## Investors' Behavior of Equity Investment: An Empirical Study of Individual Investors

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**Keywords:** Equity investment, investors' behavior

### **INTRODUCTION**

The capital market plays an important role in the development of the country for mobilizing and allocation of domestic and foreign savings. It plays crucial role to channelize the savings from household sector of the country, which in turn enhance the capacity of the economy to product goods and services to society. Therefore capital market plays a very crucial role in stimulating industrial growth as well as economic growth and development. Indian financial system's formal part is consisting of an existence of stock exchange and an active new issue market. This market is consisting of primary and secondary segments, which deal with new issues of securities and trade the existing securities, respectively. Securities in both the market comprise of debt and equity instruments. Both are open for individual retail investment to park their saving.

Decision-making is a complex activity. Decisions can never be made in a vacuum by relying on the personal resources and complex models, which do not take into consideration the situation. Analysis of the variables of the problem in which it occurs is mediated by the cognitive psychology of the manager. A situation based on decision making activity encompasses not only the

The optimal allocation of asset classes forms an integral part of the investment decisionmaking process.

specific problem faced by the individual but also extends to the environment. Investment decision involves the commitment of a capital sum for benefits to be received in the future in the form of an income flow or capital gain or a combination of both. Akintoye (2006) said that "decision making is a process by which individual responds to the opportunities and threats that confront him/her by analysing the options and making determination or decision about specific goals and course of action." Decision-making can be defined as the process of choosing a particular alternative from a number of alternatives. It is an activity that follows after proper evaluation of all the alternatives. In economic terms, investment utilizes capital for maximum possible return. The optimal allocation of asset classes forms an integral part of the investment decision-making process. Investment in equity shares is considered as an important instrument for diversification within the risky asset class in the asset allocation strategy and to hedge against inflation.

Investment behavior is one of the areas of modern economic research. Various empirical studies are accumulating concrete findings and made the important developments in the field of investment behavior. The theories of investment behaviors are basically divided into economic theories and behavioral finance.

Economic theory on investment behavior treats the investment decision of the individual as a macroeconomic aggregate and the microeconomic foundations of it are drawn from utility theory. The axioms of utility theory, developed by Von Neumann and Morgenstern, argue that investors are 1. completely rational, 2. able to deal with complex choices, 3. risk averse and 4. wealth maximising. This theory further assumes that individuals maximize their expected utility- measured in terms of anticipated returns and variances from these expectations (the mean-variance approach), i.e. each investor selects portfolio that maximizes expected return while minimising risk. The utility based on

Economic theory on investment behavior treats the investment decision of the individual as a macroeconomic aggregate and the microeconomic foundations of it are drawn from utility theory. classic wealth criteria making a choice between consumption and investment through time. Economists assume that when a person is faced with a choice from among a number of possible options, the person will choose the one that yields the highest utility. The literature on utility theory does not address the individual investment behavior, as discussed earlier, it focuses

on the development and refinement of 'macro' models that explain aggregate market behavior.

The behavioral finance, a relatively new sub-discipline, focuses on impressive strides in explaining the behavioral aspects of investment decisions. This field merges the concepts of financial economics and cognitive psychology in an attempt to construct a more detailed model of human behavior in financial markets. It investigates the choice under uncertainty and assumed that the information structure and the features of the market participants systematically influence individual's investment decisions. According to it, the behavior of investor in market derives from psychological principles of decision making. It also focuses on how investors interpret, process and act on the information to make

investment decision. Research in behavioral finance produced three major theoretical streams, namely: Prospect Theory, Regret Aversion and Self Control. Each of these research streams captured and analyzed behavioral attributes of individual investors. Behavioral finance has two building blocks: cognitive psychology and the limits to arbitrage. Cognitive refers to how people think. There is a huge psychology literature documenting that people make systematic errors in the way they think, they are overconfident. They put too much weight on recent experiences too. Their preferences may also create distortions. Behavioral finance uses this body of knowledge, rather than taking the arrogant approach that it should be ignored. Limits to arbitrage refer to predicting in what circumstances arbitrage forces will be effective, and when they won't be. Behavioral finance uses this body of knowledge. Behavioral finance uses models in which some agents are not fully rational, either because of preferences or because of mistaken beliefs.

Vol. 5

### LITERATURE REVIEW

Investments are made with an avowed objective of maximising the wealth. Investors need to make rational decisions maximising their returns based on the information available by taking judgements free from emotions (Brabazon.T, 2000). Investor behavior is characterised by

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overexcitement and overreaction in both rising and falling stock market and various factors influences their decision making processes. Investment decisions are also affected by investor psychology. Investors make investment decisions before outcomes are certain. Psychologists have found that as decisions become more difficult and involve higher levels of uncertainty the decisions tend to be more greatly influenced by emotions and feelings (Cianci A.M, 2008). Successful investors are able to understand and overcome these adverse psychological influences (Iyer B and Baskar R.K, 2002).

Investment is an activity that follows after proper evaluation of all the alternatives. The value associated with analysis of the consumer decision making process is widely recognized by various researchers. People's decision regarding how much to save and invest for future depends upon the trade-off between

immediate and future consumption. Modigliani and Brumberg (1954) and Freidman (1957) modelled this trade-off as a problem of optimizing utility or happiness over life span. Within this framework, optimal saving and consumption path depends on how much people value the consumption at different times in the future.

The numbers of theories have been developed to explain how and why people make decisions with respect to equity investment decision making. The review of important theories ranges from theory of risk tolerance by investors (Bernheim et al., 2001), theory of planned behavior (Ajzen, 1985,1991; Ajzen and Fishbein, 2005), theory of efficient market hypothesis (Marcowitz, 1965, 1970; Fama and

French, 1993, portfolio theory Lintner, 1965; Tobin, 1958) and Behavioral finance Kahneman, 1974, and Tversky, 1979; 2007).

# Behavioral finance investigates the cognitive factors and emotional issues that individuals, financial experts and traders exhibit within the securities market.

1996), Modern (Markowitz, 1952; Sharpe, 1964; theory of (Tversky nad 1986; Kahneman Tapia nad Yermo,

Empirical studies on the individual investment behavior first appeared in 1970s, in which focus is given on the individual behavior rather than aggregate investor profiles. A Wharton survey, one of the most important studies, in the field of behavioral finance, examined how demographic variables influence the investment selection and portfolio composition process. Blume and Friend (1978) provided a comprehensive study and overview of the Wharton survey results and its implications for behavioral finance. Ricciardi V. (2005) ascertains that behavioral finance investigates the cognitive factors and emotional issues that individuals, financial experts and traders exhibit within the securities market. Waweru N M et al. (2008) investigated the role of behavioral finance and investor psychology in investment decision making and identified that certain behavioral factors affected the decision making behavior of the investors. Further, Shanmugasundaram V. and Balakrishnan V, 2009 found that, this acquired importance because in stock market, decisions are not guided by rationality or prudence, but the emotions, greed and insufficient knowledge in stock market operations in the highly overloaded information environment.

Mittal M. and Vyas R.K. (2008) explored the relationship between various demographic factors and the investment personality exhibited by the investors. Empirical evidence suggested that factors such as income, education and marital status affect an individual's investment decision. Further the results revealed that investors in India can be classified into four dominant investment personalities namely casual, technical, informed and cautions.

Simon (1986) found that risk tolerance is an important conception that has a direct and obvious link with the investment decision-making process. The number of factors have been studied, proposed and tested as determinants of risk tolerance. Cohn at el. (1975) has provided evidence that risk aversion decreases as wealth increases. Wallech & Kogan (1961) and Palsson, (1996) studies found that the risk tolerance decreases with the age. Although the studies done by Riley & Chow (1992) and Bajelsmit & VanDerhei (1997) also concluded that this relationship may not be necessarily linear). In fact, the reality can be explained by the fact that younger investors have a greater number of years to recover

Investor behavior can be predicted by life style characteristics, risk-aversion, control orientation and occupation.

from the losses that may be incurred with the risky investments. With respect to gender Bajtelsmit & VanDerhei (1997) suggested that women choose to invest their financial resources more conservatively and are generally more risk averse than men. LeBaron *at el.* (1992) counter that individual risk-aversion is largely a function

of visceral rather than rational considerations. Sung and Hunna (1996) have found that education is also an important factor to evaluate the risk- tolerance ability of an individual. Lewellen at el. (1977) found that age, sex, income and education affect investor preferences for capital gains, dividend yield and overall return. Barnewell (1987) found that investor behavior can be predicted by life style characteristics, risk-aversion, control orientation and occupation. Warren et al. (1990) supported that individual investment choices are based upon lifestyle, and demographic attributes.

Kadiyala and Rau (2004) studied investor reaction to corporate event announcements. They concluded that investors appear to under react to prior information as well as to information conveyed by the

event, leading to the different patterns: return continuations and return reveals, both documented in long term horizon return.

Merkas *et. al.* (2003) adopted modified questionnaire to analyze factors influence Greek investor behavior on the Ahtens Stock Exchnage. The results indicate that investors take purchase decision based on economic criteria with other diverse variables. The study also concluded that investors do not relay on single integrated approach, but rather many categories of factors. The results also revealed that there is a certain degree of correlation between the factors that behavioral finance theory.

The importance of sources of information in the decision-making process has also been studied. Turley and LeBlanc (1993) countered that the greater the perceived risk associated with investment alternative, the greater the information search and the subsequent delay in making a purchasing decision. With

Epstein (1994) examined "there is a strong demand for information about product safety and quality, company's environmental activities etc". Further the study confirms that majority of investors want the company report on corporate ethics, employee relations and community involvement.

respected to gender Banyamini et. al., (2000) found that women more comprehensively process the information than do men in the same task context. **Baitelsmit** and Bernasek (1996) found that "women to be more conservative in their investment practices. Clark-Murphy and Gerrans

(2002) found that "men and women are simply process information differently. Their risk profiles and confidence levels are different on the subject of finances. The impact of information on investment decision making has two separate dimensions to it. Women may differ in access to information and they may also differ in their ability or inclination to use available information". Hodge (2003) analyzed investors' perceptions of earning quality, auditor independence, and the usefulness of audited financial information. He concluded that lower perceptions of earnings quality are associated with greater

reliance on a firm's audited financial statements and fundamental analysis of those statements when investors make decisions.

Krisnan and Booker (2002) studies the factors that influence the investors' decisions who use analysts' recommendations to arrive at the decision of buy, sell or hold a stock. The results indicate that "a strong form of the analyst summary recommendation report, i.e. one with additional information supporting the analysts' position further, reduces the disposition error for gains and also reduces the disposition error for losses.

Epstein (1994) examined the demand for social information by individual investors. The results indicate

the usefulness of annual reports to corporate shareholders. They found that "there is a strong demand for information about product safety and quality, company's environmental activities etc". Further the study confirms that majority of investors want the company report on corporate ethics, employee relations and community involvement.

Accounting information, self image coincidence, neutral information, advocate recommendation, and personal financial needs are the influencing factors by order on investors' behavior.

Hussein Al Tamini (2005) examined the factors influencing the UAE investor behavior on Dubai Financial Market and Abu Dhabi Securities Market were examined. They found that accounting information; self image coincidence; neutral information; advocate recommendation, and personal financial needs are the influencing factors by order on investors' behavior. The most influencing factors by order were: expected corporate earnings, get rich quick, stock marketability, past performance of the firm's stock, and government holding, while the least influencing five factors by order of importance were: expected losses in other local investments, minimizing risk, expected losses in international financial markets, family member opinions and gut feeling on economy.

Ayieye (2004) identified profitability, risk, liquidity, dividends, returns, monetary and physical policies, industry factors and management and staff composition as the factors considered by individual

investors when buying shares. Mugo (1999) also identified the factors considered by institutional investors as economic, industry and company related. These factors influence the supply and demand of investments and thus their prices.

The present study attempts to explore the purchasing behavior of investors of equity shares. The study examined the factors that influence investment behavior while investing in equity shares. The study also addresses the influence level of various factors on individual investors' behavior, which may help the individual investors to find out and study the crucial factors to purchase equity shares for asset allocation decision. For companies, these crucial factors play an important role to frame the strategies. For government identifying the most influencing factors on investor's behavior would affect the required legislations and the additional procedures needed in order to satisfy investor's desires and also to make market efficient and transparent.

### RESEARCH METHODOLOGY

### Objectives of the study

Objectives of the study are as under:

- 1. To identify the variables that influence purchase decision of individual investors of equity shares.
- 2. To study the influence level of different variables on investors of equity shares.

For the study, descriptive research has been used, wherein the sources of data are both primary and secondary. Primary data were collected through questionnaire while secondary data were collected with the help of available books, business magazines, journals, newspapers, annual reports and newsletters of different companies, web sites, internet etc. For the study, convenience sampling technique is chosen. Total 112 individual investors were interviewed from two cities Ahmedabad and Vadodara from the State of Gujarat, India.

### **DATA ANALYSIS**

### Reliability and Normality Check for the Variables Influencing Investment Decision

Respondents were given 36 variables and asked to give their influence level on five point likert scale ranging from the least influence to the most significant influence. Before using this data for various interdependence techniques, it is necessary to check whether the data is reliable and normally distributed.

### Reliability

Cronbach's Coefficient (Alpha): Cronbach's alpha is the average of all possible split half coefficients resulting from different ways of splitting the scale items. The Cronbach's Alpha coefficient value is 0.921 as in table 1, for the 36 influencing variables, indicates a high level of internal consistency in the items. This value of Cronbach's alpha is acceptable and desirable confirming that the scale is reliable enough to be used.

**Table 1 Reliability Statistics (Cronbach's Alpha)** 

Cronbach's Alpha	Number of items
0.921	36

### Data quality and normality

Data quality and normality is examined by using Skewness and Kurtosis as shown in the table 2. A close examination of the forth column in the table reveals that Kurtosis for majority of variables is below 1. Of the 36 variables, 11 variables Kurtosis values are greater than one but below 1.5, a level beyond which nonnormality of distribution becomes a concern.

**Table 2 Data Quality** 

Variable	ole Mean Skewness		Kurtosis	
Q4a1	2.893	-0.164	-1.281	
Q4a2	2.750	0.601	-0.431	
Q4a3	3.063	-0.120	-0.645	

Q4b2         2.857         0.385         -0.733           Q4b3         3.125         -0.345         -0.789           Q4b4         3.063         -0.163         -1.288           Q4b5         2.883         0.029         -0.594           Q4B6         3.268         -0.255         -1.025           Q4C1         2.607         0.334         -1.092           Q4C2         2.696         0.626         -0.219           Q4C3         2.884         0.044         -0.259           Q4C4         3.054         -0.430         -0.801           Q4C5         2.821         -0.033         -0.673           Q4C6         2.929         -0.027         -0.269           Q4D1         2.536         0.277         -1.181           Q4D2         2.768         0.534         -0.753           Q4D3         2.768         -0.305         -1.021           Q4D4         2.821         0.062         -1.064           Q4D5         2.179         0.735         -0.117           Q4D6         2.571         0.488         -0.145           Q4D7         2.813         -0.129         -1.047           Q4B8	Q4b1	2.423	0.385	-1.149
Q4b4         3.063         -0.163         -1.288           Q4b5         2.883         0.029         -0.594           Q4B6         3.268         -0.255         -1.025           Q4C1         2.607         0.334         -1.092           Q4C2         2.696         0.626         -0.219           Q4C3         2.884         0.044         -0.259           Q4C4         3.054         -0.430         -0.801           Q4C5         2.821         -0.033         -0.673           Q4C6         2.929         -0.027         -0.269           Q4D1         2.536         0.277         -1.181           Q4D2         2.768         0.534         -0.753           Q4D3         2.768         -0.305         -1.021           Q4D4         2.821         0.062         -1.064           Q4D5         2.179         0.735         -0.117           Q4D6         2.571         0.488         -0.145           Q4D7         2.813         -0.129         -1.047           Q4D8         2.500         0.380         -0.159           Q4D10         3.455         -0.571         -0.713           Q4e1	Q4b2	2.857	0.385	-0.733
Q4b5         2.883         0.029         -0.594           Q4B6         3.268         -0.255         -1.025           Q4C1         2.607         0.334         -1.092           Q4C2         2.696         0.626         -0.219           Q4C3         2.884         0.044         -0.259           Q4C4         3.054         -0.430         -0.801           Q4C5         2.821         -0.033         -0.673           Q4C6         2.929         -0.027         -0.269           Q4D1         2.536         0.277         -1.181           Q4D2         2.768         -0.305         -1.021           Q4D3         2.768         -0.305         -1.021           Q4D4         2.821         0.062         -1.064           Q4D5         2.179         0.735         -0.117           Q4D6         2.571         0.488         -0.145           Q4D7         2.813         -0.129         -1.047           Q4D8         2.500         0.380         -0.159           Q4D9         2.884         -0.036         -0.197           Q4e1         2.161         0.581         -0.652           Q4e2	Q4b3	3.125	-0.345	-0.789
Q4B6         3.268         -0.255         -1.025           Q4C1         2.607         0.334         -1.092           Q4C2         2.696         0.626         -0.219           Q4C3         2.884         0.044         -0.259           Q4C4         3.054         -0.430         -0.801           Q4C5         2.821         -0.033         -0.673           Q4C6         2.929         -0.027         -0.269           Q4D1         2.536         0.277         -1.181           Q4D2         2.768         0.534         -0.753           Q4D3         2.768         -0.305         -1.021           Q4D4         2.821         0.062         -1.064           Q4D5         2.179         0.735         -0.117           Q4D6         2.571         0.488         -0.145           Q4D7         2.813         -0.129         -1.047           Q4D8         2.500         0.380         -0.159           Q4D9         2.884         -0.036         -0.197           Q4e1         2.161         0.581         -0.652           Q4e2         2.589         0.239         -0.561           Q4e3	Q4b4	3.063	-0.163	-1.288
Q4C1         2.607         0.334         -1.092           Q4C2         2.696         0.626         -0.219           Q4C3         2.884         0.044         -0.259           Q4C4         3.054         -0.430         -0.801           Q4C5         2.821         -0.033         -0.673           Q4C6         2.929         -0.027         -0.269           Q4D1         2.536         0.277         -1.181           Q4D2         2.768         0.534         -0.753           Q4D3         2.768         -0.305         -1.021           Q4D4         2.821         0.062         -1.064           Q4D5         2.179         0.735         -0.117           Q4D6         2.571         0.488         -0.145           Q4D7         2.813         -0.129         -1.047           Q4D8         2.500         0.380         -0.159           Q4D9         2.884         -0.036         -0.197           Q4D10         3.455         -0.571         -0.713           Q4e1         2.161         0.581         -0.652           Q4e2         2.589         0.239         -0.561           Q4e3	Q4b5	2.883	0.029	-0.594
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Q4C5         2.821         -0.033         -0.673           Q4C6         2.929         -0.027         -0.269           Q4D1         2.536         0.277         -1.181           Q4D2         2.768         0.534         -0.753           Q4D3         2.768         -0.305         -1.021           Q4D4         2.821         0.062         -1.064           Q4D5         2.179         0.735         -0.117           Q4D6         2.571         0.488         -0.145           Q4D7         2.813         -0.129         -1.047           Q4D8         2.500         0.380         -0.159           Q4D9         2.884         -0.036         -0.197           Q4D10         3.455         -0.571         -0.713           Q4e1         2.161         0.581         -0.652           Q4e2         2.589         0.239         -0.561           Q4e3         2.766         -0.352         -0.373           Q4e4         2.679         0.149         -1.174           Q4e5         2.768         -0.712         0.620           Q4e6         3.125         -0.253         -0.411           Q4e7	Q4C3	2.884	0.044	-0.259
Q4C6         2.929         -0.027         -0.269           Q4D1         2.536         0.277         -1.181           Q4D2         2.768         0.534         -0.753           Q4D3         2.768         -0.305         -1.021           Q4D4         2.821         0.062         -1.064           Q4D5         2.179         0.735         -0.117           Q4D6         2.571         0.488         -0.145           Q4D7         2.813         -0.129         -1.047           Q4D8         2.500         0.380         -0.159           Q4D9         2.884         -0.036         -0.197           Q4D10         3.455         -0.571         -0.713           Q4e1         2.161         0.581         -0.652           Q4e2         2.589         0.239         -0.561           Q4e3         2.766         -0.352         -0.373           Q4e4         2.679         0.149         -1.174           Q4e5         2.768         -0.712         0.620           Q4e6         3.125         -0.253         -0.411           Q4e7         3.000         -0.044         -1.125	Q4C4	3.054	-0.430	-0.801
Q4D1       2.536       0.277       -1.181         Q4D2       2.768       0.534       -0.753         Q4D3       2.768       -0.305       -1.021         Q4D4       2.821       0.062       -1.064         Q4D5       2.179       0.735       -0.117         Q4D6       2.571       0.488       -0.145         Q4D7       2.813       -0.129       -1.047         Q4D8       2.500       0.380       -0.159         Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4C5	2.821	-0.033	-0.673
Q4D2       2.768       0.534       -0.753         Q4D3       2.768       -0.305       -1.021         Q4D4       2.821       0.062       -1.064         Q4D5       2.179       0.735       -0.117         Q4D6       2.571       0.488       -0.145         Q4D7       2.813       -0.129       -1.047         Q4D8       2.500       0.380       -0.159         Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4C6	2.929	-0.027	-0.269
Q4D3       2.768       -0.305       -1.021         Q4D4       2.821       0.062       -1.064         Q4D5       2.179       0.735       -0.117         Q4D6       2.571       0.488       -0.145         Q4D7       2.813       -0.129       -1.047         Q4D8       2.500       0.380       -0.159         Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D1	2.536	0.277	-1.181
Q4D4       2.821       0.062       -1.064         Q4D5       2.179       0.735       -0.117         Q4D6       2.571       0.488       -0.145         Q4D7       2.813       -0.129       -1.047         Q4D8       2.500       0.380       -0.159         Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D2	2.768	0.534	-0.753
Q4D5       2.179       0.735       -0.117         Q4D6       2.571       0.488       -0.145         Q4D7       2.813       -0.129       -1.047         Q4D8       2.500       0.380       -0.159         Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D3	2.768	-0.305	-1.021
Q4D6       2.571       0.488       -0.145         Q4D7       2.813       -0.129       -1.047         Q4D8       2.500       0.380       -0.159         Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D4	2.821	0.062	-1.064
Q4D7       2.813       -0.129       -1.047         Q4D8       2.500       0.380       -0.159         Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D5	2.179	0.735	-0.117
Q4D8       2.500       0.380       -0.159         Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D6	2.571	0.488	-0.145
Q4D9       2.884       -0.036       -0.197         Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D7	2.813	-0.129	-1.047
Q4D10       3.455       -0.571       -0.713         Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D8	2.500	0.380	-0.159
Q4e1       2.161       0.581       -0.652         Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D9	2.884	-0.036	-0.197
Q4e2       2.589       0.239       -0.561         Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4D10	3.455	-0.571	-0.713
Q4e3       2.766       -0.352       -0.373         Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4e1	2.161	0.581	-0.652
Q4e4       2.679       0.149       -1.174         Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4e2	2.589	0.239	-0.561
Q4e5       2.768       -0.712       0.620         Q4e6       3.125       -0.253       -0.411         Q4e7       3.000       -0.044       -1.125	Q4e3	2.766	-0.352	-0.373
Q4e6     3.125     -0.253     -0.411       Q4e7     3.000     -0.044     -1.125	Q4e4	2.679	0.149	-1.174
Q4e7 3.000 -0.044 -1.125	Q4e5	2.768	-0.712	0.620
	Q4e6	3.125	-0.253	-0.411
Q4f1 2.232 0.621 -0.312	Q4e7	3.000	-0.044	-1.125
	Q4f1	2.232	0.621	-0.312

Q4f2	2.625	0.817	0.023
Q4f3	2.804	0.020	-0.395
Q4f4	2.696	0.162	-0.887

Thus, according to Kurtosis, data for all the 36 variables are normally distributed. Also referring to the third column of the table indicates that, Skewness for all the factors is less than 1; far smaller than the lower bound of four or five. Thus, both Kurtosis and Skewness of the variables provide indication that the data are distributed normally.

### **Main Influencing Variables**

Mean score of each variable is as given in table 2. The influence level given by the respondents to the variables are ranging from level 1 (least influence) to level 5 (Most significant influence). From the table, the most influencing variable from the customers' point of view is "Market capitalization of company" followed by "Past performance of the company" having mean score of 3.46 and 3.27 respectively. The score indicate that investors concentrate more on company's past performance and the brand image in market.

From the mean score, the least influencing variable is "Conversation of views with professional colleagues" followed by "Fluctuations in the indices of the major markets" with a mean score of 2.16 and 2.18 respectively. This indicates that regular investors are not influenced by market fluctuations and by views of professional colleagues.

### **Factor Analysis**

One of the most widely used interdependency techniques for data reduction is factor analysis. According to Luck and Rubin (2003), factor analysis seeks to identify a set of dimensions that is not readily observed in a large set of variables. The analysis summarizes a majority of the information in the data set in terms of relatively new few categories, known as factors. Two basic reasons for using factor analysis are (i) to simplify a set of data by reducing a large number of measures (in which some may be interrelated causing multicollinearity) for a set of respondents to a smaller manageable number of factors (which are not interrelated) that still retain most of the information found in the original data

set and (ii) to identify the underlying structure of the data in which a large number of variables may really be measuring a small number of basic characteristics of the sample.

According to Hair et. al. (2003), factor analysis is a multivariate statistical technique that is used to summarize the information contained in a large number of variables into a smaller number of subsets or factors. Reasons given by Naresh K. Malhotra for using factors analysis are (1) to identify underlying dimensions, or factors, that explain the correlations among a set of variables (2) to identify a new, smaller set of uncorrelated variables to replace the original set of correlated variables and (3) to identify a smaller set of salient variables from a larger set. For this study, factor analysis is used to reduce the number of variables that are used to measure the influence level of respondents. Respondents were asked to rate 36 statements on their influence level ranging from level 1 (least influence) to level 5 (Most significant influence)

### **Bartlett's test of Sphericity**

Bartlett's test of sphericity is a test statistic used to examine the hypothesis that the variables are uncorrelated in the population. In other words, the population correlation matrix is an identity matrix; each variable correlates perfectly with itself but has no correlation with the other variables under study.

Table 3 KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure	0.630	
Bartlett's Test of Sphericity	2614.8	
	Df	630
	Sig.	0.000

As shown in Table 3, for 36 variables under study, the significance value of Bartlett's Test is 0.000, this leads to rejection of the idea that the correlation matrix is identity matrix.

### **Kaiser-Meyer-Olkin Test for Sampling Adequacy**

The Kaiser-Meyer-Olkin (KMO) measure for sampling adequacy is an index used to examine the appropriateness of factor analysis. It compares the magnitudes of observed correlation coefficients to magnitude of partial correlation coefficients. The KMO value varies from 0 to 1. High value (between

0.5 and 1.0) indicates factor analysis is appropriate. Small values of KMO Statistic indicate that correlations between pair of variables cannot be explained by other variables, and hence, factor analysis is not suitable. As shown in table 3, The KMO value found for this study is 0.63, which is nearer to 1. Hence, this value is acceptable and justifies the appropriateness of factor analysis.

### **Communalities**

Communality is the amount of variance a variable can explain with all the factors being considered. This is also the percentage of total variance explained by the common factors. The method selected for conducting the factor analysis here is Principal Component Analysis. In this method the total variance in the data is considered. The initial communalities for Principal Component Analysis are 1.

**Table 4 Communalities** 

Statements / Variables	Initial	Extraction
Q4a1	1	0.8057
Q4a2	1	0.5404
Q4a3	1	0.6141
Q4b1	1	0.6197
Q4b2	1	0.6371
Q4b3	1	0.6183
Q4b4	1	0.6436
Q4b5	1	0.6660
Q4B6	1	0.7306
Q4C1	1	0.7911
Q4C2	1	0.6371
Q4C3	1	0.4746
Q4C4	1	0.6943
Q4C5	1	0.5931
Q4C6	1	0.6706
Q4D1	1	0.7547
Q4D2	1	0.7205

Q4D3	1	0.5914
Q4D4	1	0.7104
Q4D5	1	0.6867
Q4D6	1	0.7952
Q4D7	1	0.7504
Q4D8	1	0.6970
Q4D9	1	0.5917
Q4D10	1	0.6603
Q4e1	1	0.8079
Q4e2	1	0.6424
Q4e3	1	0.7436
Q4e4	1	0.6304
Q4e5	1	0.6752
Q4e6	1	0.7100
Q4e7	1	0.6661
Q4f1	1	0.7568
Q4f2	1	0.6292
Q4f3	1	0.7071
Q4f4	1	0.6413

Note: Extraction Method: Principal Component Analysis.

However, the primary concern is the extracted communalities, which are achieved after extraction of factors. The communalities can be found mathematically by squaring the factor loading of a variable across all factors and then summing these figures. This term may be interpreted as a measure of "uniqueness". For the present study communalities are calculated with computer software and are as shown in Table 4. A low communality figure indicates that the variable is statistically independent and cannot be combined with other variables. A look at table 5.40, shows that the extracted communalities are high (greater than 0.5 for all except one variable), and hence, acceptable for all the Variables.

The code book of these 36 variables is given in annexure -I.

### Variance explained

It is required that the scale constructed and the components extracted should be able to explain maximum variance in the data. For this, an analysis of the Eigen values is required. Eigen value represents the total variance explained by each factor. Table V shows the Eigen values of all the variables that can be extracted. A maximum of 36 components can be extracted as there are 36 variables. The table also shows the cumulative variance. However, it is required that the maximum amount of variance should be explained in minimum number of components – for this reason extraction of the components is required. Ideally only those factors are extracted for which the Eigen values are greater than one, but for the present study, factors having Eigen value greater than 1.25 are considered. Thus, the factors extracted in the study are eight in number and together contribute 67.51% of total variance. This is a fair percentage of variance to be explained and assumes of the appropriateness of the factor analysis. Thus, extracting eight dimensions from a total of 36 variables for measuring the influence level is good by all means

**Table 5 Total variance explained** 

				Extracti	<b>Extraction Sums of Squared</b>			Rotation Sums of Squared		
Fac	Initial E	igen values	8	Loading	<b>gs</b>		Loadin	gs		
tors		% of	Cumulative		% of	Cumulative		% of	Cumulative	
	Total	Variance	%	Total	Variance	%	Total	Variance	%	
1	10.506	29.183	29.183	10.506	29.183	29.183	7.442	20.671	20.671	
2	2.779	7.719	36.902	2.779	7.719	36.902	3.001	8.335	29.006	
3	2.318	6.438	43.341	2.318	6.438	43.341	2.685	7.458	36.464	
4	2.204	6.121	49.462	2.204	6.121	49.462	2.500	6.946	43.410	
5	2.040	5.666	55.128	2.040	5.666	55.128	2.491	6.920	50.329	
6	1.706	4.740	59.868	1.706	4.740	59.868	2.395	6.652	56.982	
7	1.492	4.144	64.013	1.492	4.144	64.013	2.068	5.745	62.727	
8	1.260	3.500	67.513	1.260	3.500	67.513	1.723	4.787	67.513	
9	1.196	3.322	70.835							
10	0.998	2.772	73.607							
11	0.898	2.496	76.103							

12	0.834	2.316	78.419			
13	0.790	2.195	80.614			
14	0.755	2.096	82.710			
15	0.628	1.746	84.456			
16	0.602	1.673	86.128			
17	0.569	1.580	87.709			
18	0.519	1.443	89.151			
19	0.496	1.378	90.529			
20	0.431	1.197	91.726			
21	0.383	1.065	92.791			
22	0.367	1.020	93.811			
23	0.310	0.860	94.671			
24	0.282	0.783	95.454			
25	0.274	0.761	96.215			
26	0.227	0.632	96.847			
27	0.214	0.595	97.442			
28	0.175	0.486	97.928			
29	0.152	0.421	98.350			
30	0.137	0.382	98.731			
31	0.131	0.365	99.096			
32	0.108	0.301	99.397			
33	0.088	0.244	99.641			
34	0.060	0.166	99.807			
25	0.044	0.114	00.021			
35	0.041	0.114	99.921			
36	0.028	0.079	100.000			

Extraction Method: Principal Component Analysis.

Further table 5 shows the extraction sum of squared loadings of the scale for measuring the influence level construct. However, a careful look at the table 5 shows that 67.51% variance is not uniformly distributed across all components where only the first components accounts for 29.18% of variance.

Thus, in order for the variance to be uniformly distributed across all the components a rotation of the components matrix is required. Components matrix is the loadings of various variables to the extracted components.

Although the initial or unrotated matrix indicates the relationship between the factors and individual variables, it seldom results in factors that can be interpreted, because the factors are correlated with many variables. In such a complex matrix, it is difficult to interpret the factors. Therefore, through rotation, the factor matrix is transformed into a simpler one that is easier to interpret.

There are various methods for rotation. Some of them are briefly mentioned as follows: (1) Orthogonal rotation – In which while rotation of factors the axes are maintained at right angles. This is the simplest method for rotation. (2) Quartimax rotation – the ultimate goal of a Quartimax rotation is to simplify the row of a factor matrix, i.e., Quartimax focuses on rotating the initial factor so that a variable loads high on one factor and as low as possible on all other factors. (3) Varimax rotation – This is an orthogonal method of factor rotation that minimizes the number of variables with higher loadings on a factor, thereby enhancing the interpretability of the factors (4) Equimax rotation – the Equimax approach is compromise between the Quartimax and Varimax approaches. Rather than concentrating either on simplification of the rows or on simplification of columns, it tries to accomplish some of each. This method has not gained widespread acceptance and is used infrequently. (5) Oblique rotation – rotation of factors when the axes are not at right angles.

The method of rotation used for this study is VARIMAX, which is the most commonly used rotation method. The variance explained by each component before and after the rotation method is shown in table 5.

### **Rotated factor matrix**

An analysis of factor loadings in the rotated factor matrix helps in interpreting and naming the eight factors that have been extracted in the earlier section.

Interpretation is done by identifying the variables that have very high loadings on the same component. These factors can then be interpreted in terms of the Variables that load highly on it. Table 6 shows the rotated component matrix.

The relationship between the observed variables and the newly produced factors is revealed in the form of factor loadings. These are the coefficients within the matrix that indicate the importance of the factor. These loading have the lower limit of -1.0 and an upper limit of +1.0. For better data reduction those variables that had the factor loadings more than 0.5 were considered under each factor. By this method, it was found that four variables are not clubbed under any of the factor and they are considered as independent variables. Remaining 32 variables have the factor loading more than 0.5; therefore they are considered for loading on extracted eight factors.

From the table 6, it can be seen that fifteen variables are clubbed in factor 1. Factor 2, 5 and 7 consists of three variables while factor 3, factor 4, factor 6 and factor 8 consist of only 2 variables each. Name of each factor is based on the statements (variables) clubbed together in respective factor.

Table 6 Rotated component matrix (a\*)

	Component								
Variables	1	2	3	4	5	6	7	8	
Q4a1	0.684	0.315	0.156	0.157	0.034	0.295	0.303	0.101	
Q4a2	0.519	0.211	0.319	0.026	0.263	0.077	0.191	-0.109	
Q4a3	0.470	0.307	0.156	0.477	0.004	-0.117	-0.036	-0.179	
Q4b1	0.478	0.241	0.186	0.013	0.065	0.041	0.534	-0.090	
Q4b2	0.515	-0.080	0.319	0.170	0.159	0.249	0.358	-0.138	
Q4b3	0.512	0.340	0.192	0.067	-0.139	0.420	0.054	0.010	
Q4b4	0.711	0.083	0.228	-0.009	0.167	-0.126	0.060	-0.177	
Q4b5	0.258	0.071	0.155	-0.056	0.680	-0.181	0.184	-0.193	
Q4B6	0.089	-0.109	0.796	0.007	0.208	0.178	0.041	-0.006	
Q4C1	0.820	0.012	-0.036	-0.100	0.232	0.149	0.152	0.089	
Q4C2	0.635	0.250	0.043	-0.169	-0.039	0.182	-0.171	-0.277	
Q4C3	0.295	-0.003	0.292	-0.062	0.410	0.234	0.205	-0.185	
Q4C4	0.631	0.059	0.077	0.008	0.078	0.142	0.248	0.446	
Q4C5	0.014	0.212	0.672	0.261	-0.086	0.072	0.120	0.028	
Q4C6	0.132	-0.266	0.168	0.290	0.202	-0.091	0.107	-0.640	
Q4D1	0.682	0.191	0.156	0.285	0.093	0.266	0.232	0.117	

Q4D2	0.765	0.027	-0.161	-0.004	0.205	-0.132	-0.170	-0.143
Q4D3	0.163	0.044	0.230	0.157	0.178	0.441	0.137	0.505
Q4D4	0.051	0.037	0.029	0.109	0.133	0.111	0.814	0.037
Q4D5	0.621	0.318	-0.108	0.210	0.372	-0.053	0.047	-0.020
Q4D6	0.386	0.071	0.218	0.468	0.475	0.126	-0.332	0.154
Q4D7	0.777	0.312	0.015	0.141	0.053	-0.040	-0.076	0.136
Q4D8	0.128	-0.119	-0.003	0.193	0.732	0.246	-0.023	0.180
Q4D9	-0.030	0.236	0.312	0.576	0.021	0.454	0.064	-0.005
Q4D10	0.576	0.178	0.470	0.014	0.049	-0.241	0.001	0.126
Q4e1	0.580	0.004	-0.263	0.517	0.101	0.185	0.057	0.296
Q4e2	0.152	0.281	0.362	0.190	0.470	-0.141	0.072	0.356
Q4e3	0.167	0.827	0.096	-0.027	0.067	0.005	0.039	0.127
Q4e4	0.628	-0.268	0.185	-0.114	0.067	0.067	0.301	0.133
Q4e5	0.004	0.261	0.059	0.114	0.020	-0.739	-0.098	-0.186
Q4e6	-0.110	-0.158	0.053	0.788	0.097	-0.131	0.102	-0.114
Q4e7	0.306	0.501	0.466	-0.189	0.038	0.136	0.002	-0.220
Q4f1	0.297	0.766	0.016	0.158	0.025	0.043	0.169	0.159
Q4f2	0.093	0.263	0.149	-0.040	0.158	0.706	0.031	-0.057
Q4f3	0.077	0.391	-0.310	-0.164	0.523	0.210	0.109	-0.308
Q4f4	0.100	0.208	0.099	0.557	-0.065	0.022	0.503	0.100

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

### **Naming of the factors**

The following eight factors were identified as per the factor loading in Table 6:

### **Factor 1: Firm image**

This factor indicates the firm specific factors e.g. factors which have a bearing on the performance of the firm like corporate earnings, tax effect on profit; expectations of stakeholders from the firm like expected divided, expected revenue of the firm; firm's standing in the market. i.e. company's position

a\* Rotation converged in 19 iterations

in industry, its reputation in the industry, coverage in the press, market capitalization of the firm, investment portfolio of the firm etc. This shows that the majorities of investors relay and emphasize rational decision making criteria, assigning high value to this particular set of variables.

### **Factor 2: Personal financial position**

This factor seeks to exhibit the respondents'/investors' position e.g. how much they can afford to spend on shares, whether they need to diversify their investment portfolio etc.

### **Factor 3: Advocate recommendation**

This factor includes purchase recommendation from outside experts/ brokers. is related with an outside expert's view towards the firm's position and what they think about the firm and its prospects to make investment decision which includes conversation with company executives and sector experts and study of annual reports of the firm. Each of these information sources could be constructed as a recommendation from sources with vested interests in investors' ultimate actions.

### Factor 4: Track Record

The factor "track record" focuses not only on past financial/accounting performance of the firm but also on the contribution of firm towards social/natural causes, which is an important variable that influence the investment decision.

### **Factor 5: Relevance to the community**

This factor focuses on consistency of firm's operations with environmental regulation and requirement, its implementation during the firm's operations. It might be concluded that many of the investors choose the shares based on qualitative criteria.

### **Factor 6: Neutral information**

This factor includes corporate forecasts prepared by independent investment company and expected loss by a firm in a national and international market.

### **Factor 7: Economic Factors**

Economic factors include conditions of financial statement of the company, statements given by politicians, government officials and/or person affiliated to them.

### Factor 8: Individual dynamics

Variables that loaded heavily in this factor are firm's perceived ethics, trading cost and bid-offer spread. Surprisingly these variables have received ordinary ratings by investors, despite their dominance in behavioral finance.

### Relationship between education level and influence level of the variables given by the respondents

For studying this relationship, respondents are classified into four groups based on their educational qualification. One way analysis of variance (ANOVA) is performed and the results are presented in table 7. The hypotheses are framed as under:

H<sub>0</sub>: There is no relationship between respondents' education level and influence of all the 36 variables under study given by the respondents

H<sub>1</sub>: There is relationship between respondents' education level and influence of all the 36 variables under study given by the respondents.

**Table 7 ANOVA table** 

		Sum of		Mean		
		Squares	Df	Square	${f F}$	Sig.
Q4a1	Between Groups	50.90	3	16.97	11.33	0.00
	Within Groups	158.77	106	1.50		
	Total	209.67	109			
Q4a2	Between Groups	5.10	3	1.70	1.46	0.23
	Within Groups	123.77	106	1.17		
	Total	128.87	109			
Q4a3	Between Groups	49.03	3	16.34	14.36	0.00

	Within Groups	120.64	106	1.14		
	Total	169.67	109			
Q4b1	Between Groups	44.08	3	14.69	9.64	0.00
	Within Groups	159.96	105	1.52		
	Total	204.04	108			
Q4b2	Between Groups	9.93	3	3.31	3.14	0.03
	Within Groups	111.75	106	1.05		
	Total	121.67	109			
Q4b3	Between Groups	17.95	3	5.98	4.09	0.01
	Within Groups	155.14	106	1.46		
	Total	173.09	109			
Q4b4	Between Groups	44.98	3	14.99	8.52	0.00
	Within Groups	186.44	106	1.76		
	Total	231.42	109			
Q4b5	Between Groups	4.20	3	1.40	1.03	0.38
	Within Groups	142.06	105	1.35		
	Total	146.26	108			
Q4b6	Between Groups	5.35	3	1.78	1.07	0.36
	Within Groups	176.47	106	1.66		
	Total	181.82	109			
Q4C1	Between Groups	33.57	3	11.19	6.43	0.00
	Within Groups	184.39	106	1.74		
	Total	217.96	109			
Q4C2	Between Groups	9.99	3	3.33	2.73	0.05
	Within Groups	129.50	106	1.22		
	Total	139.49	109			
Q4C3	Between Groups	8.71	3	2.90	2.77	0.05
	Within Groups	111.19	106	1.05		
	Total	119.90	109			
Q4C4	Between Groups	18.17	3	6.06	4.60	0.00

	Within Groups	139.50	106	1.32		
	Total	157.67	109			
Q4C5	Between Groups	0.66	3	0.22	0.20	0.89
	Within Groups	114.94	106	1.08		
	Total	115.60	109			
Q4C6	Between Groups	3.01	3	1.00	0.89	0.45
	Within Groups	119.68	106	1.13		
	Total	122.69	109			
Q4D1	Between Groups	32.59	3	10.86	6.74	0.00
	Within Groups	170.83	106	1.61		
	Total	203.42	109			
Q4D2	Between Groups	30.27	3	10.09	9.02	0.00
	Within Groups	118.61	106	1.12		
	Total	148.87	109			
Q4D3	Between Groups	3.63	3	1.21	0.96	0.41
	Within Groups	133.25	106	1.26		
	Total	136.87	109			
Q4D4	Between Groups	15.76	3	5.25	3.55	0.02
	Within Groups	156.61	106	1.48		
	Total	172.36	109			
Q4D5	Between Groups	31.38	3	10.46	10.98	0.00
	Within Groups	100.98	106	0.95		
	Total	132.36	109			
Q4D6	Between Groups	3.95	3	1.32	1.68	0.18
	Within Groups	83.11	106	0.78		
	Total	87.05	109			
Q4D7	Between Groups	31.19	3	10.40	7.23	0.00
	Within Groups	152.53	106	1.44		
	Total	183.72	109			
Q4D8	Between Groups	4.28	3	1.43	1.41	0.24

	Within Groups	107.21	106	1.01		
·	Total	111.49	109			
Q4D9	Between Groups	3.81	3	1.27	1.28	0.29
	Within Groups	105.14	106	0.99		
	Total	108.95	109			
Q4D10	Between Groups	15.81	3	5.27	3.43	0.02
	Within Groups	163.11	106	1.54		
	Total	178.92	109			
Q4e1	Between Groups	14.33	3	4.78	3.70	0.01
	Within Groups	136.72	106	1.29		
	Total	151.05	109			
Q4e2	Between Groups	2.09	3	0.70	1.07	0.36
	Within Groups	68.68	106	0.65		
	Total	70.76	109			
Q4e3	Between Groups	4.62	3	1.54	1.37	0.26
	Within Groups	118.10	105	1.12		
	Total	122.72	108			
Q4e4	Between Groups	21.97	3	7.32	4.91	0.00
	Within Groups	158.25	106	1.49		
	Total	180.22	109			
Q4e5	Between Groups	9.06	3	3.02	6.69	0.00
	Within Groups	47.82	106	0.45		
	Total	56.87	109			
Q4e6	Between Groups	1.62	3	0.54	0.46	0.71
	Within Groups	125.07	106	1.18		
	Total	126.69	109			
Q4e7	Between Groups	7.20	3	2.40	1.32	0.27
	Within Groups	188.66	104	1.81		
	Total	195.85	107			
Q4f1	Between Groups	20.75	3	6.92	5.27	0.00

	Within Groups	139.11	106	1.31		
	Total	159.85	109			
Q4f2	Between Groups	6.54	3	2.18	2.32	0.08
	Within Groups	99.43	106	0.94		
	Total	105.96	109			
Q4f3	Between Groups	5.19	3	1.73	1.59	0.20
	Within Groups	115.18	106	1.09		
	Total	120.36	109			
Q4f4	Between Groups	16.56	3	5.52	4.09	0.01
	Within Groups	142.93	106	1.35		
	Total	159.49	109			

To know the relationship, 5% level of significance is used in the study. Last column of the Table 7 represent the significance level for each of the 36 variable under study. From these, it is found that the influence level given by the respondents for 22 variables is related with the educational level of the respondents. The significance level of these variables is represented with bold numbers. While, for fourteen variables, education level is not related with the influence level and the null hypothesis is accepted for these variables.

### **CONCLUSION**

The study is performed to understand the behavior of individual investor who is investing in equity share market. From various literature reviews, 36 statements were selected to study the behavior of investors. Data collected through the instrument were checked for normality and it was found that data are normally distributed. From the mean score of the statements, it was concluded that the most influencing variable from the customers' point of view is "Market capitalization of company" followed by "Past performance of the company". Whereas, the least influencing variable is "Conversation of views with professional colleagues" followed by "Fluctuations in the indices of the major markets". The value of Cronbach's alpha of 0.921 is acceptable and desirable confirming that the scale is reliable enough to be used. From KMO and Bartlet test it was also found that the factor analysis is appropriate for the data. Through factor analysis, eight factors were extracted from 36 statements used for the study. Total 67.513% of variance can be explained by these extracted factors. These factors are 1) Firm image,

2) Personal financial position 3) Advocate recommendation, 4) Track Record, 5) Relevance to the community, 6) Neutral information, 7) Economic Factors, and 8) Individual dynamics. It was also concluded that educational qualification is an important aspect that influence the investment decision.

### REFERENCES

- Ajzen I. And Fishbein, M. (2005). The influence of attitudes on behavior. *The Handbook of Attitudes, Albarracin, D. BT. Johnson and Zanna M. P. (Eds).* Lawrence Erlbaum Associates, New Jersey.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In. Action Control: From Cognition to Behavior, Kuhl, J. And J. Beckmann (Eds). Springer-Verlag, New York, 11-39
- Ajzen, I. (1991) The theory of planned behavior. Organizational Behavior Human Decision Processes, 50, 179-211
- Akintoye, I. R., (2006). Investment decisions: Concepts, analysis and management. Unique Educational Publishers, Lagos.
- Bajtelsmit, V. and Bernasek, A. (1996). Why do women invest differently than men? *Journal of Financial Counseling and Investing*, 7, 1-10.
- Bajtelsmit, V.L. & VanDerhai, J.L. (1997). Risk Aversion and Pension Investment Choices. In O.S. Mitchell, (ed), *Positioning Pensions for the Year 2000*. Philadelphia, PA: University of Pennsylvania Press.
- Bajtelsmit, V.L. & VanDerhei, J.A. (1997). Risk aversion and retirement income adequacy. *Positioning pensions for the twenty-first century*. Michael S. Gordon, Olivia S. Mitchell, Marc M. Twinney, Eds. Philadelphia: University of Pennsylvania Press.
- Banyamini, Y., Leventhal, E. and Levanthal, H. (2000). Gender differences in processing information for making self-assessments of health. *Psychosomatic Medicine*, 63(3), 354-394.
- Brabazon, T. (2000) "Behavioral Finance: A New Sunrise or a False Down?" URL: http://introduction.behavioralfinance.net/Brab00.pdf retrieved on December 29, 2011.
- Barnewell, M. M. (1987). Psychographic characteristics of the individual investor. In: Allocation for the individual investor, *Homewood*, *III*, Dow Jones- Irwin.

- Bernheim, B. D., J. Skinner and Weinberg, S. (2001). What accounts for variations in retirement wealth among US household? American Economic Review, 91, 832-857
- Blume, M. E. And Friend, I. (1978). *The Changing Role of Individual Investor*. John Wiley & Sons, New York.
- Cianci, A. M. (2008). The impact of investor status on investors' evaluation of negative and positive, separate and combined information. *The Journal of Behavioral Finance*, 9, 117-131.
- Clark-Murphy, M. and Gerrans, P. (2002). Women's 'problems' with finance and investment: a result of gender differences in information processing? paper presented at the 11th International Women in Leadership Conference, Perth.
- Cohn, R. A., W. G. Lewellen, R. C. Lease, and Schlarbaum, G. G. (1975). Individual investor risk aversion and investment portfolio composition. *Journal of Finance*, 30 (2), 605-620
- Epstein, M. J.(1994). Social disclosure and individual investors, Accounting, Auditing & Accountability Journal, 4, 94-109
- Fama, E. and K. French (1996). Multifactor expectations of asset pricing anomalies. *Journal of Finance*, 51, 55-84.
- Fama, E. and K. French (1993). Common risk factors in returns on stocks and bonds. *Journal of Finance and Economics*, 33, 3-56
- Friedman, M. (1957). A theory of the consumption function. Princeton, NJ: Princeton University Press.
- Hair, Anderson, Tatham and Black (2006). *Multivariate Data Analysis*. Pearson education, Fifth edition. 106-114.
- Iyer, B., & Bhaskar, R.K. (2002). Investor psychology: A study of investor behavior in the Indian capital market. *Finance India*, *16*(4), 1357-1375.
- Jose Mathews (2005), "A situation-based Decision-making process. *The ICFAI Journal of Organisation Behavior, July, IV(3)*, 19-25.
- Joseph Hair Jr. F., Bush Robert P. and Ortinau David J. (2003). *Marketing Research Within a Changing Information Environment*. Tata McGraw Hill Publishing Company Limited, New Delhi, Second Edition, p. 601

- Kadiyala, P. And Rau, R. (2004). Investor reaction to corporate event announcement: Luck, D., & Rubin, D. (2003). *Marketing Research*. Prentice-Hall of India Pvt. Ltd., seventh edition, 542-548.
- Malhotra, Naresh K. (2008). Marketing Research An Applied Orientation. Pearson Education in South Asia, New Delhi, 648-649
- Markovitz, H. M. (1952). Portfolio selection. *Journal of Finance*, 7, 77-91.
- Underreaction or overreaction? Journal of Business, 77, 357-386
- Kahneman, D. and Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 263-291.
- Krisnan, R. And Booker, D. M. (2002). Investors' use of analysts' recommendations, *Behavioral Research in Accounting*, *14*, 129-158
- Lewellen, W. G., R. C. Lease and Schlarbaum, G. C. (1977). Patterns of investment strategy and behavior among individual investors. *Journal of Business*, 50 (3), 296-333
- Linter, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *The Review of Economics and Statistics*, 47(1), 13-37.
- Merilkas, A., Merilkas, A., and Prasad, D. (2003). Factors influencing Greek investor behavior on the Athens Stock Exchange. Paper presented at the Annual Meeting of the Academy of Financial Services, Denver, Colorado, Oectober 8-9.
- Mittal, M. & Vyas, R.K., (2008). Personality type and investment choice. An empirical study. *The Icfai University Journal of Behavioral Finance*, 5(3), 6-22.
- Modigliani, F. and R. Brumberg (1954). Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data. in K. K.Kurihara, ed., Post-Keynesian Economics. New Bnmswick: Rutgers University Press.
- Modigliani, F. (1986). Life cycle, individual thrift, and the wealth of nations. *Science*, 234, 704–712.
- Palsson, A.M. (1996). Does the degree of relative risk aversion vary with household characteristics?" *Journal of Economic Psychology*, 17, 771 787.

- Ricciardi, V. (2005). A Unique perspective of behavioral finance: A research starting point for the new scholar. Retrieved 01/01/2010 from www.ssrn.com. / abstract: 566 802
- Riley, W.B., & Chow, K.V. (1992). Asset allocation and individual risk aversion. *Financial Analysts Journal*, 48, 32 37.
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of Finance*, 19, 425-442
- Shanmugasundaram, V., & Balakrishnan, V. (2009). Behavioral biases of investors in capital market. *South Asian Journal of Socio Political Studies*, *10*(1), 99-102.
- Sridhar, G., Mishra, D., Vaswani, L. K. (2009). Executives' Representation of Rural Market-Marketing to Rural Consumers, Edited by Sanal Kumar and Guda Sridhar, PP. 3-15.
- Sung, J. & Hanna, S. (1996). Factors related to risk tolerance. *Financial Counseling and Planning*, 7, 11-20.
- Tapia, W. and Yermo, J. (2007). Implications of behavioral economics for mandatory individual account pension systems. *OECD Working Papers on Insurance and Private Pensions*, 11, OECD publishing.
- Tobin, J. (1958). Liquidity preference as behavior towards risk. Review of Economic Studies, 67, 65-86
- Turley, L.W. and LeBlanc, R.P. (1993). An exploratory investigation of consumer decision making in the service sector. *Journal of Services Marketing*, 7(4), 11-18.
- Tversky, A. and Kahneman D. (1974). Judgement under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131
- Tversky, A. and Kahneman D. (1986). Rational choice and framing of decisions. *Journal of Business*, 59, S251-S278
- Wallach, M. A. & Kogan, N. (1961). Aspects of judgment and decision making: Interrelationships and changes with age. *Behavioral Science*, *6*, 23-26.
- Warren, W. E., R. E. Stevens, and McConkey, C. W. (1990). Using demographics and lifestyle analysis to segment individual investors. *Financial Analyst Journal*, 46, March-April, 74-77

Waweru, N. M., Evelyne, M., & Elliana, E. (2008). The effects of behavioral factors in investment decision making: A survey of institutional investor operating at the Nairobi Stock Exchange. *International Journal of Business and Emerging Markets*, *I*(1), 29-41.

## Annexure – I Codebook for 36 statements

Code	Statement			
Q4a1	Expected dividend			
Q4a2	Tax effect on profit			
Q4a3	Minimizing risk			
Q4b1	Condition of financial statement			
Q4b2	Expected Corporate Earning			
Q4b3	Expected Dividend			
Q4b4	Company's position in the industry			
Q4b5	Affordable share price			
Q4B6	Past performance of the firm			
Q4C1	Firm's reputation in the industry			
Q4C2	Preference for a firm/s product and services			
Q4C3	Firm's governing body			
Q4C4	Position of the firm in the industry			
Q4C5	Contribution of a firm towards social causes			
Q4C6	Firm's perceived ethics			
Q4D1	Coverage in the press			
Q4D2	Recent price movements in a firm's stock			
Q4D3	Trading cost, bid-offer spread			
Q4D4	Statements from politicians and governmental officials			
Q4D5	Fluctuations/developments in the indices of the major market			
Q4D6	Current economic indicators			
Q4D7	Reputation of a company in the domestic market			
Q4D8	Reputation of a parent company or sister concern			
Q4D9	Environmental Record			
Q4D10	Market Capitalization of company			
Q4e1	Conversation/exchanges of views with professional colleagues			
Q4e2	Publication in the financial press and electronic media			
Q4e3	Conversation/ exchanges of views with company executive and sector experts			
Q4e4	Studying the portfolio investments of other market players			
Q4e5	Corporate forecast prepared by independent investment company			
Q4e6	Economic forecasts by research institutions			
Q4e7	Study of Annual Reports of the company			
Q4f1	Ease of obtaining borrowed fund			
Q4f2	Expected losses in national and international financial markets			
Q4f3	Diversification needs			
Q4f4	Attractive of non stock investment			