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A BEHAVIORAL APPROACH TO INDIVIDUAL INVESTMENT DECISION IN MUTUAL FUNDS

Fozia Mehtab* & Dr. Nagaraj H**

Abstract

Investment is one of the major economic factors of the human being's life in which the highest returns are expected in order to maintain a good standard of living. There are various behavioral factors which influence the investment pattern of human beings. The main aim of this paper is to study the impact of behavioral factors in individual investor's decisions in Bangalore city with reference to mutual funds as well as to analyze that how the individuals make decisions in order to ensure their savings achieve better returns for their better future. The statistical data proves that there are various behavioral factors which play a very important role in the investment decision making pattern of the individuals which in turn has an impact on the economic condition of the population. In this paper an attempt is made to explain how the individual perception, attitude and behavior have an impact on the investments in mutual funds. Data is collected through primary and secondary both the sources and to test the hypothesis, factor analysis is applied.

Keywords: Individuals' Investment Decisions, Behavioral Factors, Investment Return.

**Research Scholar, Bangalore University, Bangalore. **Associate Professor, Department of Commerce, St. Joseph's Evening College, Bangalore*

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Introduction

When it comes to money and investing we are not always as rational as we think so there is a whole field of study that explains our sometimes strange behavior towards investment. Much economic theory is based on the belief that individuals behave in a rational manner and that all existing information is embedded in the investment process. This assumption is the crux of the hypothesis but, researchers questioning this assumption have uncovered evidence that rational behavior is not always as prevalent as we might believe. Investors do not always act according to the economic theory, however particularly under conditions of risk and uncertainty, individuals may take mental short cuts to reach a decision, particularly when there is time pressure or when other factors make it difficult to assess the available choices. Behavioral finance is a new paradigm of finance which seeks to supplement the standard theories of finance by introducing behavioral aspects to the decision making process. It seeks to understand and predict systematic financial market implications of psychological decision processes. In addition, it focuses on the application of psychological and economic principles for the improvement of financial decisions. Individuals make attempt to analyze market before investing but how far they are successful nobody knows, therefore decision making is a complex process and they require models of finance to analyze expected risk and return associated with an investment but decisions cannot be made relying on only one aspect and even the investment is made by individuals by taking various factors into consideration.

Behavioral Factors Which Affect Individual's Investment

Representativeness: Representativeness refers to the degree of similarity that an event has its parent population (De Bondt & Thaler, 1995, p.390) or the degree to which an event resembles its population (Kahneman & Tversky, 1974, p.1124). Representativeness may results in some biases such as people put too much weight on recent experience and ignore the average long term rate (Ritter, 2003, p.432). A typical example for this bias is that investors often infer a company's high long term growth rate after some quarters of increasing (Waweru*etal*., 2008, p.27).

Anchoring: In financial markets, Anchoring arises when a value scale is fixed by recent observations. Investors always prefer to the initial purchase price when selling or analyzing. Thus, today prices are often determined by those of the past. Anchoring has some connection with representativeness as it also reflects that people often focus on recent experience and tend to be more optimistic when the market rises and more pessimistic when the market falls (Waweru et al.,2008,p.28)

Overconfidence: When people over estimate the reliability of their knowledge and skills, it is the manifestation of overconfidence (De Bondt & Thaler, 1995, p.389). Many studies show that excessive trading is one effect of investors. There is evidence showing that financial analysts revise their assessment of a company slowly, even in case there is a strong indication proving that assessment is no longer correct. Investors and analysts are often overconfident in areas that they have knowledge (Evans, 2006, p.20)

Availability bias: Availability bias happens when people make use of easily available information excessively. In stock trading area, this bias manifest itself through the preference of investing in local companies which investors are familiar with or easily obtain information, despite the fundamental principles so-called diversification of portfolio management for optimization (Waweru et al.,2003,p.28).

Regret Aversion: Regret is an emotion occurs after people make mistakes. Investors avoid regret by refusing to sell decreasing shares and willing to sell increasing ones. Moreover, investors tend to be more regretful about holding losing stocks too long than selling winning ones too soon (Forgel& Berry, 2006, p.107)

Loss Aversion: Loss Aversion refers to the different levels of mental penalty people have from a similar size loss or gain (Barberis& Huang, 2001, p.1248).There is evidence showing that people are more distressed at the prospect of losses than they are pleased by equivalent gains (Barberis & Thaler, 2003, p.1077).Moreover, a loss coming after prior gain is proved less pain than usual, while a loss arriving after a loss seems to be more painful than usual(Barberis & Huang, 2001, p.1248). Lehenkari and Pertinent (2004, p.116) find that both positive and negative returns in the past can boost the negative relationship between the selling trend and capital losses of investors, suggesting that investors are loss averse.

Mental Accounting: Mental Accounting was coined by Richard Thaler and defined by

Thaler (1999) as the “set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities.” This result in a tendency for people to separate their money into separate accounts based on a variety of subjective reasons. From own empirical study, Rockenbach (2004, p.524) suggests that connection between different investment possibilities is often not made as it is useful for arbitrage free pricing.

Herd behavior: Herding in financial markets can be defined as mutual imitation leading to a convergence ofaction (Hirshleifer and Teoh, 2003).This is the most common mistake where investors tend to follow the investment decisions taken by the majority. The main reason for this is pressure from or influence by peers. The Reliance Power IPO, 2008 is an example of an instance where many investors subscribed without having full information on the issue. Investors apply to herd behavior because they are concerned about what others think of their investment decisions (Scharfstein and Stein, 1990).

Statement of the Problem

Achieving the best returns out of investment is generally the main aim of all the investors but unfortunately most of the investors are unable to find the return as per their expectation in the market due to several reasons and the foremost one is their behavioral biases which sometimes influence their investment decisions in adverse way and consequently investors could not make the best return on their investments.

The present study is carried out to reveal the impact of the individual investors' behavior biases on the investment of mutual funds which in turns leads to the development of the various adverse economy conditions also.

The study also explains that up to what extent the individual investors are generally influenced by their behavioral biases and how these biases effect their investment decisions. The present study limited to only Mutual fund investment within Bangalore city.

Objectives of the Study:

1. To understand the investment behavior of Individual Investors toward investment decision.
2. To find out the investment decision making pattern of individual investors in mutual funds in Bangalore city.
3. To suggest some measures to the individual investors to minimize their risk through minimizing the adverse effect of behavioral factors in their investment decisions.

Review of Literature:

Shah (October 2012) studied the investor's preference in selection of Mutual fund and measuring the fund sponsor quality. She has studied 305 mutual fund investors was in Ahmedabad using non-probability convenience sampling. After using One-Way ANNOVA, researcher had come to a conclusion that Funds reputation, Withdrawal facilities, brand name, Sponsor's past performance in terms of risk & return varies among the investors of different age group & investor's different occupation group.

Lodhi (2014*)* examined the impact of financial literacy, accounting information, openness to experience and information asymmetry on individual investors' decision making through the empirical research of the people living in Karachi city. The obtained results have shown that financial literacy and accounting information helps investors in lowering information asymmetry and allows investors to invest in risky instruments. But as age and experience increase investors preference changes to less risky investments, it does not mean that investor does not prefer to invest in shares, he will but with the intension of getting dividend return rather than capital gain.

Shukla Anurag (2015) examined role of behavioral finance and its application in investment decisions of investors in Kanpur experience of investors and confidence level and herd behavior of investors is significantly related.

Rastogi S. (2015) Out of six except self-attribution bias, all the five biases were present while making investment decision. The five biases were tested for differences among gender and occupation. Only Loss Aversion bias has been found to be significantly

different among categories of occupation. For all the other biases no difference has been reported in the study for gender, occupation and for the combination of gender and occupation.

Gupta & Ahmad (2016) analysed that herding bias was exhibited by both more and less experienced groups in an equally likely manner. Further, experienced investors were found to be more prone to loss aversion bias, regret aversion bias and anchoring bias as compared to that of less experienced investors.

De Soumita (2016) has shown in his study which aimed to investigate the impact of behavioral biases on the investor's financial decision making that investment decisions of the investors differ with respect to the demographic factors and the decision that they take is a combination human psychology and financial decision making process. The study found evidences of confirmation bias, loss aversion and endowment bias in the decisions taken by the investors.

Gupta Chabi (2016) has established the presence of investing biases among individuals and entities, by analyzing the Indian stock market over the last decade and has identified traders into three different types depending upon their behaviour in the stock market and It was found during the study that there is no significant correlation between the confirmation bias and gender even though women depicted a higher degree of confirmation bias.

Kubilay et al. (2016) examined the relation between personal traits, psychological biases and financial risk tolerance of investors were tested among individual investor who live in İstanbul and operate in financial markets and five-factor personality model was used for classifying the personality traits. It was concluded that there was a significant relation between the personality traits of investors and the psychological biases they faced and that the personality traits of investors affected their financial risk tolerances.

Research Methodology

This paper is descriptive in nature and exploratory study has been done, based on Primary and secondary data sources. For clear understanding of investment behavior of investors on mutual funds, research has been done by preparing structured questionnaire to analyze the data and factor analysis technique is employed as there are two or more variables. Secondary sources are: Books, Case studies, Research Articles, Journals, Newspapers and Magazines.

Analysis and Results

In order to understand the impact of behavioral factors on individual decision making process the group of theories are taken into consideration for analysis of data. The second analysis is done by designing the structured questionnaire for evaluating the facts of the available data.

Behavioral Theories Applied for the Study

Here the behavioral factors are divided into 4 behavioral theories in order to group the individual behavior patterns under one roof

Table 1.
Behavioral factors influencing the investment decision making

Theory	Behavioral Variable
Heuristic Theory Factors	- Representativeness - Overconfidence - Anchoring - Gambler's fallacy - Availability bias
Prospect Theory Factors	- Loss aversion - Regret aversion - Mental accounting
Market & Price Factors	- Market information - Past trends of stocks - Fundamentals of underlying stocks - Customer preference - Over-reaction to price changes
Herding Factors	- Buying and Selling decisions of other investors - Choice of stock to trade of other investors - Volume of stock to trade of other investors - Speed of herding

with the impact of behavioral factors on the their investment decisions and the 6-points scale are respectively from 1-6: Highly Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Highly Agree.

Table 2

Summary of Statistics:

Variable	Observations	Obs. with missing data	Obs.without missing data	Minimum	Maximum	Mean	Std. deviation
1.Representativeness	50	0	50	1.000	5.000	3.960	0.947
2.Over confidence	50	0	50	1.000	5.000	3.400	1.030
3.Anchoring	50	0	50	1.000	5.000	3.520	1.165
4.Availability bias	50	0	50	2.000	5.000	4.160	0.912
5.Loss aversion	50	0	50	1.000	5.000	3.080	1.175
6.Regret aversion	50	0	50	1.000	6.000	3.600	1.229
7.Mental accounting	50	0	50	2.000	5.000	3.980	0.892
8.Market Information	50	0	50	2.000	5.000	4.580	0.758
9.Past trends of stocks	50	0	50	1.000	5.000	3.460	1.216
10.Fundamentals of underlying stocks	50	0	50	2.000	5.000	4.180	0.962
11.Buying and Selling decisions of other	50	0	50	1.000	5.000	3.640	1.064
12.Speed of herding	50	0	50	1.000	5.000	2.840	1.167

From the above summary of statistics for the calculation of factor analysis the behavioral variables and their investment performance are identified by taking 4 factors into consideration i.e. the first factor is herding where an individual investors decision is effected by other investors decision in choosing stock, volume and buying and selling of funds. The second factor is heuristic, reacting quickly to the changes, believing on own skills and knowledge of stock market, relying on previous experiences and forecasting the changes in stock prices reflect the behavior of individual. The third factor is prospect which is related with the prior gain risk seeking and prior loss risk averse or avoid selling shares when its value is decreased or vice versa. The last one is market which means analysis is based on the market information of stocks, company image, customer

Formation of Hypothesis

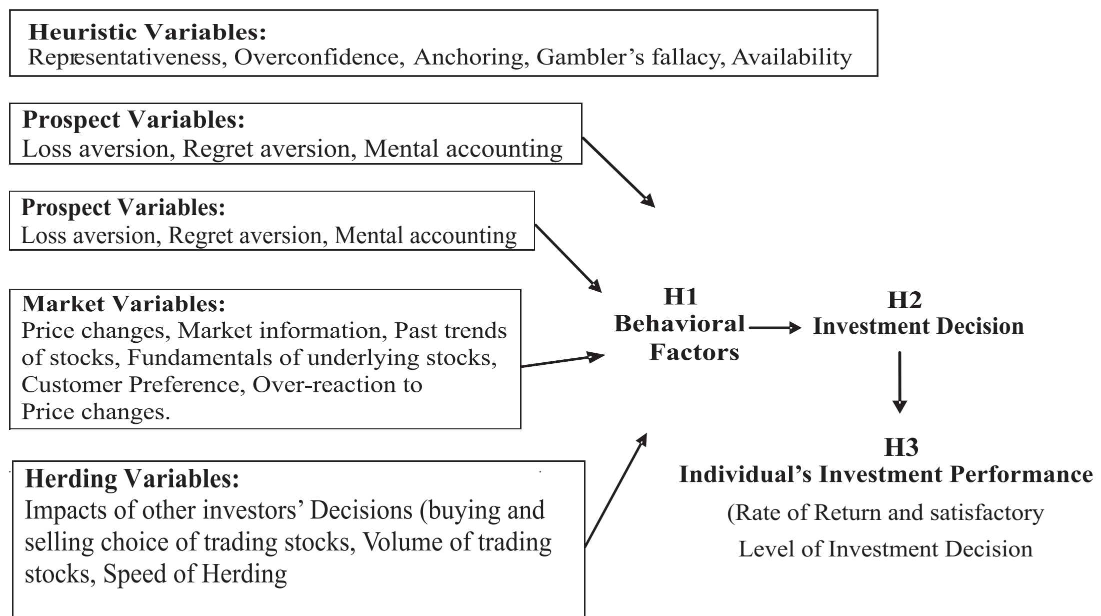
H1- The behavior of individual investors have influence on their investment decisions.

H2- Individual investors' investment in Mutual Funds is based on behavioral factors.

H3- Behavioral factors have positive impact on the investment performance of investors.

These hypotheses are tested by exploratory factor analysis to identify the influence of behavioral factors on decision making and its impacts.

Conceptual Figure 1. Framework of the Study:



Design of Questionnaire

The questionnaire for the study is divided into two parts:

a. Personal information

b. Behavioral factors influencing investment decisions.

To study the behavioral factors of individuals the rating scale is adopted for which the 6-point Likert scales are used for seeking the responses from the respondents in order to know their opinion and attitudes and to evaluate the individuals degree of agreement

preference and market trends. Here the factor analysis explains behavioral variables, influencing the individual investment decisions and the variables of investment performance.

The 24 questions of the questionnaire are designed to explore the levels of behavioral variables' influence on the individual investment decisions and also to identify the evaluation of investors about their own investment performance. The exploratory factor analysis is used for the behavioral variables and investment performance to identify the factors which these variables belongs to.

Table 3:

Total Variance Explained for Factors:

	Herding Factor	Heuristic Factor	Prospect Factor	Market Factor
Eigen value	2.517	1.884	1.125	0.514
Proportion of Variance (%)	20.976	15.700	9.372	4.281
Cumulative Variance (%)	20.976	36.676	59.275	63.556

As shown in the table 3 the variables of herding, heuristics, prospect and market are grouped into related factor. Some of the variables' factor loadings have been removed from the analysis as their factor loadings are less than 50 %. The result illustrates that the behavioural variables that influence the investment decisions of individuals are grouped in four factors as the reviewed theories namely Herding, Heuristics, prospect and market and also proves the hypothesis 1(H1).

Table 4

Impacts of behavioral factors on the investment decision making:

Factors	Mean	Standard Deviation
Herding	3.880 3.240	1.054 1.234
Heuristics	3.520	1.159
Prospect	3.080 3.960	1.187 1.241
Market	2.920	1.256

- Mean values less than 2 shows that the variables have very low impacts
- Mean values from 2 to 3 shows that the variables have low impacts
- Mean values from 3 to 4 shows that the variables have moderate impacts
- Mean values more than 5 shows that the variables have very high impacts.

From the above table it is clear that herding, heuristics and prospect factor and its variable have a moderate impact on the investment decision making and market factor have a low impact on the investment decision making. Here it is not supporting the hypothesis 2 (H2) that the behavioral factors of individuals have influence on their investment decisions. But variables of all the behavioral factors have positive influence on investment decision making. The moderate impact also shows that there is an impact of factors in influencing the investment decision of individuals.

Table 5

Impact of Behavioral Factors on Investment Decision and Investment Return:

Factors	Mean	Standard Deviation
1. Representativeness	3.600	0.957
2. Confidence level	3.600	0.957
3. Anchoring	3.520	1.159
4. Availability bias	3.840	0.898

In the above table the four factors that is representativeness, confidence level, anchoring and availability bias grouped to identify the return on the investment which an individual can gain from the investment. It states the mean value of all the four factors are above the mean value which is having a moderate impact on the investment decisions which gives return to individuals but the rate of return can be considered by highlighting the four main factors of research which in turn have influence on these variables also through their correlation. The below table shows correlation between the various factors of variables.

Table
Correlations Between Variables and Factors:

	F1	F2	F3	F4
1-Representativeness	0.798	0.183	0.051	0.157
2- Overconfidence	-0.289	0.193	-0.411	0.406
3- Anchoring	0.057	0.310	-0.087	0.616
4- Availability bias	0.718	-0.256	-0.651	-0.234
5- Loss aversion	0.211	0.844	0.330	-0.216
6- Regret aversion	-0.108	0.636	-0.254	-0.417
7- Mental accounting	0.662	-0.142	-0.217	-0.336
8-Market Information	0.404	0.026	-0.249	-0.012
9- Past trends of stocks	0.626	0.329	0.252	0.123
10- Fundamentals of underlying stocks	0.760	0.175	0.113	0.218
11- Buying and Selling decisions of other	-0.252	0.433	-0.580	0.293
12- Speed of herding	-0.451	0.400	-0.157	-0.408

From the above table it is clear that there is a relationship between the factors of variables in the questionnaire and the hypothesis 3 (H3) has been supported because of correlation between the variables proves the satisfactory level of individual through the return on their investment.

Findings

1. The first aspect in the research is whether the various factors related to behavior have an influence on the investment decision making process or not. Through the analysis of present research, it has been explained briefly how it is interrelated and interconnected.

2. The correlation and coefficient of variations of factors and variables of behavioural finance explains that various factors influence the behavior of individual investors.

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3. The investment behavior pattern of individuals is linked and connected with the various factors of behavioral finance.
4. Some individuals do not rely only on certain factors for investing and it is based on their own behavior towards investment.
5. The variance and matrix shows the relationship between various factors and variables.

Conclusion:

The individual decisions on investment are influenced by various factors in the economy. Though the decision making process lies in the hands of the individuals, their way of thinking about funds is influenced by various factors which have a strong impact on the decisions as well. The investment patterns are also associated with risk in which it depends on how far they are able to accept and how they behave towards the risk and return pattern. Every individual depends on their savings in the future so it is obvious that they are calculating the return for their benefit further. With this regard many factors are taken into consideration before investing from the individual's point of view and on the other hand its company and the economy. The companies sources of funds is based on the investment decisions of the investors how can they get funds to their business and in case of economy the standard of living of people, development of individuals economic conditions, the standard of life style of people all these are interrelated and interconnected to each other . So there is an impact on the investment behavior of individuals by various behavioral factors.

Suggestions & Recommendations

1. There must be a vibrant investment community to grab the opportunities and well-functioning ecosystem for overall development of economy and investors.
2. Policies and government support can help to facilitate the development of investors through implementation of various investment avenues and patterns.
3. Government should setup organized body to operate in market analysis as well as should make an effort to provide efficient and accurate information to investors to avoid huge loss.

4. Investors also should behave rationally towards their investment decisions, they should not be much influenced by rumors and they should consider all the relevant aspects of the funds before choosing any investment.

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