 4 lakhs	
General	82 39.8%	74 35.9%	30 14.6%	20 9.7%	206 100.0%
Textiles	7 23.3%	8 26.7%	10 33.3%	5 16.7%	30 100.0%
Jewellery	6 20.0%	12 40.0%	6 20.0%	6 20.0%	30 100.0%
Electronics & Electricals	13 13.8%	17 18.1%	42 46.6%	22 23.4%	94 100.0%
Total	**108** **30.0%**	**111** **30.8%**	**88** **24.4%**	**53** **14.8%**	**360** **100.0%**

Chi-Sq - 58.074, P-Value - 0.000

Respondent's annual income is shown in table no.19. About 30.0 per cent and 30.8 per cent of the total sample respondents are earning one to two lakhs and two to three lakhs respectively, 24.4 per cent of them earning three lakhs to four lakhs and 14.8 per cent of them earning above four lakhs. The highest per cent in category wise analysis reveals that 39.8 per cent general respondents are earning one to two lakhs, 40.0 per cent of the jewellery respondents are earning two to three lakhs, 46.6 per cent and 23.4 per cent of electronics & electricals respondents are earning three lakhs to four lakhs and above four lakhs respectively.

The table concluded that electronics & electricals respondents are earning more income than the other categories, the reason might be that because of the development in media people are purchasing TV's and radios. Nowadays television has become as a bare necessity and everybody are wishing to have T.V.s in their residence irrespective of their income levels. In addition to T.V, cell phones, sound system, refrigerator, washing machines, computers etc. have become necessity in our daily life; because of the above appliances the electronics & electricals respondents are earning more profits when compared to other categories.

The monthly income of these four categories of the business is statistically different at 0.05 levels as per the significant value of chi-square 58.074 and p- value 0.000 i.e., based on the category of business the monthly income of the respondents varies. Further, electronics & electricals category of respondents are getting more income than the remaining three categories followed by Jewellery category and the difference is statistically significant. Hence the hypothesis is refuted and the variables are dependent to each other.

20. Respondents' perception about his economic background

Table : 20 Respondents' perception about his economic background

Category of Business	High Income	Middle	Total
General	58 28.2%	148 71.8%	206 100.0%
Textiles	6 20.0%	24 80.0%	30 100.0%
Jewellery	22 73.3%	8 26.7%	30 100.0%
Electronics & Electricals	72 76.6%	22 23.4%	94 100.0%
Total	**158** **43.9%**	**202** **56.1%**	**360** **100.0%**

Chi-Sq = 50.794, P-Value = 0.000

Table no.20 reveals about the respondents perception about their economic background. A majority of 56.1 per cent of the total sample respondents perceived that their financial background is at middle income level and 43.9 per cent revealed high income level. In categories it may be observed that 76.6 per cent and 73.3 per cent of electronics & electricals and jewellery respondents perceived themselves in higher income group. Least per cent of 28.2 and 20.0 of general and textiles respondents revealed higher income. A vast majority of 80.0 per cent of textiles followed by 71.8 per cent general, 26.7 per cent jewellery and 23.4 per cent electronics & electricals respondents perceived themselves in middle income level.

It may be concluded that a whopping majority of 76.6 per cent electronics & electricals and 73.3 per cent jewellery respondents perceived themselves in higher income group because they earned more income than the other two categories of business.

The Above table discloses that the economic background of electronics & electricals and jewellery respondents are higher than the remaining two categories and the difference is statistically significant as per the chi-square significant value 50.794 and P-value 0.000 of 0.05 per cent level of significance. Thus the hypothesis rejected and variables are dependent to each other.

Findings and Conclusion

A predominant proportion of 97.2 per cent of the total sample respondents opined that they purchased the products by requirement. In the present marketing scenario only quality goods are purchased by the consumers. Now-a-days consumer is considered as king in the market and entrepreneurs have to give quality goods to the consumers in order to satisfy their wants. About 138 respondents are advertising their products. Among all the Media of advertisements stickers, news papers, television and radio are used by the majority of the respondents. It is evident from the data that a huge majority of 81.7 per cent of the total sample respondents are satisfied with the present sales position. Regarding difficulties encountered in trading the products are lack of finance, climatic conditions, perishability and mortality are playing dominant role.

All the 360 respondents invested own capital in addition to the loans. It is surprising to note that the respondents are frank enough to reveal about return on capital employed by them. A vast majority of 77.8 per cent of them declared 21% to 30% profit. A majority of 78 per cent of the respondents have re-invested their profit into the business. On the other hand respondents' opinion on reasons for not reinvesting profits in the same activity is, to meet consumption needs and acquisitions of fixed assets are the major reasons. Respondents' perception about their economic background revealed that the majority of 56.1 per cent of the total sample respondents perceived their financial background is at middle income and 43.9 per cent revealed high income. It may be concluded that among categories a whopping majority of 76.6 per cent electronics and electricals and 73.3 per cent jewellery respondents perceived themselves in higher income group because they earned more income than the general and textiles respondents.

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Role and Relevance of Credit Rating - A Study with Special Reference to Retail Equity Investor's Perception in India

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Abstract

Credit rating agencies play an important role in providing one source of information that aids exactitude and market competence thereby tumbling the imbalance of information that often exists among the stock market investors. Credit rating provides analytical assistance to the potential investors on the extent of risk involved in the appropriate repayment of principal and interest. Rating gives advanced information about the rated product at low cost to the investor. Thus, the investor can effortlessly identify the risk involved and obtain predictable benefit of the instrument by glancing at the symbols. This study endeavors to act show as to how the retail equity investors could enhance their participation in the Indian Capital market by relying on the information dished out by the credit rating agencies. The methodology of the study is based on primary data collected through well framed and structured questionnaire to elicit the perception of retail investors on the usefulness of credit rating agencies. Factor analysis by principal component method has been applied to reduce the number of awareness of rating among the retail equity investor related variables and usage of ratings related variables into four meaningful factors respectively. Multiple regression analysis has been employed to establish the influence of Awareness of the ratings among the retail equity investor with the usage of rating by the retail equity investor. Results reveal that awareness about the credit rating by providing appropriate information to the retail equity investors and integrity of Credit Rating play vital role in creating maximum Usage of rating by offering Credit Protection to the equity investor.

Keywords: Credit rating agencies, Credit Protection, Performance Benchmark, Integrity, Stock Market

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1.1 Introduction

Credit rating agencies act as drivers of the stock market volatility. Any rating news which has a positive externality reduces credit risk, and a negative externality, increases volatility risk. The volatility may depend on two sets of factors: the effect of regulations embodying such ratings, and the communication policies adopted by Credit Rating Agencies. Credit rating agencies play an important role in providing one source of information that aids exactitude and market competence thereby tumbling the imbalance of information that often exists among the stock market investors. Credit rating provides analytical assistance to the potential investors on the extent of risk involved in the appropriate repayment of principal and interest. It is often made out that Credit rating is a basis of reliable information for many users as rated instruments highlight the company's financial health. Rating gives advanced information about the rated product at low cost to the investor. Thus, the investor can effortlessly identify the risk involved and obtain predictable benefit of the instrument by glancing at the symbols. The underlying principle of rating service is to refurbish investor's confidence. In fact, ratings establish the link between risk and return along with the provision of a yardstick to assess the risk level and compare the offered rate of return that influences the composition of the investor's portfolio. Credit rating is used as decisive inputs in determining their portfolio by the investors. Credit rating agencies operate as one of source to fulfill the information gap to the retail investors who are amateur in investment activities. Credit rating agencies help to perforate the haze of asymmetric information by offering judgments in the form of opinion about the credit quality of the instrument. Thus, the credit rating agencies have evolved to play an informational intermediary role. Stock market is extensively considered as a principal pointer to replicate investor's outlook of futuristic economic conditions. This study endeavors to act show as to how the retail equity investors could enhance their participation in the Indian Capital market by relying on the information dished out by the credit rating agencies

1.2 Review of literature

Ed DeHaan (2013) examined the credibility of rating agencies with regard to corporate credit rating of Structured Finance Product (SFP). The author identified that the inaccurate corporate ratings affected investor's participants in debt market due to information variation in the year 2007. Finally, he concludes that the credibility is primary determinant for market participants to rely for making investment decision.

Matthias Bodenstedt and Daniel Rosch (2012) focus in their study on the ability of ratings agencies to adjust their ratings prior to the impairment of structured finance transactions and also identify the macroeconomic factors that explain differences in Moody's performance. Ratings depend upon the volume of transaction, rating quality, competition, amount of default etc. Based on an empirical study of 13679 impairments rated by Moody's, it is focused that ratings are generally adjusted prior to default. It allowed investors to adapt to the increased portfolio risk. Finally, they suggest that investors and regulators should consider things other than ratings such as volume, asset type, time since origination and the overall economic situation

Shreekant Iyengar (2012) argues that there should be similarities among the ratings issued by two or more rating agencies on one particular instrument. Further, the author compares rating relationship between Moody's and S&P on sovereign debt instruments during the period from 2007 to 2010. The author used regression analysis to find out the relationship between the two ratings.The researcher found that there is statistically a significant difference in sovereign ratings of Moody's and S&P even though they are using a common methodology to rate the instruments which leads misperception among the investors, about the rating agencies. This eventually leads to confusion among the investors on investment decision making.

Farisa Zarin (2012) argues that the credit ratings are intended for use by wholesale market participants, credit ratings are only supplement and not a replacement for own credit analysis. Higher risk results when that retail investors over-rely on credit ratings and also Risks would be greater, if the Government encouraged retail investors to use credit ratings, especially under a licensing 'regime'. Finally he recommends, against the Government or Australian Securities and Investments Commission (ASIC) facilitating the provision of credit ratings directly to retail investors for interpreting as the Government which is encouraging retail investors to rely on ratings, and also Australian retail investors encouraged to get the wrong idea about credit ratings provided by a Credit rating agencies holding retail Australia financial services licence (AFSL) as recommendations to buy or sell securities.

Kaur, Kuljeet (2012) made an attempt to analyze the impact of ratings on debt market and investors in US. The authors evaluated that the ratings had a direct impact on the debt market as the cost of the firm and the marketability of the issue were determined by the assigned ratings and the investors regard the recent ratings as indicators of the firm's overall investment quality including the cost of debt and equity. The study inducted that there were certain difficulties in rating qualitative factors called as rater's judgment, which might be properly taken into consideration while rating the to make the ratings more effective.

1.3 Statement of Problem

During the period of global financial crisis, investors who relied on credit rating agencies and had bought the fake financial products and suffered huge losses.In fact, the activity of credit rating agencies is one of the factors that add pressure to volatility. For instance, rating related news such as publication of a rating or revision of the existing rating is linked with volatility, although it is true that credit rating agencies act as information intermediary to the retail equity investors.

1.4 Research Questions

- Are the retail equity investors are aware of ratings assigned by credit rating agencies?
- Are the ratings assigned by Credit rating agencies in India useful to the retail equity investors?

1.5 Objectives of the study

- To study the perception of retail equity investors about their awareness about the credit rating agencies
- To study the perception of retail equity investors about the usage of credit rating agencies

1.6 Methodology

The methodology of the study is based on primary data collected through well framed and structured questionnaire to elicit the perception of retail investors on the usefulness of credit rating agencies. Simple random sampling has been used to collect responses from the retail investors. The study has been conducted among the retail investors of different broking and sub broking firms having several branches in Chennai City.

The sample of the study is limited to retail equity investors because individual investors constitute an important group in the financial market place and it becomes even more pronounced taking into consideration that even an emerging economy like India already accommodates 2.02 million individual retail investors being largest in the world. Further this research demonstrates that primary survey can contribute several important ways to increase the level of awareness among the retail equity investors in using credit rating services

1.7 Questionnaire Design

The questionnaire consisted of the following parts:

Part I Elicits the demographic profile of the respondents

Part II Deals with their Awareness of the Ratings

Part III Seeks details on their Usage of ratings assigned by rating agencies

Questionnaire was also administered to the retail investor participants in the meetings conducted by the Madras Stock Exchange, Bombay Stock exchange, National Stock exchange and Securities Exchange Board of India at Chennai City

1.8 Data Collection

Data for this study was primarily collected through a survey in the form of a questionnaire as well as through research based published data concerning retail investor participation. Primary data refers to data, which is collected for specific purpose and which is required in order to complement secondary data.Secondary data refers to the existing collected and summarized material of the research papers and publications. This data originates from sources such as databases, literature, journals and the internet.

The primary data was collected from the retail clients of share broking firms in person by the researcher through survey method. For a few respondents who were busy during trading hours and those who experienced difficulty in language, responses were collected orally by the researcher in a one-to-one interview manner. A mail survey instrument was also chosen as the method of collecting the self-reported data. Despite potential problems with non-response, mail questionnaires are commonly held as the most efficient means of collecting empirical data. The researcher developed a web page that contained the survey questionnaire and allowed respondents to mail their response to an email account specifically created for this purpose.

2.1 Empirical Results and Discussion

In this section the researcher deals with the empirical analysis and discussion. Factor analysis by principal component method has been applied to reduce the number of awareness of rating among the retail equity investor related variables and usage of ratings related variables into four meaningful factors respectively.

Multiple regression analysis has been employed to establish the influence of Awareness of the ratings among the retail equity investor with the usage of rating by the retail equity investor.

Table 1 : Reliability

Role and Relevance of rating	Cronbach's Alpha	No. of Variables
Awareness	.800	11
Usage	.611	10
Benefit	.660	10

Source: Computed Data

Cronbach alpha test was used to determine the degree of consistency among the multiple measurements of each factor. It measures the inter-item reliability of a scale generated from a number of items. Ideally, the reliability coefficient above 0.5 is considered acceptable as a good indicator of construct reliability, above 0.6 is treated satisfactory, but alpha above 0.7 is considered sufficient. The questionnaire responses exhibited Cronbach-Alpha value of 0.800 for items relating to awareness of the rating among the retail equity investor, 0.611 for items relating to usage of the rating given by rating agencies to retail equity investor and .660 for items related to the benefit of ratings given by rating agencies. These alpha values are statistically significant to ensure a smooth normal distribution and to justify the sample statistics for the representation of population parameters.

2.2 Factor Analysis for Awareness about the ratings

Grouping the variables gives more clarity on the subject and also on the decision mechanism design. In view of this, the researcher grouped the items using Principal Component Analysis with Varimax and Kaiser Normalization. In this part of the analysis the researcher attempts to identify the factors responsible for awareness about the rating among the retail equity investor. There are 11 variables quoted in the Questionnaire therefore the data reduction is done through the application of factor analysis by principal component method and the following results are obtained.

Table 2 : KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adqueacy		.711
Bartlett's Test of Sphericity	Approx Chi square	170.568
	df	55
	Sig	.000

Source: Computed Data

From the table No 2 it is found that KMO measure of sampling adequacy is .711, Bartlett's Test of Sphericity with approximate chi square value 170.568, p = .000 are statistically significant at 5 percent level. Therefore, it can be concluded that the variables considered for Factor Analysis form the normal distribution less than 5% admissible error to represent the factors emerged. This implies that the sample size is adequate for data reduction process and creates a conductive situation to ascertain the latent factors responsible for awareness about the rating among the retail equity investor.

Table 3 : Communalities

Awareness of Rating Agencies	Initial	Extraction
Rating help to recognize unknown issuer company	1.000	.648
Ratings is highly important at times of uncertainty	1.000	.822
Rating provided by all the agencies are equally reliable	1.000	.775
Ratings help in disseminating information to relatively uninformed investors	1.000	.606
Ratings considers all the financial information of the company	1.000	.403
Ratings distill the complex financial structure into user friendly symbols	1.000	.778
Rating provides adequate information	1.000	.712
Rating facilitates portfolio decision making	1.000	.693
Rating acts as an information equalizer to enlarge the investor base	1.000	.683
Ratings boost the investor confidence	1.000	.743
News of downgrade rating affects investment decisions	1.000	.679

Extraction Method: Principal Component Analysis.

From the table No 3 it is found that the 11 variables exhibit the variances from .403 to .822. This implies that the range of variations defined "between" 40 percent to 82 percent, which is statistically significant to go ahead for the meaningful data reduction process. This is adequate for factor segmentation from the variables. This leads to the factor formation as stated in the table below

Table 4 : 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	3.793	34.480	34.480	3.793	34.480	34.480	2.189	19.903	19.903
2	1.458	13.255	47.735	1.458	13.255	47.735	2.037	18.514	38.417
3	1.248	11.341	59.077	1.248	11.341	59.077	1.933	17.572	55.989
4	1.044	9.494	68.571	1.044	9.494	68.571	1.384	12.582	68.571
5	.870	7.911	76.483						
6	.673	6.119	82.602						
7	.507	4.609	87.210						
8	.483	4.387	91.597						
9	.386	3.507	95.104						
10	.327	2.968	98.073						
11	.212	1.927	100.000						

Extraction Method: Principal Component Analysis.

From the table No 4, 11 variables are reduced into 4 predominant factors. It is found that 11 variables exhibit the total variance of 68.571 percent. It is also ascertained that the four factors individually possess the variances 19.903 percent, 18.514 percent, 17.572 percent, 12.582 percent respectively. This leads to variable loading of each factor that is responsible for the creating awareness about the ratings among the retail equity investor. This leads to factor segmentation through grouping of variables as shown in the rotated component matrix.

Table 5 : Rotated Component Matrix

Awareness of Rating Agencies	Component			
	1	2	3	4
Rating acts as an information equalizer to enlarge the investor base	.792			
Rating provided by all the agencies are equally reliable	.697	.442		
Ratings considers all the financial information of the company	.578			
Ratings boost the investor confidence		.794		
Ratings help in disseminating information to relatively uninformed investors		.742		
Rating facilitates portfolio decision making		.615	.510	
News of downgrade rating affects investment decisions			.780	
Ratings is highly important at times of uncertainty	.506		.622	
Rating help to recognize unknown issuer company	.499		.616	
Ratings distill the complex financial structure into user friendly symbols				.793
Rating provides adequate information			.457	.636

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 15 iterations.

The rotated component matrix in the factor analysis grouped the variables as follows. The factor I consists of three variables having the variance of 19.903% whichrepresents the Information equalizer, reliable ratings, financial information. The factor I is labeled as "Information Factor".The factor II consists of three variables having the variance of 18.514% whichrepresents the Investor confidence, Accurate Information, Portfolio Decision making. The factor II is labeled as "Integrity Factor".The factor III consists of three variables having the variance of 17.574% whichrepresents the Downgrade rating news, Significant at uncertain times, Recognition of unknown issuer. The factor III is labeled as "Accountability Factor".The factor IV consists of two variables having the variance of 12.582% whichrepresents User friendly symbols, adequate information. The factor IV is labeled as "Knowledge Factor".

2.3 Factor Analysis for Usage of the ratings

Grouping the variables gives more clarity on the subject and also on the decision mechanism design. In view of this, the researcher grouped the items using Principal Component Analysis with Varimax and Kaiser Normalization. In this part of the analysis the researcher attempts to identify the factors responsible for awareness about the rating among the retail equity investor. There are 10 variables quoted in the Questionnaire therefore the data reduction is done through the application of factor analysis by principal component method and the following results are obtained.

Table 6 : KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adqueacy		.526
Bartlett's Test of Sphericity	Approx Chi square	146.402
	df	45
	Sig	.000

Source: Computed Data

From the table No 6, it is found that KMO measure of sampling adequacy is .526, Bartlett's Test of Sphericity with approximate chi square value 146.402, p = .000 are statistically significant at 5 percent level. Therefore, it can be concluded that the variables considered for Factor Analysis form the normal distribution to represent the factors emerged. This implies that the sample size is adequate for data reduction process and creates a conductive situation to ascertain the latent factors responsible for usage of the rating among the retail equity investor.

Table 7 : Communalities

Usage of Rating Agencies	Initial	Extraction
Rating exhibits the creditworthiness of the instrument	1.000	.717
Rating is the indicator of safety of investment	1.000	.807
Rating symbols are signs of credibility	1.000	.705
Rating determines the extent of credit risk relating to instruments	1.000	.555
When the market are under stress, investors question the veracity of ratings	1.000	.823
Rating agencies devote sufficient resources to assess the quality of instrument	1.000	.679
Rating decisions are influenced by the pressures from issuers	1.000	.688
Rating agencies are governed by the provisions of their own code of conduct	1.000	.791
Rating agencies provide performance benchmark of corporate business practice	1.000	.501
Rating agencies are unbiased in giving credit opinions	1.000	.837

Extraction Method: Principal Component Analysis.

From the table No 7 it is found that the 10 variables exhibit the variances from .501 to .837. This implies that the range of variations defined "between" 50 percent to 83 percent, which is statistically significant to go ahead for the meaningful data reduction process. This is adequate for factor segmentation from the variables. This leads to the factor formation as stated in the table below

Table 8 : 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	2.780	27.804	27.804	2.780	27.804	27.804	2.460	24.604	24.604
2	1.630	16.302	44.105	1.630	16.302	44.105	1.706	17.057	41.661
3	1.580	15.797	59.902	1.580	15.797	59.902	1.524	15.239	56.900
4	1.112	11.124	71.026	1.112	11.124	71.026	1.413	14.126	71.026
5	.822	8.220	79.246						
6	.680	6.798	86.045						
7	.542	5.422	91.466						
8	.422	4.219	95.686						
9	.238	2.383	98.069						
10	.193	1.931	100.000						

Extraction Method: Principal Component Analysis.

From the table No 8, ten variables are reduced into 4 predominant factors. It is found that 10 variables exhibit the total variance of 71.026 percent. It is also ascertained that the four factors individually possess the variances 24.604 percent, 17.057 percent, 15.239 percent, 14.126 percent. This leads to variable loading of each factor that is responsible for the usage of the ratings among the retail equity investor. This leads to factor segmentation through grouping of variables as shown in the rotated component matrix.

Table 9 : Rotated Component Matrix

Usage of Rating Agencies	Component			
	1	2	3	4
Rating is the indicator of safety of investment	.887			
Rating symbols are signs of credibility	.813			
Rating exhibits the creditworthiness of the instrument	.810			
Rating determines the extent of credit risk relating to instruments	.562			.404
Rating agencies are unbiased in giving credit opinions		.863		
Rating agencies are governed by the provisions of their own code of conduct		.816		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 5 iterations.

The rotated component matrix in the factor analysis grouped the variables as follows. The factor I consists of four variables having the variance of 24.604 % which represents Safety Investment indicator, Sign of credibility, Instrument Creditworthiness, Financial Instrument's Credit Risk. The factor I is labeled as "Credit Protection Factor".The factor II consists of two variables having the variance of 17.057 % which represents the Unbiased Credit Opinions, Own Code of Conduct. The factor II is labeled as "Opinion Factor".The factor III consists of two variables having the variance of 15.239 % which represents Pressures from issuers, Performance benchmark. The factor III is labeled as "Company Factor".The factor IV consists of two variables having the variance of 14.126 % whichrepresents Quality of Instrument, Question on Rating Accuracy. The factor IV is labeled as "Quality Factor".

2.4 Multiple regressions Analysis

The researcher employs multiple regression analysis to examine the collective influence of awareness about the rating on the usage of the rating among the retail equity investor. Multiple regression analysis is used to predict the variance between the dependent variable and independent variables. The multiple regression analysis explores the interrelationship among variables and the contribution of each predictor to explain the variance in the dependent variable. In this regression approach factors responsible for creating awareness of rating among the retail equity investor are considered as independent variables and factors responsible for the usage of rating among the retail equity investor are expressed as dependent variable.

2.5 Influence of awareness factor on usage of Credit Rating

The factor analysis Principal Component Analysis identified four factor of awareness namely Information, Integrity, Accountability and finally Knowledge and Four factor of usage namely Credit protection, Opinion, Company, and Quality. In this juncture, awareness factors are considered as an independent variable and Usage factors consider as a dependent variable.

The influence of inducted variable over the independent factor is estimated through Linear multiple Regression analyzed as follows:-

Influence of credit protection factor

Regression	R Square = .370	F = 7.051	Sig.= .000
Awareness factors (independent)	Standardized Coefficients	t	Sig.
	Beta	B	Std. Error
Information	.489	4.271	.000
Integrity	.241	2.104	.041
Accountability	.198	1.731	.090
Knowledge	.183	1.593	.118

Sources: Computed data

From the above the table it's found that R^2=.370, F=7.051, Beta (sig.) = .000 are statistically significant at 5% level. This indicates the awareness factors create significant influence over one of the Usage factor namely "Credit protection", among the four factors of awareness only two factors are statistically significant at 5% level namely Information (t=4.271, Beta = .489, B=.000) and Integrity (t=2.104, Beta = .241, B=.041). This indicates Awareness about the credit rating by providing appropriate information to the retail equity investors and integrity of Credit Rating play vital role in creating maximum Usage of rating by offering Credit Protection to the equity investor.

Influence of Quality factor

Regression	R Square = .406	F = 8.200	Sig.= .000
Awareness factors (independent)	Standardized Coefficients	t	Sig.
	Beta	B	Std. Error
Information	-.057	-.516	.608
Integrity	.573	5.152	.000
Accountability	-.264	-2.377	.021
Knowledge	.065	.585	.561

Sources: Computed data

From the above the table it's found that R^2=.406, F=8.200, Beta (sig.) = .000 are statistically significant at 5% level. This indicates the awareness factor create significant influence over one the Usage factor namely "Quality". Among the four factors of awareness only two factors namely Integrity and Accountability are statistically significant at 5% level (integrity (t=5.152, Beta = .573, B=.000) and Integrity (t=-2.377, Beta =.-264, B=.021)). Results obtained confirms with the previous research undertaken by Sarbjit Singh Bedi and Sukhwinder kaur (2013) found out the awareness level of credit-rating agencies among SMEs and the researchers concluded that there are three factors which enhanced the effectiveness of credit rating companies namely managerial effectiveness, credibility and creative marketing efforts. This indicates integrity of the credit rating agencies in delivering appropriate information enables the retail equity investors in formulating portfolio decisions. Ratings is highly important at the times of uncertainty and news of downgrade rating affects investment decisions. Thus rating agencies must make themselves accountable in providing quality information.

3. Conclusion

The reputation and reliability of Credit Rating Agencies have taken a knock since the US subprime crisis of September 2008. Investors have seen their lifetime savings wiped out and governments have been voted out of power. This vantage position of CRAs as setters of investment flow has empowered them as makers or breakers of the fortunes of the countries or corporations, enabling them to turn king makers in one sense and bureaucrats at best in another. The findings of the study show that at enabling investors to know how relevant and reliable the ratings when it comes to inspiringconfidence of investors. Rating the company to reflect an overall perception should be made mandatory and effective as every industry has different risk profile. But Credit Rating Agencies gaze at them through the similar lens. This study highlights the need for the benchmark for the ratings and Credit Rating Agencies have to assume some kind of responsibility and accountability for their actions.

Although credit rating agencies play a significant role in guiding investors in making good investment decision, it is often found the some credit rating agencies indulge in wanton manipulation of rating grades in order to arm-twist a company or a sovereign government. There is an urgent therefore to improve the ethical practices adopted by credit rating agencies in order to improve their standards of practice from the point of view of investors, issuers and regulators both at national and at global level. In fact, there is an urgent need to create awareness about the relative importance of credit rating agencies so as to bring confidence in the investors.

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Appendix - 1

QUESTIONNAIRE

"Role and Relevance of Credit Rating - A study with special reference to retail equity Investors Perception"

Section A

1. Personal Profile

Kindly Tick the appropriate box

Respondent Name (Optional) :

1. Age group :

Less than 30 [ ]   31-40 [ ]   41-50 [ ]   More than 51 [ ]

2. Marital Status :

   Married [ ] Unmarried [ ]

3. Level of higher education :

   Graduate [ ] Post Graduate [ ] M.Phil./Ph.D. [ ] Professional [ ]

4. Monthly Income (Rs) :

   Up to 20000 [ ] 20001-40000 [ ] 40001-60000 [ ] above 60000 [ ]

5. Occupation :

   Salaried [ ] Self Employed [ ] Professional [ ]

6. Source of Information about Investment avenues :

   Newspapers and [ ] Magazines [ ] official websites [ ]

   Financial Advisors/ Auditors [ ] Others [ ] please specify ---------------------

7. Annual Equity Investment (Rs) :

   Rs.1 Lac- Rs.3 lakhs [ ] Rs.3 Lakhs-Rs. 5 Lakhs [ ] Above 5 lakhs [ ]

8. Investment Horizon: Short term[ ] Long term[ ]

9. How frequently do you invest? :

   Once in a year[ ] Once in six month[ ]

   Once in quarter[ ] Once in a month[ ] Many times in a month[ ]

10. Are you aware of credit rating agencies and their services?

    Yes [ ] No [ ]

11. Do you think the rating provided by CRAs are useful? If Yes then

    Yes [ ] No [ ]

12. What is your level of influence of rating agencies in investment decision making

    Very High [ ] High [ ] Neutral [ ] Low [ ]

    Very Low [ ]

Section B

Indian Retail Equity investors Awareness on Credit Rating

Kindly Tick the appropriate box to indicate your opinion (SA: Strongly Agree, A: Agree, U: Undecided, DA: Disagree, SD: Strongly Disagree)

Sl. No	Statement	SA	A	U	DA	SD
1	Rating help to recognize unknown issuer company					
2	Ratings is highly important at times of uncertainty					
3	Rating provided by all the agencies are equally reliable					
4	Ratings help in disseminating information to relatively uninformed investors					
5	Ratings considers all the financial information of the company					
6	Ratings distill the complex financial structure into user friendly symbols					
7	Rating provides adequate information					
8	Rating facilitates portfolio decision making					
9	Rating acts as an information equalizer to enlarge the investor base					
10	Ratings boost the investor confidence					
11	News of downgrade rating affects investment decisions					

Section C

Usage of Rating to Indian Retail Equity investors

Kindly Tick the appropriate box to indicate your opinion (SA: Strongly Agree, A: Agree, U: Undecided, DA: Disagree, SD: Strongly Disagree)

Sl. No	Statement	SA	A	U	DA	SD
1	Rating exhibits the creditworthiness of the instrument					
2	Rating is the indicator of safety of investment					
3	Rating symbols are signs of credibility					
4	Rating determines the extent of credit risk relating to instruments					
5	When the market are under stress, investors question the veracity of ratings					
6	Rating agencies devote sufficient resources to assess the quality of instrument					
7	Rating decisions are influenced by the pressures from issuers					
8	Rating agencies are governed by the provisions of their own code of conduct					
9	Rating agencies provide performance benchmark of corporate business practice					
10	Rating agencies are unbiased in giving credit opinions					

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Behavioural Biases and Perception of Retail Investors in Stock Market - An Empirical Approach

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Abstract

Indian investor portfolio constitutes Bank Fixed Deposit, risk-free government securities, tax-favoured assets, low-yielding instruments and non-financial asset (e.g. gold) but do not participate in stock markets. The researcher measures the collective influence of demographic variables, financial Knowledge, investment objectives, appraisal techniques and strategies, portfolio composition pattern, personality traits on the psychological biases using Structural Equation Modelling. The study uses structural equation model (SEM) to simultaneously estimate and test how latent variables and their measurements are related. Based on previous literature, hypothetical structural equation model is proposed and analysed. The model is developed to explore how the personality traits, demographic variables, financial knowledge, investor objectives, appraisal techniques, portfolio composition, trading performance and psychological biases are related. The application of structural equation modeling is brought into the context of verifying the relationship between independent and dependent variables. The structural equation modeling simultaneously verifies both parametric and non parametric relationships through five goodness of fit indices and a overall chi-square for the number of relationships.

Key Words: Structural equation Model, stock markets, financial knowledge, psychological biases, personality traits.

1.1 Introduction

Research studies amply demonstrate that though there is substantial heterogeneity in individual financial portfolios, many individuals do not hold stocks in their portfolio (Campbell, 2006; Haliassos and Bertaut, 1995) which is aptly described as non-participation puzzle (Mankiw and Zeldes, 1991). Typical Indian investor portfolio constitutes Bank Fixed Deposit, risk-free government securities, tax-favoured assets,

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low-yielding instruments and non-financial asset (e.g. gold) but do not participate in stock markets (RBI report, 2010). Literature evidences that individuals shy away from markets due to lack of awareness of bundle of assets such as stocks and mutual funds, information barriers (Guiso and Jappelli, 2005), transaction and information costs (Vissing- Jorgensen, 2004)

Economic psychology literature identified that household savings are driven for four reasons, namely: Cash management, Precautionary motive (Saving for unexpected expenditure), Down payment motive and wealth management. Katona (1975) found in 1960 that the US individual investors saved towards buffer (sudden expenditures or emergencies), retirement savings, for children and to buy durable goods, house etc. Interestingly, few respondents replied that they saved to earn additional income or leave inheritance. Kotlikoff (1989) found that household savings in US are driven by precautionary motive especially for old age.

2.1 Review of Literature

Xiao and Noring (1994) observed that families with little resources save primarily for survival but if resources increase, motivation to save for emergencies also increase. At highest level of income, motivation concerning retirement, children and improvement in standard of living gain importance. Warneryd (1995, 1999) reported similar motives and stated that people save for different reasons at the same time. According to him, at first level, saving is habitual without specific goal, second level is precautionary (towards future uncertainty), the third motive is bequest motive (accumulating wealth for family and inheritance), the fourth level being profit motive, to get additional income from investment in the future. Likewise Canova, Rattazzi and Webley (2005) analysed the goals that motivated Britons to save and framed a hierarchical structure of 15 goals. Buffer for unexpected expenditure, house/vacation were the concrete goals at the bottom of the hierarchy and psychological goals such as self-gratification and self-esteem at higher levels. They also evidenced that savings motives do not entirely depend on socio-economic variables.

While devising investment decisions, securities are evaluated relative to the goals defined by aspiration levels and probability of success. There are separate mental accounts created by the investors and associated aspiration level corresponding to their different goals (Das et al. 2010). Investment goals considered for investment decision making are capital growth, retirement saving, hobby or speculation (Lewellen, Lease and Schlarbaum, 1980). In several studies investor behaviour had been conceptualised as goal-oriented behaviour. It means that investors carry out investment decisions to attain certain goals. Goals are broadly defined as mental representation of desired states

(Austin and Vancouver, 1996). The goals of investment have sequence of priority and an order of preference which dominates the behaviour of the investor.

A large empirical literature in finance documents the lack of portfolio diversification by investors. Particularly, literature on household asset allocation decisions, retirement saving decisions of individuals, establish that they tend to un-diversify, under diversify their portfolios or do not hold stocks in their portfolios. It is rather difficult to find whether they conform to rational models of investor behaviour. The substantive literature in finance which document the portfolio choices of individual investors suggest that they hold under-diversified equity portfolios (Lease, Lewellen and Schlarbaum (1974); Blume and Friend (1975); Kelly (1995), Barber and Odean (2000); Goetzman and Kumar (2005); Polkovnichenko (2005)); under-diversified household portfolios in various countries (Guiso, Haliossos and Japelli (2002)), under-diversified retirement and pension accounts (Benartzi (2001), Bernatzi and Thaler (2001), Agnew, Balduzzi and Sunden (2003), Huberman and Sengmueller (2004))

2.1.1 Statement of the problem

Investment decisions are seen as an iterative process of interaction between the investor and the investment environment. This investment process is influenced by a number of interdependent variables and dual mental processes viz. cognitive and affective system. The interplay between these systems contributes to bounded rational behaviour in which investors use various heuristics and exhibit biases.

2.1.2 Research question for the study

Can individual differences of retail investor in variables socio-demographic factors, financial knowledge and awareness, objectives and strategy, portfolio composition and personality traits be used to differentiate the nature of psychological biases and to classify the retail investors into stylized biased investor categories?

2.1.3 Need for the study

The sample of the study is limited to individual investors because individual investors constitute an important group in the financial market place and their decision making behaviour is likely to have an impact on the stock market as a whole (De Bondt, 1998). It becomes even more pronounced taking into consideration that even an emerging economy like India already accommodates 2.02 million individual retail investors being largest in the world (PTI, Mumbai, Dec 2012) Further this research demonstrates that primary survey can contribute several important ways to increase one's understanding of investor behaviour.

2.1.4 Scope of the study

The main theoretical contribution of this research study is that retail investors are segmented based on the revealed psychological biases and personality traits together with the self-reported trading and investment-related behavioural pattern. The segments, both of the personality dimensions and the psychological biases provide an opportunity for independent financial advisors and brokers to devise well-crafted investment plans for the retail clients. The retail clients can be urged to take up a personality type test to help brokers evaluate and identify their personality, risk tolerance, life-cycle stage and other qualitative information. Thereupon, the financial advisors can create asset allocation and execute investment programmes designed to mitigate a number of behavioural biases of retail investors

2.1.5 Objectives of the study

To measure the collective influence of demographic variables, financial Knowledge, investment objectives, appraisal techniques and strategies, portfolio composition pattern, personality traits on the psychological biases using Structural Equation Modelling

2.1.6 Limitations of the study

The study design comes with a number of limitations. Firstly, the study is not able to gain access to individual investor's actual trading records as such information is considered commercially sensitive. Moreover, the broking firms are not allowed by the regulatory authorities to divulge these records. As consequence the researcher was not able to reaffirm the accuracy of information provided by the respondents regarding their investment portfolio, preferences and behaviour by scrutinising their actual share trading decisions.

The study's overall sample size is constrained by limited resource in terms of time and associated cost to carry our elaborate empirical research. The various findings in the study will be more credible and better reflect the retail investor population in India if only the researcher is able to obtain access and subsequently to draw the main investor sample from entire nation through net work of branches of various brokerage firms.

The study has been conducted based on the responses of retail investors of share market in Chennai City. Since investor operate in a dynamic and multi period setting, the inferences and findings of the analysis may differ substantially depending upon the time sequence, place, the nature and group of investors. Although the researcher detected the behaviour of retail investors during the bull phase of the stock market viz., 2006-2007, elaborate attempts were made to investigate their behaviour in the post financial crisis period. The stock market was and is undergoing a bear phase with low enthusiasm of investors since then.

3.1.1 Research Methodology

The methodology of the study is based on primary data collected through well framed and structured questionnaire to elicit the perception of retail investors in the share market. Simple random sampling has been used to collect responses from the retail investors. The study has been conducted in a two stage format with preliminary pre-testing followed by the main study.

3.1.2 Study area and period

The study has been conducted among the retail investors of different broking and sub broking firms having several branches in Chennai City. The pilot study was conducted during the period from 1st May 2011 to 15th June 2011 while the main study was conducted during the period from 15th July 2011 to 30th November 2011.

3.1.3 Questionnaire Design

The questionnaire contained one page covering letter signed by the researcher and pre-printed reply envelop. It outlined the intent of the research with an assurance that the information provided by the respondents would be used for academic research only and kept confidential. Studies indicate that factors such as estimation of the time needed to complete the questionnaire and signature of the most senior researcher were found to significantly increase response rates (Hornik, 1981; Brown and Coverly, 1999). Unlike earlier studies, ample time was given to the respondents in our data collection, but with a gentle reminder and frequent follow-up. The questionnaire consisted of 49 questions split into the following parts:

Part I Elicits the demographic profile of the respondents

Part II Deals with their financial knowledge and awareness

Part III Seeks details on their investment objectives, appraisal techniques and strategy

Part IV Consists questions regarding the portfolio composition and trading performance

Part V Contains statements relating to psychological biases

Part VI Contains statements which reflect the personality traits

On gaining a deep insight from different strands of literature in behavioural finance, the researcher drafted the questionnaire for the main study. The questionnaire comprised three different kinds of questions in the form of bipolar type (Yes or No), Multiple choice and Likert's five-point scale type, in order to sustain the interest of the respondents and avert monotony. The questionnaire is divided into six parts, each containing a mix of these questions and a summary of measurement parameters for the study is shown in the table 1 (Appendix)

3.1.4 Selection of Respondents

A heterogeneous sample was adopted to cover a wide variety of demographic group. The prime respondents are the retail investors of share broking firms and sub-broking firms. Since they have numerous branches in Chennai city, care was taken to ensure the selection of retail investors of share market in a fairly proportionate manner. To begin with, the attitude and behaviour of respondents was gauged in the actual trading environment i.e. walk-in retail clients who perform trading operations in the broking firms. But personal visit by the traders to the broking firms for trading had significantly declined in the post global crisis period. Moreover, provision of online trading terminal at convenient locations for the retail clients saw a huge reduction in their personal visit to the broking offices.

Questionnaire was also administered to the retail investor participants in the meetings conducted by the Madras Stock Exchange, Bombay Stock exchange, National Stock exchange and Securities exchange board of India. Further, questionnaire was circulated and collected during the regular meetings conducted by the Tamil Nadu Investors Association. The student traders of B-School Institute for Financial Management and Research, Nungambakkam also responded to the primary survey questionnaire.

3.1.5 Sample Size

The retail investor participation in Chennai city is about 1.4 percentage of its population [CDSL Update]. The total sample size of the study is cross verified for representation of the population parameters. Since the researcher focused on personality traits and psychological biases of retail investors, a factor analysis was run separately for personality traits and psychological bias. The results of the analysis revealed twenty five variables of personality traits which are perfectly grouped into six predominant groups. Similarly, in the case of psychological bias thirty two variables except two are perfectly grouped into ten biases. It clearly shows that the variance of the respondents possess less than five per cent admissible errors to represent the population parameters. Therefore, the researcher profoundly concludes that the sample size of 606 is adequate to conduct the research.

4.1.1 Data Collection

Data for this study was primarily collected through a survey in the form of a questionnaire as well as through research based published data concerning retail investor participation. Primary data refers to data, which is collected for specific purpose and which is required in order to complement secondary data (Wiedersheim- Paul & Eriksson,1997).Secondary data refers to the existing collected and summarized material of the research papers and publications. This data originates from sources such as databases, literature, journals and the internet (Wiedersheim- Paul & Eriksson, 1997).

4.1.2 Primary Data

The primary data was collected from the retail clients of share broking firms in person by the researcher through survey method. For a few respondents who were busy during trading hours and those who experienced difficulty in language, responses were collected orally by the researcher in a one-to-one interview manner. A mail survey instrument was also chosen as the method of collecting the self-reported data. Despite potential problems with non-response, mail questionnaires are commonly held as the most efficient means of collecting empirical data (Wu and Vosika, 1983). The researcher developed a web page that contained the survey questionnaire and allowed respondents to mail their response to an email account specifically created for this purpose.

Based on the pilot study results, 1200 questionnaires were distributed for the main survey to the respondents in Chennai City. The number of questionnaire collected after sustained follow up was 859. Out of the 859 responses only 606 were complete and suitable for statistical analysis. Out of the total 1200, 341 questionnaires were not returned and 253 were eliminated for inconsistent replies and incomplete answers. Therefore, the exact sample size for this study is 606.

4.1.3 Pilot Study

The pilot study was conducted by distributing 150 questionnaires to retail investors of various broking firms in Chennai city but only 100 responses were suitable to be taken up for testing the internal consistency and reliability of the constructs. Cronbach alpha test was used to determine the degree of consistency among the multiple measurements of each factor. It measures the inter-item reliability of a scale generated from a number of items.

Ideally, the reliability coefficient above 0.5 is considered acceptable as a good indicator of construct reliability (Nunnally, 1976), above 0.6 is treated satisfactory (Robinson et.al., 1991), but alpha above 0.7 is considered sufficient (George and Mallery, 2001; Pallant, 2005). The questionnaire responses exhibited Cronbach-Alpha value of 0.806 for items relating to psychological biases and 0.703 for items relating to personality traits. These alpha values are statistically significant to ensure a smooth normal distribution and to justify the sample statistics for the representation of population parameters. Further, during the pilot study, the respondents expressed difficult to comprehend certain questions and give responses. Such issues were redressed to make the questionnaire fully refined for the main study.

5.1.1 Data Analysis

The primary data collected through the questionnaire is analysed using the SPSS-V 15 (Statistical Package for Social Sciences) computer packages. The statistical tools used for data analysis based on the data enumerated from the questionnaire are as follows.

1. Factor analysis by principal component method has been applied to reduce the number of personality traits into ten meaningful factors and Psychological bias into five factors respectively

5.1.2 Factor Analysis of Personality Traits of Retial Investors

The factor analysis of the psychological biases and personality traits is conducted by means of exploratory factor analysis. Factor analysis is used to summarize a set of variables into a smaller set of factors by means of the inter correlation between variables (Pallant, 2007). Within the broad spectrum of factor analysis, this study made use of principal axis factor analysis which rotates the data such that maximum variabilities are projected onto the axes (Pallant, 2007; Tabachnick and Fidell, 2001). In determining the number of factors to be extracted, the Kaiser eigenvalues greater than one criterion is considered (Pallant, 2007).

As a first step towards an exploratory factor analysis, a principal component analysis was conducted in order to determine the underlying dimensions of psychological biases and personality traits of retail investors of share market in Chennai City. Seven principal components were constructed out of the personality traits using the Kaiser's varimax rotation technique which explains 54.926 % of the total variance which shown in Table 2 (Appendix)

The eighth factor in Table 2 (Appendix) which consists of third variable viz. "I analyze market action to respond aptly" and eleventh variable "I do not follow diet or exercise program" which has the peculiarity of negative correlation value. This implies that the variable composition is not mixed up with the factors coined by the researcher. Therefore, the researcher appropriately moved third variable to the fifth component factor to give value addition and variances for the fifth factor and deleted the eleventh variable. The seven components resulting from factor analysis of personality traits are described as follows:

The variables in Table 3 (Appendix) relate to individuals who are assertive, energetic, stimulated and excited with people around. They possess positive emotions and are venturesome to accomplish their ambitions (Watson and Clark, 1997). Conversely, individuals scoring low on the above traits are reserved and independent. They perform things at even pace and prefer to remain in their own company (Taylor and de Bruin, 2006). They correspond to the personality trait extroversion in the big five personality inventory (Costa& McCrae, 2006). Hence, factor I is labeled as gregariousness.

The variables in Table 4(Appendix) relate to individuals who are prone to anxiety; feel unsure and worried about their investments and trading decisions. Such individuals respond emotionally to market events and become easily tensed leading to erratic decisions. Due to their subjective feeling and insecurity, they experience negative emotions and thus enter and exit trade on whims of emotions (Brett.N. Steenbarger, 2003).Additionally, unstable emotions make them less dependable. They correspond to the personality factor high neuroticism of the big five personality inventory (Costa& McCrae, 2006). Hence, factor II is described as Self-consciousness.

The variables in Table 5 (Appendix) indicate that the sample respondents perceive them as risk-averse and risk-avoiders. It shows that investors neither prefer nor have willingness to bear risk to achieve desired outcome in the stock market. They are found to be risk averters as they want to avoid risk and choose the safer option in making the decision. Majority of the investors take risk in order to reap some psychological or material benefit not for the sake of risk itself. This is supported by Olsen (1998) in his studies, in which most people consider themselves to be risk-avoiders rather than risk-takers. Similar results were reported by Audrey Lim Li Chin (2012) in his study where investors tend to be cautious in exercising choice towards investment while judging risk-return relationship. It is expected that their tendency to be risk-averse has exacerbated due to the major losses they had experienced before. Therefore, factor III is labeled as Risk-aversion.

The variables Table 6 (Appendix) deal with individuals who are thoroughly organized, achievement-striving, efficient and adhere to moral precepts (McCrae and John, 1992). They are self-disciplined and persevering. Conversely, individuals who are low on these variables tend to be hedonistic, distractible in their efforts (Taylor and de Bruin, 2006), careless towards responsibilities and disorganized (Haslam, 2007). They correspond to the personality trait conscientiousness in the big five personality inventory (Costa& McCrae, 2006). Hence, factor IV is named as Diligence.

The variables in Table 7 (Appendix) represent individuals who are emotionally stable. They have good emotional control during stressful conditions of trading and are less prone to irrational ideas. They are generally calm and collective under pressure (Hans Eysenck, 1958), remain even-tempered and composed (Taylor and de Bruin, 2006). They are predisposed to adopt practical approach towards market and not capitulated to temptations and desires.(McCrae and Costa, 2006). They correspond to the personality factor low neuroticism of the big five personality inventory (Costa& McCrae, 2006). Hence, factor V is labeled as Pragmatism.

The variables in Table 8 (Appendix) represent individuals who possess inquiring intellect, vivid imagination resulting in creative ideas. They have broad interest domains and appreciate aesthetics. (Trapnell, 1994). Alternately, individuals low on these traits is conventional and conservative. They have narrow interest and remain comfortable with familiar experience and are unwilling to explore new experience (Taylor and de Bruin, 2006). They relate to the personality trait openness to experience in the big five personality inventory (Costa& McCrae, 2006). Hence, factor VI is labeled as Aesthetic.

The variables in Table 9 (Appendix) stated measure individuals who are empathetic, helpful and considerate (Taylor and de Bruin, 2006).They are concerned with individual's interpersonal orientation. (Pervin and John, 2001). Conversely, individuals who are low on them are indifferent, hostile (Haslam, 2007: Pervin and John, 2001), manipulative and self centered (Taylor and de Bruin, 2006). They correspond to the personality trait agreeableness in the big five personality inventory (Costa& McCrae, 2006). Hence, factor VII is named as Altruism.

5.1.3 Factor Analysis for Psychological Bias

The variables covered in the survey capture ten psychological biases exhibited by the retail investors in Chennai city. Table 10 (Appendix) shows the ten principal components which are constructed out of psychological biases using the varimax rotation technique that explain 54.481 % of the total variance.

The variables in Table 11(Appendix) relate to the investor who is motivated to promote positive self views rather than negative self views of themselves (Taylor and Brown, 1988). He strives systematically to promote the perception that others think well of him (Shrauger, 1975). It stems from over confidence (Martin Glaser and Martin Weber, 2003) of the investors which is manifested in the form of illusion of knowledge (H.K Baker and J.R.Nofsinger, 2002), illusion of control (Langer, 1975, Presson and Benassi, 1996), better than average effect (Svenson, 1981).

Retail investors in Chennai City overestimate the accuracy of their own judgment towards stock market which is amplified because others seek information from them regarding investment. Further they are overly confident about their stock picking skill and claim to be self disciplined to fix stop loss limits while trading. It is evident that familiarity towards trading, access to information increases their confidence and induces them to enhance their self image. Therefore, factor I is labeled as Self- enhancement bias.

The variables in Table 12 (Appendix) indicate that the sample respondents in Chennai prefer to be exposed to information that is supportive of their current beliefs rather than to non supportive information which presumably could arouse dissonance (Adam kowol, 2008). The investors are prone to inconsistent thoughts and action leading to disharmony which has to be balanced (Leon Festinger, 1975). Further they are anchored to their preconceived ideas and they ignore any information which is incompatible with their preconceived notion. They interpret new information as confirmation to their prior held beliefs. It reveals that these investors are prone to intrapersonal conflict between their objective self and subjective self. While objective self encourages rational thoughts and decisions subjective self induces instinctive and myopic action to protect self image (Junichiro Ishida, 2010). They try to change their original thought or accept the new thought or rationalize their action to resolve the conflict.

Investors face and handle two consistent realities in the market. On the one hand markets cannot be controlled or predicted and on the other virtually any trader or investor has to try to predict market movements. In such a situation to reduce the dissonance investors pay attention to the evidence that confirms favorable propositions and discount evidence against such propositions. Generally investors agonize over whether they have exercised right choice in trading and investment decisions. Often being plagued with regrets and second thought after tough choice, they automatically seek information that vindicate their decision and allays nagging doubts to reduce dissonance. Therefore, a good way to reduce such dissonance is to seek exclusively positive information on the decision and avoid negative information about it (Aronson, 2004). Thus, factor II is named as Cognitive dissonance.

The variables in Table 13 (Appendix) reflect the investor's tendency to choose familiar stocks rather than unfamiliar ones. It indicates that the sample respondents have distaste for ambiguity as uncertainty accompanies risk. Individuals are averse to ambiguity, as they cause irrational choices (Ellsberg, 1961), emotional tendency such as fear towards risky choices (Peter and Slovic, 1996). Individual investors are likely to express ambiguity aversion because of obvious absence of identifiable parameters of the decision problem which often associated with higher risk and possibly lead to hostile manipulation. Further, retail investors prefer gamble that give them a sense of understanding or competence (Heath and Tversky, 1991). Hence factor III is described as Ambiguity aversion.

The variables in Table 14 (Appendix) imply that sample respondents exhibit unrealistic perception of their control in trading and investment decisions. This bias basically emerges in investors due to their over confidence. So they underestimate the size of the risk they are undertaking and assume large risks (Terrance Odean, 1999). These investors own responsibility for the outcome both for profits and losses. It is evident few investors do not conform to the group behaviour yet, overconfident in their ability and skills to outperform the market. The traders and investors's familiarity with the trading process, the competition they face, the choice they could exercise, the information they possess and their personal involvement causes illusion of control (Presson and Benassi, 1996). They behave as if the stock market situation is determined by their skill and they could exert control over price movements.

Further sample respondents have a preference for control so they adopt online trading terminal to trade than someone else doing it for them (Fleming and Darely 1986, Langer 1975) or they watch live updates and order transactions to the broker through phone. These investors substantially overestimate their degree of control though it is chance determined event (Crocker, 1982) and caught under the illusion that they were instrumental if the outcome turns out successfully (Miller and Ross, 1975). Hence factor IV is named as Illusion of control.

The variables in Table 15 (Appendix) capture the retail investor's tendency to extrapolate the recent trends in stock prices while forming expectations about future stock returns. They expect stock prices to continue the recent trend, predicting higher returns following price rallies and lower returns after price decline (De Bondt, 1993; Vissing-Jorgensen, 2003). It indicates that certain investors in Chennai are trend chasers thereby reflecting their over optimism towards past winners and pessimism about past losers. They strongly believe that by extrapolating historical price pattern they can suggest future movements of the corresponding shares (Sheen and Kendall, 2005). The need to spend resources on tracking price trends, volume and numerous other gauges of demand for equities is emphasized because it is the investor's sentiment which moves prices rather than economic fundamentals (Shleifer and Summers, 1990). Further, investors think that good companies represent good investment and expect the good companies to continue their superior performance in the future (Shefrin and Statman, 1995; Solt and Statman, 1989).Therefore, factor V is labeled as Extrapolation bias.

The variables in Table 16 (Appendix) measure investors tendency to attribute internal factors viz. their own ability, effort and skill for successful outcomes, conversely ascribe external uncontrollable factors such as market events and circumstances for unfavourable outcomes (Ash Kanasy and Callois, 1987).Although, investors perceive that all information about financial market is readily available, the preponderance lies in the direction of self serving biases. They contend that they have adequate training, experience and skills to interpret information in an unbiased manner (Baker and Nofsinger, 2002). They tend to give themselves too much credit when trades go their way as it promotes ego enhancement but rationalize situations that lose money since it is ego threatening . They are likely to become over confident after a string of winning trades, raise their trading frequency or size and place themselves at risk, jeopardising their performance (Brett N Steenberger, 2003). It shows that investors do not own losses and gain with equal fervor. So, factor VI is labeled as Performance attribution bias.

The variables Table 17 (Appendix) imply that the sample respondents are more willing to bet on their own judgment because they are skillful and knowledgeable in trading and investment field. It is likely that educational background and other demographic characteristics make some investors feel more competent than others in understanding an array of financial instruments, information and opportunities available in the stock market (Graham, Harvey and Huang, 2009). The competency effect posits that individuals' willingness to act on their own judgment is affected by their subjective competence (Heath and Tversky, 1991), which induces them, to turndown alternate methods. Further they claim that critical analysis is not necessary for efficient investment decisions. Thus, factor VII is named as Competency bias.

The variables in Table 18 (Appendix) measure the perceived potentiality of investors towards information collection, segregation and compilation in terms of its utility towards trading decisions. The respondents perceive although more information leads to better decision, the time frame is too short to consider all information. They possess positive illusion that more information increases their knowledge but the fact is that they lack the necessary training, experience and skill to interpret the information (Baker and Nofsinger, 2002). Moreover, the time and cognitive resources often are limited to analyse the data optimally (David Hirshleifer, 2001).

Investors lay more emphasis on the quantum of information rather than the factors such as relevance, reliability, speed, anticipated market surprise, and expected market impact which is rated foremost in judging the efficacy of information (Oberlechner and Hocking, 2004). In addition retail investors are unaware of the latent effect that increased amount of information leads to illusion of control and overconfidence (Nofsinger, 2005; Peterson and Pitz, 1988).Therefore, factor VIII is labeled as Information Overload bias.

The variables in Table 19 (Appendix) indicate that the sample respondents are motivated to conform to social norms in their trading and investment decisions. They use evidence of other's behaviour to decide most effective course of action when the situation is novel, ambiguous and uncertain (Sherif, 1936; Tessor, Campbell and Mickler, 1983). They seem to follow other's leads to avoid loss or to grab profitable opportunities as this 'social proof' saves time and cognitive effort (Cialdini, 1993). Investors in Chennai associate with social groups because they view group members as trust worthy source of information. It helps them to resolve conflict between one's own senses and perception of others i.e. to seek social approval (Asch, 1956; Deusch and Gerard, 1955). Socio-conformity decreases search costs and helps to circumvent their lack of expertise in trading decisions (Margarida Abreu and Victor Mendis, 2011). Groups consensus provide simple heuristics to act effectively (Tversky and Kahneman, 1974), in situations which evoke ambiguity and uncertainty (Sherif, 1936), for goal attainment (Festinger, 1950) and vicarious reinforcement from others provide reward power (Opp, 1932; Berger and Luckmann, 1966; Summer, 1906). Hence, factor IX is named as Socio-Conformity bias.

The variables Table 20 (Appendix) relate to the perception of investors to erroneously believe in mean reversion of prices i.e. they believe today's losers will outperform today's winner likewise today's winners would be losers of tomorrow. So they sell winners and buy losers. As far as valuation is concerned they exercise their choices in terms of potential gains or losses relative to the purchase price. So they are risk averse in the domain of gain and risk seeking in the domain of loss (Shefrin and Statman, 1985). These investors stick to previous unsuccessful actions because they feel the need to justify or rationalize their decisions. They are reluctant to admit that the prior decisions were incorrect (Zuchel, 2001). They sell winning stocks to realize gains, implying that they have made a good initial decision. Further, realizing profits early allows them to maintain self-esteem while realizing losses causes them to admit an implicit erroneous investment decision. Thus they hold on to losers (Martin Vlcek, 2007). Hence, factor X is named as Disposition Effect.

6.1 Structural Equational Model

The main focus of this research is to identify the personality traits and behavioural biases of retail investors during trading and investment environment. The application of factor analysis by principal component method ascertained the existence of seven personality traits, and ten psychological biases. In this juncture, the researcher segmented those two dependent factors with respect to time t. The sequential analysis of time t revealed the socialisation phenomenon and other psychological aspects give out personality traits of any investor. The personality traits as well as knowledge acquired from the investment environment make the investors prone to psychological biases. If the time t is the time which denotes the formation of certain personality traits of the investor, the personalities at this time has the tendency to change due to knowledge about investment in stock market.

When the time changes from t 0 to t1, the changes in personality traits leads to the psychological biases pertaining to the investment process. Therefore, it is concluded in this research that personality traits are the predecessors and psychological biases are their successors. The researcher meticulously observed after a careful examination that the personality traits and psychological biases are dependent in nature and they are affected by demographic background of investors, their investment objectives, financial knowledge, portfolio composition and personality traits. In order to prove their dependency based on these independent variables, the researcher subsequently used cluster analysis on personality traits and psychological biases. This paved way to establish both parametric and non parametric relationship between independent and dependent factors as shown in the diagram below.

The study uses structural equation model (SEM) to simultaneously estimate and test how latent variables and their measurements are related. Based on previous literature, hypothetical structural equation model is proposed and analysed. The model is developed to explore how the personality traits, demographic variables, financial knowledge, investor objectives, appraisal techniques, portfolio composition, trading performance and psychological biases are related. The application of structural equation modeling is brought into the context of verifying the relationship between independent and dependent variables. The structural equation modeling simultaneously verifies both parametric and non parametric relationships through five goodness of fit indices and a overall chi-square for the number of relationships. The five indices comparative fix index RMSEA, standardised root mean square residual, normed fix index, non-normed fix index are significant at 5% level. The researcher also cross verified the existence of number of relationship through a chi square process, and obtained the value which is also statistically significant at 5% level. This validates the empirical model constructed by the researcher based on the relationship among independent and dependent variables.

The fitness indices of the structural model is assessed by goodness of fit index (GFI), comparative fit index (CFI) and non-normed fit index (NNFI) where the values greater than 0.10 are regarded as acceptable. A situation in which the value of the root mean square error of approximation (RMSEA) is 0.05 or lower implies that it is a close fit. Additionally, values upto 0.08 are recognised as a reasonable error of approximation.

According to the criteria of goodness of fit suggested by Hu and Bentler (1999) and Hair et al., (2006), this model has a good model fit (χ^2/df= 824.11, CFI = 0.94, NFI = 0.94, NNFI = 0.93, RMSEA = 0.55, SRMR = 0.059). This means that the structural equation model fits well with the data.

Personality traits of an individual remain sufficiently stable across situations. It supports the claim that traits exist by birth although their manifestation depends upon the context. Many aspects of personality are a consequence of cognition and cognition depends on personality. Cognitive and personality traits evolve over the life cycle of an individual. In this study, demographic variables including gender, age, marital status, education, discipline/area of study, occupation and income exercise profound influence on the personality traits of an individual.

Literature studies evidence that though there is an overall degree of consistency in personality (Roberts and Trzesniewski, 2001), none of the traits remain stable after 30 years (Srivastava, 2003). Diligence and altruism demonstrated change after 30 years of age. Likewise gregariousness and self-consciousness are found to decline with age for women. Helson, Kwan, John and Jones (2002) explored personality change with age and showed that personality changes with age, with this change occurring across gender and cultural boundaries. McCrae and Costa (1994), acknowledge that change may occur in certain traits due to various life events such as midlife career changes.

Among the personality traits identified, pragmatism, diligence and gregariousness do not display any association with demographic variables as these traits are the basic tendencies that reflect the underlying the potential of the sample respondents. Whereas their attitudes, goals, role and relationship are characteristic adaptation which reflect their interaction between basic tendencies and investment or trading environment demands accumulated over time. These characteristic adaptations undergo considerable change due to the contextual situation. They are evolved to deal with domain tasks of investment or trading in the social environment.

Taken together, the demographic factors, financial knowledge, investor objectives, technique and strategies, portfolio composition and personality traits determine psychological biases of an investor.

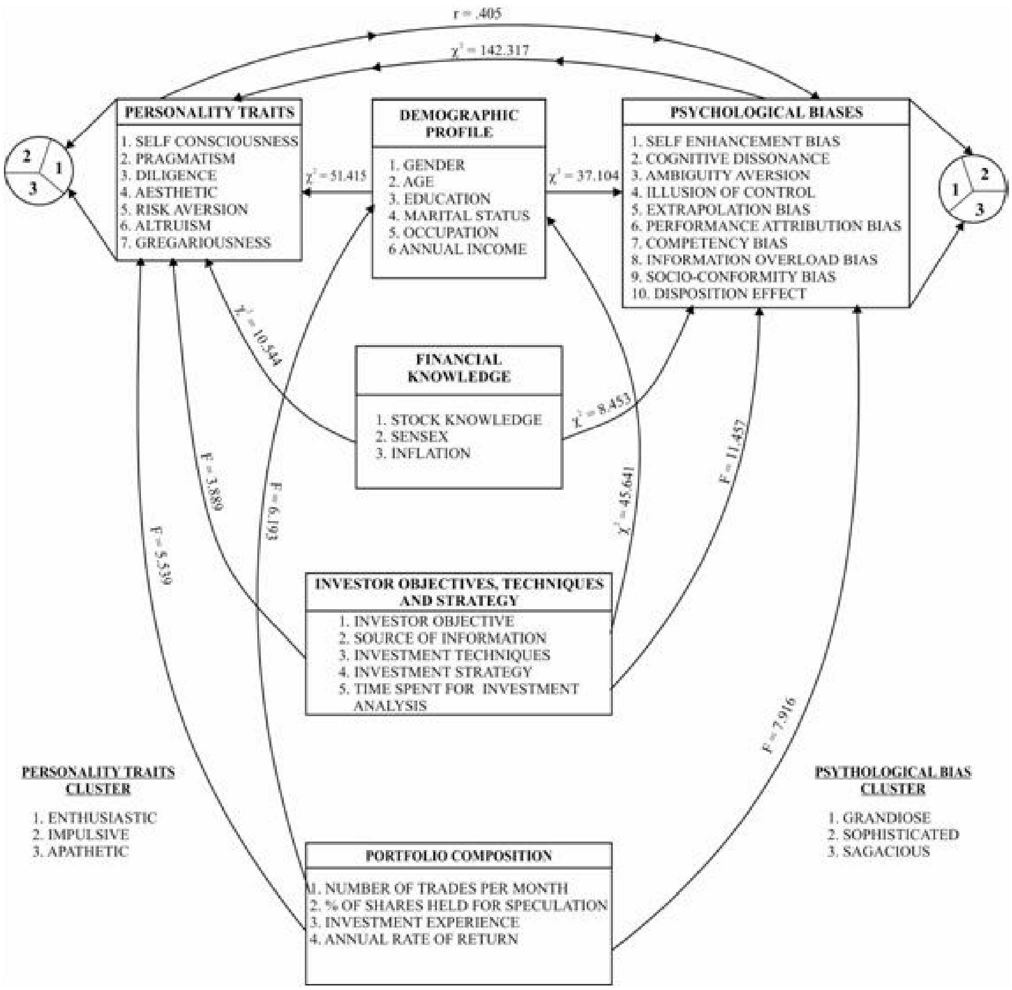

Figure 1

Behavioural Biases and Perception of Retail Investors in Stock Market - An Empirical Model

7.1 Conclusion

The result of the present study provides a unique contribution to the literature by examining an array of psychological biases and personality traits. In addition to the existing literature on psychological biases, that causes error in judgement and decision making, various dimensions of retail investors such as demographic profile, financial knowledge and awareness, investor objective, technique and strategy, portfolio composition and trading performance and personality traits impact their investment decision which is the prime focus of this study.

Self consciousness is the most dominating personality trait among the survey respondents and it is influenced by all the proposed variables such as Gender, age, marital status, discipline, occupation, income, time spent for analysis, number of trades per month, percentage of shares held for speculation, investment experience and annual rate of return on equity. Consistently, Chennai respondents have exhibited risk aversion which is the second important personality influenced by gender, income, time spent for analysis and annual rate of return on equity. Diligence is the third important personality trait displayed by the respondents which is influenced by time spent for analysis, number of trades performed per month and annual rate of return on equity.

Among the ten psychological biases identified in the study, Illusion of control and socio conformity bias are the foremost biases which are influenced by the eight proposed independent variables viz., Gender, Age, Marital status, Occupation, Income, Time spent for analysis, Number of trades performed per month, Percentage of shares held for speculation, Investment experience and annual rate of return on equity. Self enhancement bias is influenced by occupation, income, time spent for analysis, number of trades performed per month, investment experience and annual rate of return. Performance attribution bias is influenced by income, time spent for analysis, number of trades performed per month, investment experience and annual rate of return on equity.

The results of this study are important from a regulatory perspective. They justify and reinforce the efforts made by regulatory authorities to increase disclosure of financial information and to take action with the aim of increasing the investors' financial literacy, thereby helping to mitigate psychological biases and improve the efficiency of financial markets. Insufficient information on the part of investors cannot be disconnected from such issues like banking panic; emergence of fraudulent financial activities which results in unsustainable loses to the retail investors.

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Appendix

Table 1: Summary of Sources of Key Measurement Scale

Measure	Author	No. of items	Scale range	Scale type
Stock knowledge	Lusardi (2008)	1	Nil	Bipolar
SENSEX	Daniel Tobias Dorn (2003)	1	Nil	Bipolar
Inflation	Grable and Joo (2004)	1	Nil	Bipolar
Financial concepts	Ken Yeoh (2010)	4	0-3	Likert type
Investor objectives	Hoffman, Arvid O.I. et. al., (2010)	5	Nil	Multiple choice
Capital growth	Lease et. al., (1974)	4	1-4	Likert type
Reasons to trade	Barber and Odean (1999)	6	1-5	Likert type
Portfolio classification	Lease et. al., (1974)	3	Nil	Unique choice
Investment appraisal technique	Ken Yeoh (2010)	4	Nil	Multple choice
Frequency of use of appraisal technique	Abdul Quader et. al., (2007)	3	1-5	Likert type
Usefulness of appraisal technique	Abdul Quader et. al., (2007)	3	1-5	Likert type
Investment satisfaction	X. L. Wang et. al., (2006)	4	Nil	Unique choice
Reinvestment intention	X. L. Wang et. al., (2006)	4	Nil	Unique choice
Personality traits	Mayfield Cliff et. al., (2008)	25	1-5	Likert type
Risk attitude	Richard Thaler (1999)	3	Nil	Unique choice
Psychological bias	Kent Baker and Nofsinger (2002)		1-5	Likert type
	Dorn and Huberman (2005)		1-5	Likert type
	Wood and Zaichkowsky (2004)		1-5	Likert type
	Heath and Tversky (1991)		1-5	Likert type
	Langer E.J. (1975)		1-5	Likert type
	Graham et. al., (2009)		1-5	Likert type
	Shefrin and Statman (1985)		1-5	Likert type

Source: Self-Compiled

Table 2 : Rotated component matrix for personality traits

Components	Eigen value	% of variance explained	Cumulative variance
I	3.376	13.503	13.503
II	2.895	11.581	25.084
III	1.603	6.411	31.495
IV	1.473	5.894	37.389
V	1.268	5.071	42.460
VI	1.075	4.299	46.759
VII	1.023	4.093	50.852
VIII	1.019	4.074	54.926

Source: Computed data

Table 3 : Factor I Gregariousness

Variables	Factor loading
I really enjoy talking to people	.804
I am cheerful and high spirited	.804
I am very active	.715
I avoid social gathering	.411

Source: Computed data

Table 4 : Factor II Self- consciousness

Variables	Factor loading
I am often tensed	.737
When I fail, I consider giving up	.715
Sometimes I am not dependable	.601

Source: Computed data

Table 5 : Factor III Risk aversion

Variables	Factor loading
I do not prefer to take risk	.805
I avoid risk totally	.687
I choose low risk-steady return over high risk high returns	.583

Source: Computed data

Table 6: Factor IV Diligence

Variables	Factor loading
I approach my task meticulously	.732
I perform each aspect of a job in the best manner	.684
I apologise on failure to do my work	.638

Source: Computed data

Table 7 : Factor V Pragmatism

Variables	Factor loading
I analyse market action to respond aptly	.653
I do not trade by gut feeling	.626
I take market setbacks as cost	.588
Sometimes I feel worthless in trading	.437

Source: Computed data

Table 8 : Factor VI Aesthetic

Variables	Factor loading
I often try new and strange food	.667
I am inquisitive	.612
I seek thrill	.535

Source: Computed data

Table 9 : Factor VII Altruism

Variables	Factor loading
I often argue	.644
People think that I am cold and calculative	.628
I am thoughtful and considerate	.434

Source: Computed data

Table 10: Rotated component matrix for psychological biases

Components	Eigen value	% of variance explained	Cumulative variance
I	4.351	13.597	13.597
II	2.326	7.270	20.867
III	2.077	6.490	27.356
IV	1.450	4.531	31.887
V	1.353	4.229	36.116
VI	1.293	4.039	40.156
VII	1.259	3.934	44.090
VIII	1.147	3.585	47.676
IX	1.128	3.526	51.202
X	1.050	3.280	54.481

Source: Computed data

Table 11 : Factor I Self enhancement bias

Variables	Factor loading
I have the ability to cut losses	.752
I am more knowledgeable than average investor	.679
Often, I am able to pick winning stocks	.661
I am familiar with trading process	.553
I have access to vast amount of information	.543
Others seek information on stock from me	.517

Source: Computed data

Table 12 : Factor II Cognitive dissonance

Variables	Factor loading
I ignore information contradicting my belief	.694
I look for information supporting my belief	.692
I brush aside negative information about stock	.663

Source: Computed data

Table 13 : Factor III Ambiguity aversion

Variables	Factor loading
I prefer familiar stock to the unfamiliar	.753
I prefer certain over uncertain	.746

Source: Computed data

Table 14 : Factor IV Illusion of control

Variables	Factor loading
I own responsibility for my decisions	.752
Following the crowd is not always correct	.512
I have experienced both positive and negative outcomes	.466
Good results are due to my investment skills	.416

Source: Computed data

Table 15 : Factor V Extrapolation bias

Variables	Factor loading
Past performance of stocks indicate future price trend	.798
Good companies sustain high growth levels achieved in the past	.723
Good companies do not always make good investment	.604

Source: Computed data

Table 16 : Factor VI Performance attribution bias

Variables	Factor loading
All information on financial market is readily available	.669
My investment losses are due to unpredictable factors	.540
I have the training, experience and skills required to interpret information	.442

Source: Computed data

Table 17 : Factor VII Competency bias

Variables	Factor loading
Critical analysis is not required for investment decisions	.699
I do not consider alternative methods	.635

Source: Computed data

Table 18 : Factor VIII Information Overload bias

Variables	Factor loading
More the information better the forecast	.718
Time constraints prevent considering all information	.526

Source: Computed data

Table 19 : Factor IX Socio conformity bias

Variables	Factor loading
I discuss about stocks often with my friends	.648
I act on others' behavior to grab profit opportunities	.535
I follow the herd to avoid loss	.461

Source: Computed data

Table 20 : Factor X Disposition effect

Variables	Factor loading
I tend to sell stocks that go up in value	.637
Often I hold stocks that have lost value	.502

Source: Computed data

"A Study on the Infrastructure and Other Facilities Available with the Unorganised Retail Grocery Stores in Bangalore City".

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– Dr.V.M.Chavan**

Abstract

The future of the India Retail Industry looks promising with the growing of the market, with the government policies becoming more favorable and the emerging technologies facilitating operations. Retail is one of the largest industries in India. The sector has witnessed an immense growth in the last few years. The key factors responsible for the retail boom have been the change in consumer profile and demographics, increase in the number of international brands available in the Indian market, economic implications of the government, increasing urbanization, credit availability, improvement in the infrastructure, increasing investments in technology and real estate building and a world class shopping environment for the consumers. For this study 100 unorganised retail grocery stores (small kirana stores) were randomly selected and data was collected using a questionnaire. This paper discusses about one of the factors i.e. infrastructure and other facilities available with the unorganised retail grocery stores in Bangalore city.

Keywords: Shop size, kirana stores, computerised billing, bar coding, infrastructure.

Declaration : The contribution in this paper is my own work and not published or presented elsewhere.

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1. Introduction

Economic development is an important aspect for every country. India is not an exception to this. Any policy designed by the government has its own advantages and

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disadvantages. In India every political party is spreading the information regarding foreign direct investment (FDI) in retail and its merits and demerits, from their own perspective. As the famous proverb says, 'slow and steady wins the race', the race of economic development should be accomplished by implementing FDI in retail sector in India by considering its benefits and threats. FDI is not a new thing in India. From the time we adopted the policy of LPG i.e. liberalisation, privatisation and globalisation, foreign investment has played a predominant role in our economy. FDI in retail sector has been discussed widely inside and outside the parliament.

India is termed as the nation of shopkeepers, but it is dominated by small neighborhood grocery stores termed as kirana stores. Food and grocery constitute the major portion of Indian household consumption.Retailing in India is going through an evolutionary stage and is one of the largestsectors in the global economy. This tendency is expected to continue for at least the next two to three decades attracting attention from various areas.

The Indian retail sector is highly fragmented with maximum of its business being run by the unorganised retailers. The organised retail, however, in India, is at a very nascent stage. In India the major retail sector is food, grocery and apparel, thanks to our ever increasing population and their demands. Organised retail sector in India, constitutes, roughly 7% to 8% of India's total retail market and is expected to reach above 30% by the year 2020. In the Indian retailing industry grocery is the most dominating sector and is growing at a rapid rate. The branded food and grocery industry is trying to enter India and convert Indian consumers into branded food and grocery users. With the entry of the organised sector in the food and grocery market, the unorganised sector is facing tough competition and the ultimate consumer is also influenced by the charm of the organised sector.

2. Literature Review

D'Andrea, et al. (2006) explored the various drivers behind the overall success of small retailers, after a decade of prolonged growth of the organized retail sector in Latin America. The study was conducted across the Latin American countries like, Argentina, Brazil, Chile, Colombia, Costa Rica and Mexico. The study evidenced that the retail offerings of small scale retailers fit the needs of emerging consumers quite well. Further, these retailers had a sustainable business model with a focus on inventory turnover. These retailers were very efficient in converting inventory in to cash in a shorter period of time. Small retailers were able to turn their inventory two times higher than that of large supermarkets. It was also found that the small retailers were efficient in terms of gross margin return on sales, labor and inventory.

'Impact of malls on small shops and hawkers in Mumbai' reported by KalhanAnuradha (2007) pointed out a decline in sales of groceries, fruits and vegetables, processed foods, garments, shoes, electrical and electronic goods in small stores . Only a few (14 %) were able to upgrade their services or were able to respond to changed circumstances. The sample in this study was restricted to Bhandup- Mulund and Lower Parel in Mumbai.

Singh &Tripathi (2008) have reported a survey of 245 small retailers in Delhi and NCR area pointing out a substantial decline in the sales performance of small shops and ultimately resulting into the closure of this unorganized retail. However, small shops in the posh areas and in the inner streets were comparatively less affected by malls. For daily requirements and groceries, customers were still relying on small shops only. Maximum retailers in south Delhi and Central Delhi reported no change in their sales performance. Research also revealed that retailers having small capital base i.e., up to 2 Lakhs and 2-6 Lakhs were highly affected by malls.

According to Jain and Bagdare (2009) Layout, ambience, display, self service, value added services, technology based operations and many more dimensions with modern outlook and practices are the major determinants of modern retail formats.

Chattopadhya, Dholakia and Roy (2010) have stated that India is a home of (STS) Small traditional stores. Their research conducted on four cities Mumbai, Kolkata, Aligarh and Vizag indicates that even as modern retailing makes rapid inroads in India, most STS outlets are resilient in terms of their service mix and remain competitive. Shoppers, even in large metro cities, are still loyal to neighborhood STS outlets.

Shivaraman P. (2011) found out the current status of unorganised sector in major cities Kanyakumari district. The study was based on both primary and secondary data. The study identified different aspects and impacts of organised retailing on unorganised retailing and to also study the attitude of the consumers towards both sectors. Unorganised sector is facing competition from organised sector and to reduce this competition unorganised sector has to be developed and upgraded as per organised retail outlets i.e., modernization of outlets, facility of cash and carry, encourage the co-operative associations, better credit availability to unorganised retailers from banks and micro credit institutions etc.

Urvashi Gupta (2012) has observed the changing consumer preferences from unorganised retailing to organised retailing. This study was conducted in Jammu, wherein 75 organised and 75 unorganised retailers were studied. It was found that due to the changing demographics, urbanization, increase in families, increase in awareness in electronic media, majority of the customers had visited the organised sector. It was also observed by the author that, in the organised retail outlets consumers found more variety, easy availability of goods, cleanliness with additional facility of entertainment to children, parking facility and restaurant were available. Tier I cities were already attracted by organised outlets an now Tier II cities are in the pipeline.

3. Statement of problem:

Small grocery store owners are worried because of the entry of giant organised retailers in their cities. Even the political parties which are opposing opening up of retail sector for foreign investment feel that, the entry of giant organised retailers will have negative impact on the sales of small grocery stores. Considering this situation in the retail market the researcher has selected the research topic. The researcher is interested in finding out the following things,

1. Theinfrastructure and other facilities available with the unorganised retail grocery stores.
2. Measures for improvement regarding the infrastructure and other facilities.

4. Objectives

1. To study the available infrastructure of the unorganised retail grocery stores.
2. To understand the facilities available with the unorganised retail grocery stores.
3. To suggest measures for improvement regarding the infrastructure and other facilities.

5. Limitations

The limitations of the study are

1. The time frame is limited.
2. The study is restricted to only unorganisedkirana stores.
3. The study is restricted to Bangalore city only.
4. Only infrastructure and selective facilities are covered in this study.

6. Hypotheses

1. There is no significant difference in the availability of facilities according to the year of establishment.
2. There is no significant difference in the availability of facilities according to the age of the store owner.

7. Research Methodology

This research paper is based on primary data and secondary data. The primary data was collected from 100 small kirana stores through appropriate questionnaire. The questionnaire consisted of open ended and likert scale type. Formal and informal discussions were conducted with the owners of kirana stores. Sample was selected on judgment and convenience basis. Secondary data collected from available resources i.e. internet, journals, books, articles, news papers, circulars etc.

8. Assumptions and Statistical Tools used

The random sampling distribution of the statistic is approximately normal. For the purpose of analysis of data, SPSS package was used and data was analyzed by using percentage analysis. For the purpose of testing of hypotheses paired sample t testwas used as a statistical tool.

9. Analysis & Interpretation

Table 1 : Demographics

Particulars	Frequency	Percent	Valid Percent	Cumulative Percent
Year of Establishment: Upto 2000	17	17	17	17
2001-2006	53	53	53	70
2007-2012	30	30	30	100
Total	**100**	**100**	**100**	
Age: Below 20	3	3	3	3
21-30	36	36	36	39
31-40	59	59	59	98
41 and above	2	2	2	100
Total	**100**	**100**	**100**	
Education: Graduate	19	19	19	19
12th standard	58	58	58	77
10th standard	23	23	23	100
Total	**100**	**100**	**100**	
Other Business: Yes	7	7	7	7
No	93	93	93	100
Total	**100**	**100**	**100**	

Particulars	Frequency	Percent	Valid Percent	Cumulative Percent
Other Business: Yes	7	7	7	7
No	93	93	93	100
Total	**100**	**100**	**100**	
Initiation of Business: Father	19	19	19	19
Grand father	1	1	1	20
Self	80	80	80	100
Total	**100**	**100**	**100**	
Investment				
Investment: 20001-50000	48	48	48	48
51000-100000	47	47	47	95
More than 100000	5	5	5	100
Total	**100**	**100**	**100**	
Source of Investment: Bank	33	33	33	33
Friend	6	6	6	39
Self	61	61	61	100
Total	**100**	**100**	**100**	

Table no.1 describes the demographics of the retail grocery store. It can be seen from the table that 17 percent of the stores were started up to the year 2000, i.e. we can also say that they were started before the year 2001. 53 percent of the stores were started between the years 2001 to 2006 and 30 percent of the stores were started between the year 2001 to 2012. Majority of the store owners i.e. 59 percent, were in the age group of 31 to 40 years followed by 36 percent in the age group of 21 to 30 years. Only 3 percent were in the age group of below 20 years and 2 percent were in the age group of 41 years and above. Out of the total respondents 81 percent of the respondents were educated up to 12th standard and less than 12th standard. Only 19 percent of the store owners were found to be graduates. Majority of the respondents i.e. 93 percent did not have any other business along with the retail grocery store while only 7 percent said that they had other business also.

Majority of the retail grocery stores were found to be started by the owner themselves at 80 percent of the respondents saying so while 19 percent said that the store was started by their father and only 1 percent said that the store was started by their grandfather. Maximum of 95 percent of the stores were started with an investment of Rs.1,00,000 and less than Rs.1,00,000 while only 5 percent of the owners had invested more than Rs.1,00,000 in the store. Most of the respondents i.e. 61 percent had funded the business on their own while 33 percent had taken bank loan as a source of investment. Only 6 percent of the respondents said that their investment was sourced by a friend.

Table 2 : Profile of the retailer and Infrastructure of the store

Particulars	Frequency	Percent	Valid Percent	Cumulative Percent
Type of Shop: Grocery & General	33	33	33	33
Grocery	31	31	31	64
Departmental	15	15	15	79
General	20	20	20	99
Super market	1	1	1	100
Total	**100**	**100**	**100**	
Business Type: Only Retail	77	77	77	77
Retail & Wholesale	23	23	23	100
Total	**100**	**100**	**100**	
Shop Size: 12*10 sqft	45	45	45	45
15*15 sqft	46	46	46	91
15*20 sqft	7	7	7	98
20*20 sqft	2	2	2	100
Total	**100**	**100**	**100**	
Product Sold: All	75	75	75	75
All + Vegetables	19	19	19	94
All + Vegetables + Fruits	6	6	6	100
Total	**100**	**100**	**100**	

No. of personnel working: Family members only	56	56	56	56
Owner + 1 employee	27	27	27	83
Owner + 2 employee	15	15	15	98
Owner + 3 employee	1	1	1	99
Owner + 4 employees	1	1	1	100
Total	**100**	**100**	**100**	
Socio-economic profile: Upper Class	4	4	4	4
Middle Class	30	30	30	34
Lower Class	20	20	20	54
Mixed	46	46	46	100
Total	**100**	**100**	**100**	

Table no. 2 shows the profile of the retailer. It can be seen that 33 percent of the stores are grocery and general stores while 31 percent are only grocery stores. 15 percent of the stores are departmental in nature while 20 percent of the grocery stores are general stores in nature. Only 1 percent of the retail grocery stores are supermarket type of stores. A majority of the retail grocery stores i.e. 77 percent were only in retail business while 23 percent were found to be involved in wholesale and retail business. Around 91 percent of the retail grocery stores had a store size of 15X15 sq. ft. and below 15X15 sq. ft. while 7 percent of the respondents had a store size of 15X20 sq. ft. and 2 percent had a store size of 20X20 sq. ft.

Around 75 percent of the retail grocery stores were found to sell all grocery products only and the remaining 25 percent were involved in selling grocery, vegetables and fruits as well. 56 percent of the stores had only family members working in the store while the remaining 44 percent stores had the family members and people employed from outside the family. 46 percent of the respondents said that the profile of the customers visiting their stores was mixed from all walks of life while 4 percent said that they had customers from the upper class, 30 percent said that they had customers from middle class and 20 percent said that they had customers from the lower class.

Table 3 : Facilities

	Frequency	Percent	Valid Percent	Cumulative Percent
Computerized billing: Currently using	9	9	9	9
Plan to use	20	20	20	29
No	71	71	71	100
Total	**100**	**100**	**100**	
Scanning & Bar coding: Plan to use	18	18	18	18
No	82	82	82	100
Total	**100**	**100**	**100**	
Computerized accounting software: Currently using	4	4	4	4
Plan to use	19	19	19	23
No	77	77	77	100
Total	**100**	**100**	**100**	
Electrical equipments: Currently using	96	96	96	96
Plan to use	1	1	1	97
No	3	3	3	100
Total	**100**	**100**	**100**	
Air conditioning: Currently using	10	10	10	10
Plan to use	9	9	9	19
No	81	81	81	100
Total	**100**	**100**	**100**	

Table no. 3 shows the details regarding the infrastructure facilities available with the retail grocery stores. It can be seen that 9 percent of the respondents said that they are using computerised billing while 71 percent said that they neither use nor they plan to use computerised billing facility and only 20 percent said that they plan to use computerised billing in the future. The unorganised retail grocery stores do not use scanning and bar coding facility at present but 18 percent said that they are planning to use scanning and bar coding in the future while 82 percent of the respondents said that they will not use scanning and bar coding.

Currently 4 percent of the unorganised retail grocery stores are using computerised accounting software while 19 percent plan to use it in the future. But here again majority of the respondents amounting to 77 percent said that they do not want to use computerised accounting software. On the contrary 96 percent of the respondents are using electrical equipments to attract customers to their shops while 1 percent of the respondents said that they too plan to use them and only 3 percent said that they will not use electrical equipments. Majority of the respondents amounting to 81 percent said that they will never use air conditioning in their stores while the percentage of respondents who plan to use air conditioning and who are currently using air conditioning amounted to 9 and 10 percent respectively.

10. Testing of Hypotheses

Hypothesis 1:

H0: There is no significant difference in the availability of facilities according to the year of establishment.

H1: There is a significant difference in the availability of facilities according to the year of establishment.

Table 4: Paired samples test between year of establishment and facilities available

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Year of Establishment - Computerised Billing Facility	.75000	1.22578	.12258	.50678	.99322	6.119	99	.000
Pair 2	Year of Establishment - Scanning & Barcoding	.95000	.99874	.09987	.75183	1.14817	9.512	99	.000
Pair 3	Year of Establishment - Computerised Accounting Software	.86000	1.11028	.11103	.63970	1.08030	7.746	99	.000
Pair 4	Year of Establishment - Electrical Equipments	-.80000	.84087	.08409	-.96685	-.63315	-9.514	99	.000
Pair 5	Year of Establishment - Air Conditioning	.84000	1.22037	.12204	.59785	1.08215	6.883	99	.000

Each component represents a facility which would help the unorganised retail grocery trader to improve his business. The value of $p<0.05$ in all the five pairs.Hence the null hypothesis is rejected and the alternate hypothesis is accepted. So it can be said that there is a difference in the availability of facilities according to the year of establishment. Those stores which have been established for atleast 15 years are more inclined towards using these facilities than the newly established stores.

Hypothesis 2

H0: There is no significant difference in the availability of facilities according to the age of the store owner.

H1: There is a significant difference in the availability of facilities according to the age of the store owner.

Table 5: Paired samples test between age of the store owner and facilities available

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Age - Computerised Billing Facility	1.22000	1.15976	.11598	.98988	1.45012	10.519	99	.000
Pair 2	Age - Scanning & Bar coding	1.42000	.87824	.08782	1.24574	1.59426	16.169	99	.000
Pair 3	Age - Computerised Accounting Software	1.33000	1.03529	.10353	1.12458	1.53542	12.847	99	.000
Pair 4	Age - Electrical Equipments	-.33000	.77921	.07792	-.48461	-.17539	-4.235	99	.000
Pair 5	Age - Air Conditioning	1.31000	1.10732	.11073	1.09028	1.52972	11.830	99	.000

The value of $p<0.05$ in all the five pairs.Hence the null hypothesis is rejected and the alternate hypothesis is accepted. So it can be said that there is a difference in the availability of facilities according to the age of the store owner. Those store owners who have atleast 10 years of experience of running the shop are more inclined towards adapting the latest facilities to maintain their business. The younger store owners are still not ready to use these facilities.

11. Findings and Discussion

The unorganised retail sector is dominated by small kirana stores located in the neighbourhood. There are some challenges faced by unorganised retail grocery stores like small scale operation which does not permit to have warehouse and supply chain support which affects the inventory and supply, limited stock of goods as per circulation only, most of these are family owned and operate with less efforts on marketing and low on technology integration like computerised billing, scanning and bar coding, electrical equipments, air conditioning and use of computer software. According to the information derived from the research in the sample area it is found that the organised stores have captured the catchment areas of small stores and affected business. The organised stores are high on technology factor which helps them in efficient running of the business. Use of computers for billing and scanning and bar coding of products makes the billing process faster and more accurate. Hence the consumers do not have to stand for long time since the billing process becomes faster.

Like wise use of electronic equipments like card swiping machines will make the purchase process cash free. So the cashier will not have to keep counting the money again and again to confirm and also he does not have to face the hassle of checking each and every currency note for its originality. The money goes directly into the bank account of the vendor. Hence the process to going to the bank to deposit money is also minimised. Use of software for stock, will enable the shop keeper, to keep an account of the stock and will tell the store owner the time for restocking by displaying the message at appropriate time. Also the availability of products can be known at the click of a button. Attractive electric lighting will ensure more foot falls to the store. Air conditioning is becoming a necessity these days especially in those cities which have a warm climate. People don't like to sweat while shopping for their requirement. Air conditioning will also ensure that more customers visit the store to experience sweat free shopping. The study found out that most of the store owners have a store size of 15 X 15 sq. ft or lesser ones. It becomes difficult to store more products in the lesser space available. So the store owner can stock only limited number of items in his shop. Very few stores are using the facilities like air conditioning, computerised billing, electric equipments etc. But most of them do not use these facilities.

12. Conclusion

We can say that unorganised retail grocery traders are of these infrastructure and other facilities but are hesitant to use them. Most of the store owners were not much educated and hence are not ready to try these computerised facilities. But what they do not understand is that these facilities will only make their work easier and help them to face the competition from the organised stores.

13. Suggestions

1. Small store owners have to work on enhancing the size of the stores by providing quality goods and services.
2. Credit card and debit cards should be accepted by the small stores.
3. Use of technology should be adapted.
4. Product display should be made attractive and easy to view. Thesmallgroceryshopkeepersshouldmakethe availablespacemore effectiveand decent.
5. Scanning and bar coding will help the shop keeper in fast billing and also avoid theft. At the same time it can also be identified if the product was sold from his store or not.
6. Date of expiry should be checked before selling the product.

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Factors Determining Adoption of e-Banking Services in India

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Abstract

Technology adoption has opened up new channels for the delivery of banking services. Adoption of E-banking provides a 24/7 platform to customers to access banking services. Given the demographic structure of India and the ease that technology provides, the number and volume of online banking transactions is on the rise. The present study attempts to identify the factors determining further adoption of e-banking services amongst existing customers in India.

The objectives of the study are:

I. Review of behaviour of the respondents in relation to e-banking services.

II. Review of major factors determining further adoption of e-banking services.

Research Methodology for the study is as follows:

Present study attempts to explore the factors determining further adoption of e-banking services in India. Survey method has been used to conduct the study. Survey was conducted in the form of semi structured questionnaire with questions aimed to investigate profile of respondents, their e- banking behaviour, technology used and factors determining greater usage of e-banking.

Percentages, ranking based on weighted average and factor analysis was used for statistical analysis. Five point likert scales were used to measure the opinion of the customers on different parameters related to adoption of internet banking.

The targeted sample includes bank customers who are already using various services provided on internet banking platform. The sample for conducting the survey contains customers from Surat, Mumbai and Pune. The sample consists of total 100 respondents.

Keywords: e-Banking, adoption, factors, technology

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I. Introduction

Efficient adoption of supporting technology for enabling a variety of e-banking services has led to a new revolution for the delivery of banking services. Technology, that began its journey in Indian banking as an enabler and facilitator, has now become abusiness driver.

Computerisation of banks in India, which started in the year 1990, has provided the platform for delivery of banking services through alternate channels. With institutional support (RBI, IDRBT, and individual banks), increasing spread of internet and computer literacy, e-banking has gained further momentum. Electronic banking for retail customers in its various forms (e.g. internet banking, mobile banking, etc.) has developed into an important distribution channel for providing banking services.

Electronic banking (e-banking) is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels (Daniel, 1999; Sathye, 1999).

E-banking offers customers just about every banking service traditionally available through a brick and mortar branch, including accepting deposits, paying interest on savings and providing an online bill payment system (http://www.investopedia.com/terms/o/onlinebanking.asp). E-banking involves consumers using the Internet to access their bank account and to undertake different types of banking transactions online. Banks set the web page for electronic banking which provides information about its products and services offered online. Customers can log in and use the facilities offered through web page of the bank 24/7 to perform various banking transactions.

Present paper reviews the profile of internet banking users andanalyses the factors determining further adoption of e-banking usage. The paper is divided into six sections. First part gives introduction followed by a review of e-banking scenario in India. Next part reviews various research studies determining adoption of internet banking. Next part states objectives of the paper and research methodology followed by analysis of the primary data. Paper ends with conclusion and future recommendations.

II. E-Banking Scenario in India

Institutional initiatives, growing number of internet users and rising percentage of techno savvy generation is expanding the scope of e-banking in India.

i. Reserve Bank of India and Banking Technology

Reserve Bank of India started the drive for technology adoption with the Rangarajan Committee Report I and II on Computerisation in Banks in the 1980s, followed by Saraf and Vasudevan Committee Reports in the 1990s.

The IT Vision Document of RBI, 2011-17, emphasizes the need to move towards integrated IT environment for tapping the synergistic benefits of holistic system implementation (RBI Vision document 2011-17). It also promotes the idea of a less cash/less paper society reflecting the "green" initiative.This places greater emphasis on the use of electronic payment products and services that can be accessed anywhere and anytime by all at affordable prices.

IDRBT, set up in 1996, has been performing its designated role as an important component of RBI's banking technology push and continues with its endeavour.

ii. Growth in Electronic Payments

The payment system initiatives taken by the Reserve Bank of India have resulted in deeper acceptance and increased penetration of non-cash payment modes.

Table 1: Volume and Value of Transactions

Item	Volume (million)			Value (billion)		
	2011-12	**2012-13**	**2013-14**	**2011-12**	**2012-13**	**2013-14**
Total Paper Clearing	1314.9	1313.7	1254.0	99012.1	100181.8	93014.8
Total Retail Electronic Clearing	512.5	694.1	1108.3	20575.3	31881.1	47856.3

Source: RBI Annual Reports, 2011-12, 2012-13, 2013-14

Table 1 shows that thepaper basedtransactions are reducing and electronic payments are increasing in volume as well as in valueterms.

During 2013-14, in volume terms paperbasedtransactions accounted for 34.6 per cent(43.4 per cent during 2012-13) of total non-cashtransactions.

In terms of value, the share ofpaper-based transactions reduced to 7.6 percent in 2012-13 and 6.3 per cent in 2013-14 showing a downward trend.(7.6 per cent during 2012-13).

iii. Internet Usage Statistics

According to the Internet and Mobile Association of India (IAMAI), the Internet user base in the country stood at 190 million at the end of June, 2013.With more and more people accessing the web through mobile phones, the internet user base in the country is projected to touch 243 million by June 2014, a year-on-year growth of 28%.

(http://timesofindia.indiatimes.com/tech/tech-news/) (IAMAI/articleshow/29563698.cms)

iv. Potential for Electronic Banking

Today, banks are incentivising its customers for using banking services through their online banking portals, by way of providing additional facilities, waiver of charges, various benefit schemes, etc.

Demographic structure of India also indicates growing potential for internet banking. According to Census 2011, the working age population (15-64 years) contributes approx. 63% to the overall population, while the young age population (15-35 years) contributes approx. 33% to the overall population in India. With Computer literacy drive undertaken by Government of India and such drives undertaken by banks individually, computer literacy is bound to rise in coming years in India.

These figures reflect the potential increase in a techno savvy generation, with greater demand for e-banking services in coming future.

III. Major Factors determining Adoption of E-Banking: A Review

Various studies have aimed at investigation of user adoption of technology of electronic banking have been conducted in the past.

- Davis (1989) based his Technology Acceptance Model (TAM) on factors like perceived usefulness, perceived ease of use and awareness of given technology to study internet banking.
- Earlier studies; Barczak et al., 1997; Danniel & Strong, 1997; Lia et al., 1999; Polatoglu & Ekin, 2001 and Devlin & Yeung, 2003 report factors such as convenience, flexibility, security concern, complexity, and responsiveness being associated with a higher propensity to use internet banking.
- Convenience has been identified by a number of studies as an important adoption factor (ACNielsen, 2005; Pew, 2003; Ramsay and Smith, 1999; Thornton and White, 2001). A US survey found convenience to be the main motivator for internet banking in terms of 24/7 access and time savings (Pew, 2003). Interestingly, Chung and Paynter (2002) found that many people who did not use internet banking believed they did not need high levels of convenience.
- A survey by Chung and Paynter (2002) identified consumer fears regarding transaction security as an inhibitor to the adoption of internet banking. Security has also been identified as a key consumer concern in other internet banking adoption studies (e.g. Black et al., 2002; Siu and Mou, 2005).

- In Australia, Sathye's (1999) study highlighted consumer security fears while Ramsay and Smith (1999) found privacy to be a key consumer concern. Hain et al (2003) observed that non-internet banking consumers were more concerned about security and privacy issues than internet banking consumers.
- Geetha and Malarvizhi (2011) found out that many factors like security and privacy and awareness level increased the acceptance of e-banking services among customers in India. Their findings showed that if banks provided to customers necessary guidance and ensure safety of their accounts, customers were willing to adopt e-banking.
- The security concern has also been recently associated more with female than male non-users (ACNielsen, 2005).
- Trust in the internet gained through long-term internet usage has been found an important factor in the adoption decision (Gartner, 2003b). In the context of consumer attitudes toward internet banking systems, trust may be related to consumer judgement on security and privacy issues (Wang et al., 2003). Suh and Han (2002) found trust an important factor in consumer adoption of internet banking using a Web-based survey, while Rexha et al (2003) obtained similar results in Singapore.
- Conclusions of study undertaken for European Commission on public perceptions (September, 2003) say that lack of trust has been frequently cited to be one of the key factors that discourage customers from participating in e-commerce, while cultural differences affect the formation of trust.
- Impact of trust was investigated by Grabner-Kräuter and Faullant (2008) and their results confirmed the influence of trust on risk perception and consumer attitudes towards internet banking as the most widespread electronic banking form.
- Apart from trust, there are other variables which influence the usage of Internet banking. They are intention, beliefs, and subjective norms, trust in the bank, attitude, perceived usefulness and perceived ease of use (Journal of Services Research, 2007).
- Demography may also affect the usage pattern of Internet Banking. It is interpreted that the female respondents are yet to get fully involved in Internet purchase (Journal of Internet Banking and Commerce, 2006).
- Adaptability, technical self-efficacy and knowledge of the internet banking application have been found influential, suggesting that individual characteristics affect the adoption decision (Thornton and White, 2001). In a related finding,

Sathye's (1999) study highlighted that many consumers were simply unaware of internet banking and its unique benefits.

- Imperative to the greater adoption of electronic payments are speed, efficiency and security, as also creating trust and safety of operations in the minds of the users. (Payment and Settlement Systems And Information Technology, RBI, 2014)

In the context of the above perspective, this paper will make an attempt to analyse determining factors, which affect customer's usage of Internet banking.

IV. The Objectives of the Study

i.) Review of behaviour of the respondents in relation to e-banking services.

ii.) Review of major factors determining further adoption of e-banking services.

V. Research Methodology

The Research Methodology for the study is as follows:

Present study attempts to explore the factors determining further adoption of e-banking services in India. Survey method has been used to conduct the study. Survey was conducted in the form of semi structured questionnaire with questions aimed to investigate profile of respondents, their e- banking behaviour, technology used and factors determining greater usage of e-banking.

Percentages, ranking based on weighted average and factor analysis was used for statistical analysis. Five point likert scales were used to measure the opinion of the customers on different parameters related to adoption of internet banking.

The targeted sample includes bank customers who are already using various services provided on internet banking platform. The sample for conducting the survey contains customers from Surat, Mumbai and Pune. The sample consists of total 100 respondents.

VI. Analysis

Table 2 depicts the profile of 100 respondents who are existing users of e-banking.

Table 2: Profile of Respondents

Particulars		Percentage
Gender	Male	59.2
	Female	40.8
Age	21-30	40.5
	31-40	23.3
	41-50	22.4
	51-60	9.5
	60 and above	4.3
Education	Below Graduation	26.2
	Graduation	50
	Post-Graduation	7.1
	Professional Education	16.7
Marital status	Single	52.4
	Married	47.6
Household Monthly Income	Up to 10000	9.5
	10000-20000	11.9
	20000-30000	13.9
	30000-40000	14.9
	40000-50000	10.8
	Above 50000	39
Occupation	Student	8.1
	Service	69.1
	Self-Employed	22.8

Compiled from Primary Data

Of the total 100 respondents, 59.2 % are males and 40.8 % were females. The highest category of respondents using online banking services were in the age group of 21-30years (40.5%). Majority of the users of e-banking services were (50%). Majority respondents belong to 'greater than 50000' monthly income group (39%). 69.1%respondents were in service industry, 22.8 % were self-employed professionals and 8.1% were students.

Table 3 depicts the comfort level of respondents in using technology for e-banking services.

Table 3: Comfort Level of Respondents for Internet Banking

Particulars	**Rank**
Comfortable with use of internet	1
Comfortable with use of Computers	2
Comfortable with use of technology related to internet banking	3

Compiled from Primary Data

It was found that respondents were comfortable with the use of internet but they were less comfortable with the technology related to e-banking.In spite of being existing e-banking users, customers need more conducive environment to perform e-banking transactions.

Factor analysis

Factor analysis was conducted to find factors determining further adoption of internet banking. Total twenty three factorswere reviewed. Cronbach's Alpha was computed to find out reliability. The value of Cronbach's Alpha was0.815.

Cronbach's Alpha	**No. of Items**
0.815	23

Further, KMO test was conducted for measuring sampling adequacy. With a value of 0.712, sample was found to be adequate.

KMO Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.712

The following table shows the result of factor analysis and the important factors determining further adoption of internet banking deducted therein.

Table 4: Factors Determining Further Adoption of e-banking

Component	Statement	Score	Factor
1	Convenient	.785	Convenience
	User Friendly	.861	
2	24 * 7	.814	Better Time Management
	Saves time	.689	
3	Quality service	.741	Bank Strategies
	Bank Incentives	.752	
4	Banks Encourage	.788	Networking
	Friends Encourage	.595	
5	Secured from third party access	.835	Security
	Secure to Perform Transactions	.681	
	Protection of Privacy	.796	

Calculated from Primary Data

Factor analysis shows that out of the twenty three factors analysed, five factors are most important in determining further adoption of internet banking. Ease of performance, time management, bank strategies for promotion, motivation from the bank and society and security were found to be major factors affecting success of internet banking business.

VI. Conclusion

Taking findings of the study into consideration, strategies could be drawn by the bankers to spread their internet banking businesses amongst existing retail customers. Computer literate banking customers can be further motivated towards usage of e-banking services and appropriate strategies can be made for placing themselves at competitively advantageous positions.Enabling greater use of internet banking technology across various regions by way of simplifying the instructions and use of local language. Enhancing the security for online transactions and further motivation to perform internet banking is the need of the hour.

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Effectiveness of Financial Inclusion Through BC Model: From the Perspective of Account Holders

– B. Renuka*

Abstract

As said by C.K Prahlad, Management Guru, there is Fortune at the Bottom of the Pyramid, "Access to Bottom of the Pyramid market is not necessarily difficult if proper initiatives and measures are taken. Financial Inclusion if understood and applied in the right perspective can make a strong, profitable business proposition. This is so because pyramid is wider at the bottom. Financial inclusion is the strong preventive as well as curative against the ill effects of financial instability and economic recession. RBI urged banks to hasten the Financial Inclusion Plan using their own road map to reach the unreached. Different Banks focused on different approaches and amongst them Business Correspondent Model is a successful tool to bring the Financial Inclusion. In this paper author tried to understand the impact on various variables after opening an account with BC and Overall impression on this model. Researcher in her study calls for involving the target population in the process of development rather than treating them as beneficiaries of public largesse.

Keywords: Financial Inclusion Plan, Business Correspondent, Customer Service Point, Greater Social Acceptability, Jan Dhan Jogna.

A. Introduction

The lower income category has been living under the constant shadow of financial duress mainly because of the absence of savings and the absence of savings makes them a vulnerable lot. Presence of banking services and products aims to provide a critical tool to inculcate the habit to save. In view of including all the people who are excluded from the gaining of benefits of banking services, GOI and RBI together strived for a special policy called "Financial Inclusion Plan".

RBI set up the Khan Commission in 2004 to look into financial inclusion and the recommendations of the commission were incorporated into the mid-term review of the policy (2005-06) and urged banks to review their existing practices to align them with the objective of financial inclusion. RBI also exhorted the banks and stressed the

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need to make available a basic banking 'no frills' account either with 'NIL' or very minimum balances as well as charges that would make such accounts accessible to vast sections of the population. Financial inclusion is an important element in tackling poverty and ensuring social justice.

Financial Inclusion: The Government of India's Committee on Financial Inclusion in India begins its report by defining financial inclusion as "the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as the weaker sections and low income groups at an affordable cost in a fair and transparent manner by regulated, mainstream institutional players".

Various Models of Financial Inclusion: RBI adopted various methods of financial inclusion plan, out of which Business Correspondent Model is more effective in providing the Financial Services to needy people.

a. **Bricks and Mortar Model:** Bricks and mortar refers to businesses that have physical presence rather than virtual or online. Presence of a bank branch in a location is termed as Bricks and Mortar Model. This can happen either by opening a branch at the village or by allotting the villages to Private Banks, Public Banks, RRBs and also to Cooperative Banks

b. **Branchless banking:** Branchless Banking allows financial institutions and other commercial actors to offer financial services outside traditional bank premises. The Mobile Banking, ATMs, Mobile Van Model, Ultra Bank model, SHG - SHBL model, MFI Model, Business Correspondent model etc,. are few types of branchless Banking model.

Business Correspondent Model: The Concept

The idea of BC model has generated from Brazil where retail vendors, lottery outlets and post offices work as bank branches. An estimated $ one billion in transactions were processed with Point-of-Sale (POS) device such as biometric or smart card readers through Brazil's 90,000 agents in 2005 and a total of about 12 million accounts were opened across the network in only three years.

Objective of BC Model

A twin objective of BC model is to ensure greater financial inclusion and to increase the outreach of the Bank.

- To provide comprehensive financial services to the underprivileged encompassing savings, credit, remittance, insurance, Mutual Funds and pension products in a cost effective manner, particularly in untapped / unbanked areas.

- To improve process efficiencies and reduce transaction costs by providing linkages between the existing network of our Branches and the informal and formal agencies engaged with the poor, by adopting technology based solutions.

  The banking systems have started to adopt the business correspondent mechanism to facilitate banking services in those areas where banks are unable to open brick and mortar branches for cost considerations. Business Correspondents provide affordability and easy accessibility to this unbanked population. Armed with suitable technology, the business correspondents help in taking the banks to the doorsteps of rural households.

B. Review of Literature

- **Chakrabarthy K.C, 2009** quoted that there are two factors like supply side and demand side factors are driving financial inclusion. On the supply side, poor individuals and small and micro enterprises often have difficulties in accessing formal sources of credit. They thus have to rely on personal savings or internal sources to invest in health, education, housing, and entrepreneurial activities to make use of growth opportunities. Banks are expected to mitigate the supply side processes that prevent poor and disadvantaged social groups from gaining access to the financial system. On the demand side, lower income and /or asset holdings also impact significantly on financial inclusion. Agriculture plays a central role here as the majority of India's population derives employment from this sector. Agriculture thus is important not only for high growth but also inclusive growth.
- **Beck, T., Demirgüç-Kunt, A. and Honohan, P., 2009,** viewed that financial development is both pro-growth and pro-poor. It tends to increase disproportionately the income growth of those falling in the lowest income quintile. Some of the key constraints to access for small firms and poor households in many developing countries are physical and social distance, inadequate documentation, insufficient resources, inadequate information of financial services etc, are the main hurdles of financial inclusion.
- **Dr.Vijay Kelkata**r highlighted that in developing countries access to finance is positioned as a public good, which is an important and basic as access to safe water or primary education. A good is considered a 'public good' if it meets the conditions of non-rivalness in consumption and non-excludability. The degree of 'publicness' in financial inclusion may be different from the stand point of a typical public good say 'defense'. Mostly financial inclusion meets the above two criteria to a large measure and to that extent it is a 'Quasi Public Good'.

- **As per the report of the committee on Financial Inclusion (2008),** RRBs should adopt the BF and BC models as a major strategy of financial inclusion and NABARD should extend the required support including running pilots in selected banks. The proposal for a technology based intervention under BC model would be equally relevant for RRBs. The RRBs operating in predominantly tribal areas and having high levels of exclusion may prepare annual credit plans having a separate component for excluded groups, which would integrate credit provision with promotional assistance. Banks also entering into agreements with Indian Postal Authorities (IPA) for using the enormous network of Postal Offices as business correspondents.
- **Ramesh. S and Preeti Sahai (2009),** opined that the BC frame work is a step in the right direction and this direction needs some scale and means to achieve scale to bring financial inclusion. It should focus to deliver in a suitable manner that helps poor with low cost. The scale is possible only through an effective delivery system supported and managed by strong and healthy professional managed institutional frame work.

Need for the Study

The efforts of various banks and the BCs, substantial progress could be achieved in quantitative terms in establishing BCs across the country. The latest data available indicated by Sa -Dhan is that up to Mar 2013, 96,828 BCs or CSPs have been established in the country and 103 Million NFAs opened. Researcher felt that a study of this nature helps to understand the reasons why customers prefer to open an account through BC and this paper also focused to understand the impact level on various variables of customers.

Objectives of the Study

- To find the reasons why customers are intended to open an account with BC.
- To explore the impact of BC model on various basic variables of customers after opening an account.

Methodology

i) **Research Design and Sampling Plan:** The Research was carried out after reviewing most of the available literature about the scheme globally and within the country. Exploratory and Descriptive types of research design are adopted for the study. Both primary and secondary sources of data are used for the study.

ii) **Sample Selection:** To understand the Impact on variables and overall impression on BC Model, 1,000 customers from Andhra Bank and SBI were selected. 500 customers from Andhra Bank and 500 from SBI were selected. An appropriate questionnaire was prepared and the data was collected from customers of Andhra Bank from Mahaboobnagar and SBI from Warangal. The total number of accounts opened through BC in AP and Telangana Districts are 47, 13,284 and out of which 5, 68,824 were opened through Andhra Bank and 16,26,085 through SBI.

Observations on BC model in Mahaboob nagar was carried into the study. The survey was conducted from 14-03-2013 to 20-03-2013, in this context CEO of Batronics Co. ltd Mr. Pundarika V.V. Reddy was interviewed. A field survey was also conducted in Warangal village from 6-08-2013 to 15-08-2013.

iii) **Data Collection and Analysis:** The data from filled questionnaire is comprehended and a master sheet using MS-Excel is prepared. The data is processed and analysed with the help of SPSS 20 package. To understand the impact level and view of ranking them accordingly, Weighted Average Technique was used.

To study the overall impression, likert five point scale is used ranging from highly dissatisfied (1) to highly satisfied (5). Total score of perception of account holders is summed up and mean score is arrived at by dividing the total score by sample size. i.e 1000. After analysis and interpretation of the data, appropriate and meaningful conclusions as well as suggestions are drawn.

iv) **Data Analysis:** It is very important to know the reasons why a beneficiary has opened their account through BC. This helps Banks to analyse the expectations of account holders and the parameters of their reach.

Analysis of Influencing factors to open an account with BC

Particulars	Average (Mean)	Ranks
BC is available for entire day	3.25	12
Minimum withdrawal is Re.1	3.44	11
Responds to immediately	3.61	6
Provides information about banking products	3.59	8
Saves Waiting time	3.80	5
Saves traveling time	3.82	4
Saves transport cost	3.95	1
Saves operating time	3.87	3
CSP is in walk able distance	3.88	2
BC provides all services of banks	3.52	9
BC conducts Financial literacy programs	3.45	10
BC encourages for savings	3.60	7

Source: Primary Data

Total Score is calculated as "1*HDS+2*DS+3*N+4*S+5*HS"

Mean Score = Total Score/Sample Size=Total Score/1000

Observations: The above table states the influencing factors to open an account through BC. After having thorough interaction with account holders, twelve major influencing factors are found and the researcher tried to find the most influencing factor amongst twelve factors and ranked them accordingly. The first 3 ranks were given to transport cost, distance and operating time. The importance factor to open the account with BC is to save transport cost. This is because CSPs are within walk able distance and it takes hardly 10 minutes to operate. Villagers have to travel at least 5-10kms to operate their account if BC facility is not available. The 4th, 5th and 6th ranks were given to travelling time, Waiting time and response towards queries of account holders. 7th, 8th and 9th ranks were given to Encouragement by BC, Providing information about products and providing services of banking products. It is observed that providing banking services were given 9th rank as BCs are restricted towards few services of Bank but not all like Loans, Overdraft etc. 10th, 11th and 12th ranks were given to conducting of literacy programs, Minimum withdrawal and availability of BC for entire day.

Factors that have impact after opening an account with BC

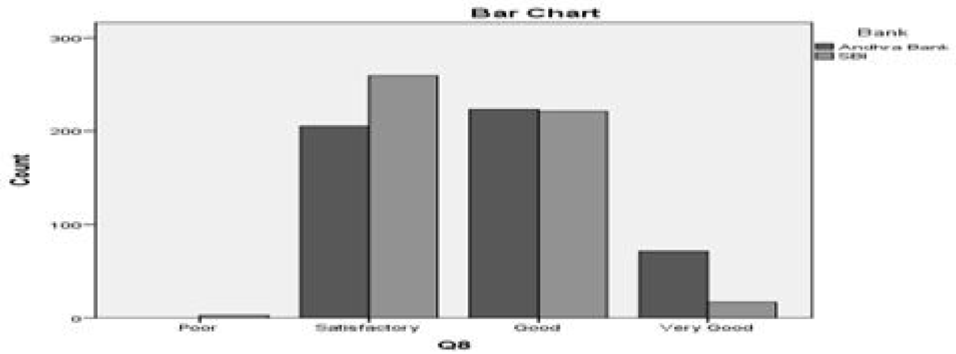
S.No		Variables	Average	Rank
1	Financial Factors	Savings	3.68	1
2		Investments (like in Insurance Products)	3.52	6
3		Living Standards (Using Electrical goods, Comfort goods)	2.99	11
4		Assets (land, live stocks, Vehicles etc)	2.91	13
5		Business expansion	2.88	14
6	Psychological Factors	Self Confidence	3.56	4
7		General Awareness	3.58	2
8		Banking Habits	3.57	3
9		Business/ Agricultural Skills	3.50	7
10	Health & Educational Factors	Health	3.54	5
11		Nutrition	3.44	8
12		Child Education	3.40	9
13	Societal Factors	Greater Social Acceptability	2.95	12
14		Helping others	2.87	15
15		Exposure	3.06	10

Source: Primary Data

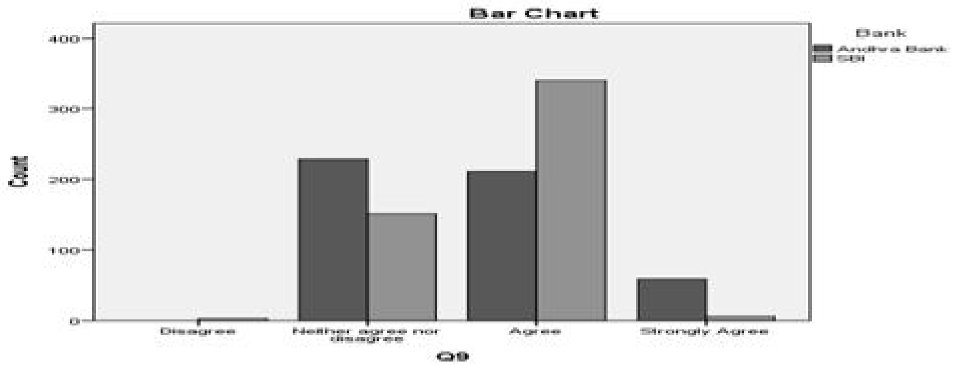
Observations: The above table reveals that all the Psychological factors like General Awareness, Banking habits, Self Confidence are placed in 2nd, 3rd and 4th ranks and Savings are in 1st. Health, investment capacity, Agricultural skills are pacing in 5th,6th and 7th position and these variables are followed with Nutrition, Child Education and Exposure with 8th, 9th and 10th ranks subsequently. The 11th rank was given to improvement in living standards, 12th for Greater Social Acceptability, 13th rank for Assets, 14th rank for Business Expansion and the last rank was given to helping others. It can be understood that this model is in nascent stage, having greater impact on psychological factors rather financial and social factors.

The below table explains the overall impression on BC model. 997 beneficiaries almost satisfied with and by having this model.

Factors	Influencing Factors	No of Respondents	Percentage
Overall impression on BC model	Poor	3	.3
	Satisfactory	464	46.4
	Good	444	44.4
	Very Good	89	8.9
	Total	**1000**	**100.0**
choice of BC model is reliable	Strongly Disagree	--	---
	Disagree	3	.3
	Neither agree nor disagree	381	38.1
	Agree	551	55.1
	Strongly Agree	65	6.5
	Total	**1000**	**100.0**



Overall Impression



Reliable

Observation: Almost 997 respondents are satisfied with th e BC model and its working process. They accepted that the model is satisfactory and around 551 respondents stated that the choice of BC model is reliable. But it is to understand that all the respondents who agreed that the model is satisfactory and good, are not satisfied with the process of this model.

Findings and Conclusions

- Researcher has tried to know the reasons to open an account through BC. This helped to understand the expectations of customer and the areas on which Banks has to focus.
- Financial Inclusion main motto is to improve the savings and investments. The above ranking table explains that Savings was given 1st rank and Investments 6th out of 15 variables. It can understand that Financial Inclusion is effective in improving the financial factors.
- It is also observed Societal factors like greater Social Acceptability also have improved through this Model. This is because CSP is the [place where all segments and divisions of people come together and sometimes share their views. This led to bring the greater societal belongingness.
- Almost 997 respondents are satisfied with th e BC model and its working process. They accepted that the model is satisfactory and around 551 respondents stated that the choice of BC model is reliable. But it is to understand that all the respondents who agreed that the model is satisfactory and good, are not highly satisfied with the process of this model.

Challenges Observed

- Most of the Clients have SMS facility. But they do not understand the SMS as it is in English. Voice Messages can be apparently used to overcome this problem.
- Some of the evidence (few cases observed in the field study) state that though people are investing in micro insurance products, they are not able to recover the amount as per the consent of insurer.
- Without financial literacy, the financial infrastructure so painstakingly created would remain grossly under used and might result in huge wastage of scarce resources. Hence, financial literacy and customer education has to run parallel to the BC programme. The Government of India may set up National level Task Force with enough resources under the Ministry of Finance and make them responsible to spearhead the programme. This may be considered for immediate implementation.

- It is understood that nearly half of the BSBD accounts are dormant. For effective use of BSBD accounts economic activity needs to be improved.

Updates of the Policy

Recently, the RBI Governor Raghuram Rajan outlined, in conceptual terms, what inclusion should be. "Simplicity and reliability in financial inclusion in India, though not a cure all, can be a way of liberating the poor from dependence on indifferently delivered public services and from venal politicians," he said. Further, "in order to draw in the poor, the products should address their needs - a safe place to save, a reliable way to send and receive money, a quick way to borrow in times of need or to escape the clutches of the money lender, easy to understand life and health insurance and an avenue to engage in savings for the old age."

The government's latest plan of action, as envisaged in the CFIP or Sampoorn Vittiya Samaveshan, hopes to extend coverage of basic financial services all excluded households. In the first phase, the CFIP will endeavour to provide universal access to all the beneficiaries through sub-service areas (SSAs). Each SSA will consist of 100-1,500 families in a cluster of villages and each SSA will be serviced by a BC agent (BCA) whose task it will be to facilitate account opening and smooth banking operation.

The latest inclusion plan will have as its focus households rather than geographical areas. After satisfactory conduct of accounts it is proposed to offer reasonable need-based credit facilities for which overdraft facilities will be sanctioned. A smart card (RuPay card) will be issued to enable customers to operate their accounts even without BCs. Simultaneously suitable awareness will be created among the financially excluded.

In the second phase, there is a proposal to make available a pension scheme for identified individuals in the unorganised sector and offer microfinance products through government-owned insurance companies.

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