INVESTORS' PSYCHOLOGY: AN EMPIRICAL ANALYSIS

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ABSTRACT

Investors are always assumed to be a rational creature. Prior to invest their hard earned money, investors analyze the market plausibly by usingvarious approaches like technical, fundamental, Capital Asset Pricing Model (CAPM), Arbitrage Pricing Theory (APT) etc.Nevertheless, some investor wins the game, while others loose it. This volatile behavior of markets has challenged the hypothesis of efficient markets which motivates us to understand the drivingforces behind it. It is the major concern for academicians, investors and portfolio managers to understand the reasons causing irrationality in the markets.Academicians brought out few behavioralbiases into existence which are required to be studied. The present paper is an attempt to have an insight about key factors influencing the behavior of retail investors with respect to demographics in relation to their investment and their decision making process.

Keywords: *Awareness of Investment options, Herd behavior,Investment decision making.*

INTRODUCTION

The Efficient Market Hypothesis (EMH), introduced by Markowitz (1952) and subsequently named by Fama in 1970 assumes that financial markets incorporate all public information and asserts that share prices reflect all relevant information. It considers investors to behave rationally while making decisions related to their investment. For this, investors used various traditional risk-based asset pricing models. Various models like CAPM (Capital Asset Pricing Model), APT (Arbitrage Pricing Theory) etc. are based on minimizing the level of risk and simultaneously increasing the level of return associated with an investment. These approaches are most widely used by finance professionals for measuring expected return. These theories states that markets fully, accurately, and instantaneously incorporate all available information into stock prices. Many studies have stressed upon this view that investors think and behave "rationally". This early euphoric research of the seventies was followed by a more cautioned and critical approach to the EMH in the eighties and nineties as the researchers repeatedly challenged the studies based on EMH by raising critical questions regarding movement in

prices attributed fully to the announcement of events, public announcements affecting prices, finding other factors affecting price movements. Anomalies like January effect, weekend effect (or Monday Effect), seasonal effects, small firm effect, P/E ratio effect, impact of public announcement, etc. started existing thereby providing a room for investors to earn abnormal returns.Existence of these anomalies made EMH controversial. It led to the existence of irrational behavior among investors. Later on, Investor's behavior emerged as new discipline in academia known as "behavioral finance". Behavioral finance applies scientific research on human and social cognitive and emotional biases to better understand economic decisions and how they affect market prices, returns, and allocation of resources. Behavioral finance has recently become a subject of significant interest to investors. It is a relatively new and evolving field in economics and finance. The present study also tries to analyze investors' psychologyregarding investment decision making.

REVIEW OF LITERATURE

Tversky and Kahneman (1979) found out that people underweight outcomes that are merely

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probable in comparison with outcomes that are obtained with certainty, also that the people generally discard components that are shared by all prospects under consideration.

De Bondt and Thaler (1985) discovered that people are systematically overreacting to unexpected and dramatic news results in substantially weak form inefficiencies in the stock market. They also mentioned that mental accounting is a set of cognitive operations used by individuals and households to organize, evaluate and keep track of financial activities.

Russell J. Fuller (2000) described some insights from behavioral finance that specifically apply to the problem faced when evaluating and selecting active equity managers in the research paper namely "Behavioral Finance and the Sources of Alpha". This paper also described behavioral finance as a concept that provides various useful insights for investment professionals.

Victor Ricciardi and Helen K. Simon (2000) explained the general principles of behavioral finance including the concept of overconfidence, financial cognitive dissonance, the theory of regret and prospect theory. In conclusion, the paper provided strategies to assist individuals to resolve the "mental mistakes and errors" by recommending some important investment strategies for those who invest in stocks and mutual funds.

Moreover, MalenaJohnssonet al. (2002) conducted a survey to understand investor's psychology & the decisions made by them. This paper also highlighted the fact that how private & institutional investors changed their investment behavior (which includes change in objective of investment & factors affecting investment decisions) as a consequence of speculative bubble.

Purohit (2004) conducted a study on 'Recent trends in Investor's attitude with special reference to Indore and Jaipur Cities' to examine the Speculative attitude, Level of Awareness, Dependence on NFF, Level of Confidence in SEBI and Credit Rating Agencies and Rationality of Investors and found that Investors in general are moderately speculative, have moderate Level of Awareness, have moderate confidence level in SEBI and Credit rating agencies and are generally Non-Rational about choosing their portfolio. In majority there was a significant moderate correlation between (i) Speculative attitude and NFF (ii) Speculative attitude and Level of Awareness. (iii)

Level of Awareness and confidence level in SEBI and Credit Rating Agencies.

Hussein A. Hassan AI - Tamimi (2005) aimed at identifying factors influencing the UAE Investor behaviour by developing a questionnaire. The study identified six factors found to be most influencing on the UAE Investor Behaviour. The factors in order of importance were: expected corporate earnings, get rich quick, stock marketability, past performance of the firm's stock, government holding and the creation of organized financial markets. The least factors influencing, in order of their importance, were: expected loss in their other local investments, minimizing risks, expected loss in international financial markets, family member opinion etc.

Simon Gervais (2009) has made a survey of literatures on the effects of behavioral biases on capital budgeting. As per the study, a large body of psychology literature found that the people tend to be overconfident and overly optimistic. Because of self-selection, firm mangers tend to be even more affected by these biases than the general population. Indeed, the literature find that the biased managers over-invest their firm's cash flows, initiate too many mergers, start more firms and more novel projects and tend to stick with unprofitable investment policies longer.

Bennet al. (2011) analyzed data on individual equity investor and identify the Stock specific factors that influence investors' sentiment. The primary data was collected from the retail investors living in Tamil Nadu. The results shows that the Investor's expectation of stock prices rising for the next 12 months in Tamil Nadu is influenced by expected events surrounding the stock and the book value, financial community and Price Cut off rules.

Naveed et al. (2011) investigated the same phenomenon by looking into the decision making process of the small investors in Lahore Stock Exchange. The study found that the decision making process of the small investors seem to be influenced by the behavioral finance theories rather than conventional financial theories.

Jains et al. (2012) analyzed the mentality of an investor and his preferences clearly and concisely. Data was collected from the retail investors living in Udaipur during the period between September 2011 and January 2012 through a Structured Questionnaire. The findings states that investors prefer the wait and

watch policy for taking their decision, and are very cautious and their decisions are influenced by various psychological factors and behavioral dimensions.

Purohit and Srivastava (2013) opined that it is necessary to explore if a meaningful relationship exists between information obtained by investors and intuitive decision making style, chaos in stock market and intuitive decision making style, market volatility and intuitive decision making style.Purohit has also proposed Holistic Decision Making Model (HDMM) as the better model for investors as an extension to the widely popular model of decision analysis, namely MBA *(Manas, Buddhi, Ahamkar)* model of decision making proposed by Sharma (1996).

OBJECTIVES

The present study is an attempt to understand the behavior of individual stock market investors in the volatile Indian stock market. For this purpose,the following objectives have been undertaken:

- To identify the various factors that affectthe decision making of individual investors in the highly volatile Indian stock market.
- To investigate the relationship between the profile of the respondents and their investment behavior.
- To find out the most important source of information for their investment decision making.

Factors which are affecting the decision making of the investors have been identified from extant studies and with interview of investors. Further to investigate the relationship between respondents profile and their investment behavior following hypothesis have been constructed:

- H_{01}: There is no significant relationship between the age of respondents and their investment behavior.
- H_{02}: There is no significant difference between the opinion of the respondents and occupation.
- H_{03}:There is no significant relationship between the income of respondents and their investment behavior.
- H_{04}:There is no significant relationship between the education level of respondents and their investment behavior.

RESEARCH METHODOLOGY

To understand the investment behavior of investors in the Indian stock market,asurvey has been conducted on the investors of Delhi and NCR region. A structured survey instrument has been prepared to collect the data. Questionnaires have been entrusted to 300 respondents for data collection but only 228 questionnaires were found complete for extracting information. Sample comprises only those people who invest in the stock market. For the further analyses of the data Chi-square has been applied using SPSS Software.

ANALYSIS AND FINDINGS

It has been observed in the previous studies that the demographic profile of the respondents have significant impact on their behavior of investment. Table 1 shows the demographic profile of respondents in this study.

Table 1shows the demographic distribution of the respondents which consist of 69.7% males and 30.3% females which shows that males are investing in a greater proportion as compared to female. 48.7% respondents belong to the age group 25 - 40 years signifying the presence of youth. Demographic profile further shows that 39.5 % respondents are service men while housewife just contribute to the sample only 4.8%. 24.1% of the respondents are businessman while 11.4% and 20.2% belongs to professional and students.Respondents those who are investing in stock markets or in the other investment options are graduate or post graduates which clearly indicates that the investors are literate enough to decide rationally about their investment decision making.

As we know ups and down are always in news, the Indian stock market is not all stable. Therefore, in the dodgy and highly volatile market scenario, investors do not want to put all their eggs in the same basket rather they diversify their risk by parking their funds in the different investment options which is clearly indicated by respondents in Table-2. Among the different investment avenues available to investors for investing their money, bank deposits and stock markets are the most preferred options by investors. Further attempts have been made to know about their trading behavior in the market. 56.6% of

Table 1: Demographic Profile of the Respondents

Demographics	Variables	No. of Respondents	Percentage (%)
Gender	Male	159	69.7
	Female	69	30.3
Age	Below 25 years	42	18.4
	26 years – 40 years	111	48.7
	41 years – 60 years	60	26.3
	Above 60 years	15	6.6
Occupation			
	Business	55	24.1
	Serviceman	90	39.5
	Professional	26	11.4
	Student	46	20.2
	Housewife	11	4.8
Annual Income	Rs. 0- Rs. 25000	78	34.2
	Rs.26000 – Rs. 40000	75	32.9
	Rs. 41000 – Rs.80000	72	31.6
	Above Rs. 80000	3	1.3
Education Qualification	Under Graduate	0	0
	Post Graduate	142	62.3
	Graduate	86	37.7
	PhD Holder	0	0
	Other		

Table 2: Different Avenues of Investment

S.No.	Particulars	Frequency	Percentage (%)
1.	**Investment Avenues**		
	• Bank Deposits	228	100.0
	• Post Office Deposits	109	47.8
	• National Savings Certificates	101	44.3
	• Mutual Funds	55	24.1
	• Stock Market	228	100.0
	• Not investing anywhere	0	0
2.	**Investment Strategy**		
	• Buying stocks & holding it	129	56.6
	• Immediate buying & selling of stocks	99	43.4
3.	**Objective of your investment**		
	• High returns	117	51.3
	• Moderate returns	83	36.4
	• low returns	28	12.3

the investors consider the strategy of buying and holding the stocks while 43.4% focuses upon immediate buying and selling of stocks which clearly indicates that investors are not interested in reaping the returns from day to day fluctuations rather they believe in buying and holding of stock. Every one want to earn high returns on their investment which can be seen by their response that 51.3% of the respondents intend to attain high returns while 36.4% and 12.3% of the sample intends to have moderate and low returns as their objective of investment.

Further the Table 3 indicates the factors which plays important role in investor's decision making regarding their investment. Basic purpose of analysis is to see whether investors follow a rational process of decision making or they behave in the irrational manner. In history, all the investors are assumed to be a rational creatureby the academicians and analysts. They have analysed the markets with the help of different models like CAPM, APT, and other fundamental information. All these models assumes that investors are rational. But these models are not giving the true result to the investors and even after using these models investors are losing money in the market.Keeping in mind all these factors and the fact that markets are really volatile now-a-days,it has become pervasive to diagnose the basis on which market works and that's why behavioural finance is emerging as a new field of finance. This study is an attempt to analyze investors behavior regarding their investment. Table 3 shows the frequency distribution of investment behavior. Below mentioned frequency table provides the mixed results about the rationality of the Indian investors.

Table 3: Investor's Behavior regarding their Investment Behavior

S.No.	Statements	SA		A		CS		D		SD	
		F	%	F	%	F	%	F	%	F	%
1.	My investment decisions are based on past experience (success or failure).	156	65.0	61	25.4	7	2.9	4	1.7	-	-
2.	At times I become overconfident about future performance of a stock.	64	26.7	42	17.5	19	7.9	20	8.3	83	36.4
3.	I very easily tempted to buy stocks, when I see a lucrative investment opportunity.	86	35.8	46	19.2	20	8.3	23	9.6	53	22.1
4.	I am adopting models such as APT,single indexed, CAPM, Sharpe etc. for evaluating my investments	16	6.7	67	27.9	65	27.1	27	11.2	53	22.1
5.	I consider information from the company (fundamental analysis) before purchasing a stock.	108	45.0	55	22.9	31	12.9	23	9.6	11	4.6
6.	I follow recommendation, advice, forecast of experts while investing	100	41.7	36	15.0	20	8.3	19	7.9	53	22.1
7.	I rely on information from newspaper/ TV for my investments	77	32.1	43	17.9	16	6.7	23	9.6	69	28.8

8.	I consult my friends & family for making investments in stock market.	106	44.2	43	17.9	7	2.9	12	5.0	60	25.0
9.	I rely on my own intuition of future performance & take investment decisions	121	50.4	22	9.2	8	3.3	20	8.3	57	23.8
10.	I follow colleague's advice for buying stocks	64	26.7	34	14.2	-	-	11	4.6	119	49.6

Note: SA-strongly agree, A-Agree, CS- Can't say, D- Disagree, SD- Strongly disagree

65% of the investors' supports that they consider their past experience as a basis for present investment decisions. Regarding overconfidence biases, the sample of the study shows that 26.7% of the investors' strongly supports that they at times becomes overconfident while making investment decision, while 36.4% strongly disagrees with the statement. 35.8% of the sample supports that get attracted by any investment opportunity coming their way while 22.1% denies with it. Regarding rationality biases, only 6.7% of the sample uses models like APT, single indexed, CAPM, Sharpe etc. for evaluating my investments while 22.1% does not uses it. Most of the investors decisions are based on past experiences, follow other investors, their colleagues, relatives or friends rather than analyzing the highly rational models like APT, CAPM or Sharpe index model. 26.7% of the investors' strongly agrees with the fact that they follow colleagues for buying stocks thereby supporting herding behavior.

However, due to information technology era, awareness of investors are increasing because of which every piece of information is available with them and moreover they can easily access the fundamental information of the company before making their investment decision. Investment decision of the investor may vary with their demographic profile so that for the further analysis whether there is any significant impact of the profile of the respondents and their investment decision makingchi- square test has been used.

Chi-square test has been used to investigate the association between the respondents profile and their investment behavior. Investment behavior of the investors of different age, income, occupation and education groups has been analyzed. It is found after analysis that except few cases significant difference has been observed in the opinion of the investors belonging to different age, income, occupation and education groups.

Table 4: Analysis of Investment Behavior using Chi-square Test

S.No.	Statements	Age	sig.	Occupation	Sig	Income	Sig	Education	Sig
1.	My investment decisions are based on past experience (success or failure).	64.043[a]	.000	56.238[a]	.000	28.657[a]	.001	7.323[a]	.062
2.	At times I become overconfident about future performance of a stock.	42.544[a]	.000	51.159[a]	.000	40.640[a]	.000	29.816[a]	.000
3.	I very easily tempted to buy stocks, when I see a lucrative investment opportunity.	40.507[a]	.000	38.101[a]	.001	28.957[a]	.004	2.935[a]	.569
4.	I am adopting models such as APT,single indexed, CAPM, Sharpe etc. for evaluating my investments	67.165[a]	.000	1.071E2[a]	.000	54.734[a]	.000	26.397[a]	.000
5.	I consider information from the company (fundamental analysis) before purchasing a stock.	69.756[a]	.000	86.062[a]	.000	42.372[a]	.000	17.275[a]	.002

6.	I follow recommendation, advice, forecast of experts while investing	61.271[a]	.000	58.142[a]	.000	27.044[a]	.008	16.876[a]	.002
7.	I rely on information from newspaper/ TV for my investments	52.189[a]	.000	67.121[a]	.000	12.772[a]	.386	17.636[a]	.001
8.	I consult my friends & family for making investments in stock market.	61.358[a]	.000	71.081[a]	.000	50.680[a]	.000	18.694[a]	.001
9.	I rely on my own intuition of future performance & take investment decisions	26.101[a]	.010	68.715[a]	.000	80.564[a]	.000	5.579[a]	.233
10.	I follow colleague's advice for buying stocks	72.006[a]	.000	95.707[a]	.000	81.558[a]	.000	12.117[a]	.007

Chi-square test is applied to test whether there is significant difference in the opinion of respondents belonging to different age groups, occupation, income, education qualification and gender regarding their investing psychology. With respect to the different age groups, the above table shows that there is significant difference in the opinion of respondents belong to different age groups as all the significance values (0.00) are less than 0.05 level of significance thereby rejecting null hypothesis, i.e. H01. It clearly indicates that investors belonging to different age groups make their investment strategies differently.

Null hypothesis Ho2 states that there is no significant difference in the opinion of the respondents having different occupations. Chi-square test results rejects null hypothesis. It means that opinions of the investors vary with the type of occupation they are indulged in.

H03 states that there is no significant difference in the opinion of respondents belong to different income groups. The factors considered for the chi- square test rejects the null hypothesis stating that income of an investor affects their opinion regarding their investment decisions except for the statement "I rely on information from newspaper/ TV for my investments" in which no significant difference has been observed in the opinion of the investors. Therefore,It can be inferred from the result that since newspaper/TV information source is same for all respondents therefore for this statement there is no significant difference in the opinion of respondents belong to different income groups.

H04 states that there is no significant difference in the opinion of the respondents having different educational qualification.Chi-square test shows that there is statistical difference with respect to the educational qualification and opinion of respondents except for the statements like "My investment decisions are based on past experience (success or failure)" which has significance value of .062 and the statement like "I very easily tempted to buy stocks, when I see a lucrative investment opportunity" which has significance value of .0569 which is more than 0.05. Therefore, all the respondents consider their past experience related to investment irrespective of their educational qualification and lucrative investment opportunity tempts them to invest in those stocks.

Table 5: Reasons for less successful Investment

PARTICULARS	FREQUENCY	PERCENTAGE (%)
Incorrect recommendation or advice from broker /analyst /banker.	85	37.3
Incorrect recommendation or advice from other sources	47	20.6
The market has, in general, performed poorly.	69	30.3
Own errors.	27	11.8

The above table shows that 37.3% of the sample considers incorrect recommendation or advice from broker /analyst /banker as the reason for less successful investment. 30.3% of retail investors stresses upon poor performance of stock market as the main reason. 20.6% of the sample targeted incorrect recommendation or advice from other sources while 11.8% of the sample considers their own errors responsible for unsuccessful investment. This is clearly indicated by the above table that most of the investors took wrong decision due to incorrect recommendations from other which means that investors are following others advice rather than analyzing the markets using rational sources.

CONCLUSION

Behavioral finance is gaining vigorous attention in financial research now-a-days.Behavioral finance explains that individuals do not always act rationally in their financial decisions rather they believe in myths, advice, and they also follow the others decisions.In essence, behavioral finance approach investigates the behavioral patterns of investors and tries to understand how these patterns guide investment decisions. The present study is an attempt to get an insight about the psychology of stock market investors regarding their investment decision making. The results shows that retail investor's decision making regarding investment differs with respect to their demographics and investors are rational enough while making investment decisions. Investor's combines their behavioral and cognitive psychology with financial decision making process.

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