DETERMINANTS OF RETAIL INVESTORS BEHAVIOUR AND ITS IMPACT ON INVESTMENT DECISION

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Abstract : *According to economic theorists, investors think and behave "rationally" while buying and selling stocks. Generally investors are presumed to use all available information to form "rational expectations" in investment decision making. In reality, individual investors do not think and behave rationally. To the contrary, driven by greed and fear, investors speculate stocks between unrealistic highs and lows. They are misled by extremes of emotion, subjective thinking and the herd mentality. Indian stock market is considered to be highly volatile, sensitive and reactive to unanticipated shocks and news. At the same time, Indian stock market is resilient and it recovers soon after shocks. The role and importance of individual investors and their trading behaviour is not properly discounted. It is believed that trading behaviour of individual investors rarely influences the stock prices. The paper intends to analyse the determinants of the individual investor behaviour of Indian stock market and factors affecting their investment decisions. An empirical study is conducted to analyse the investment behaviour and decision making style of individual investors. Analytical Hierarchy Process (AHP) is used to find the relative importance of different behavioural traits of the investors.*

Keywords : *Investor behaviour, Overconfidence, Involvement and Risk preference.*

Introduction :

Indian stock market is considered to be highly volatile, sensitive and reactive to unanticipated shocks and news and it takes no time to impact the market activities. However at the same time, Indian stock market is resilient and recovers soon after shocks. The role and importance of individual investors and their trading behaviour in Indian stock market is also very crucial. Unlike institutional investors, individual investors are believed to be less informed, have psychological biases and also thought of as the proverbial noise traders in the stock market. It is believed that trading behaviour of individual investors rarely influences the stock prices. With this perception about the individual investors, majority of trading strategies and stock market policies are designed and focused to their institutional counterparts, thereby ignoring the individual investor's interests to some extent. The purpose of this paper study is to analyse the

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determinants of individual investor behaviour in Indian stock market.

Objective of the Study

The objective of the study is to identify the determinants of investment behaviour and its relative importance in shaping the behaviour of individual investors.

Limitation of the Study

There are various investment avenues in the capital market but the study was limited to investments in equity shares. The reluctance of people to reveal data on income and investment made the task of gathering data difficult.

Theoretical Background

Behavioural finance is an emerging science, and a relatively new and developing field of academic study that exploits the irrational nature of investors. Most of investment decisions are influenced to some extent by our prejudices and perceptions that do not meet the criteria of rationality. Behavioural finance concentrates on irrational behaviour that can affect investment decisions and market prices. It attempts to better understand and explain how emotions and cognitive errors influence investors and the decision-making process. Many researchers believe that the study of psychology and other social sciences shed considerable light on the efficiency of financial markets as well as help to explain stock market volatility and other anomalies. The contribution of behavioural finance is not to diminish the fundamental work that has been done by proponents of efficient market hypothesis. Rather, it is to examine the importance of relaxing unrealistic behavioural assumptions and make it more realistic. It does this by adding more individual aspects of the decision-making process in financial markets. Without these contributions of behavioural finance, certain aspects of financial markets cannot be understood. Despite the importance of individual's investment decisions, we know little about the factors that influence them. Finance research has often ignored the individual investor's decision making process while taking financial investment decisions .There is a need to develop behavioural paradigm to probe the determinants of investor behaviour and their impact on individual investor's financial decision making process. Behavioural finance models ranges from individual investor conduct to market-level outcomes. For the purposes of this research, we adopted an approach favoured by traditional Economist. The current study examines behaviours or biases of individual investors that distinguish them from the rational investors envisioned in classical economic theory, Behavioural Finance Micro (BFMI)

Literature Review

The proposition that has dominated finance is Efficient Market Hypothesis (EMH). There are three basic theoretical arguments that form the basis of the EMH. The first and most significant is that investors are rational. Secondly it is based on the idea that everyone takes careful account of all available

information before making investment decisions. It is related to internal consistency. The third principle is that the decision maker always pursues self-interest.

Behavioural finance is a study of the markets that draws on psychology, throwing more light on why people buy or sell the stocks and even why they do not buy stocks at all. This research on investor behaviour helps to explain the various 'market anomalies' that challenge standard theory. Behavioural finance encompasses research that drops the traditional assumptions of expected utility maximization with rational investors in efficient market. The two building blocks of behavioural finance are cognitive psychology and the limits to arbitrage (Ritter, 2003). Cognitive refers to how people think and the limit to arbitrage when market is inefficient.

Much of the basic theories of behavioural finance concern with a series of new concept under the general heading of 'bounded rationality,' a term associated with Herbert Simon (1947, 1983). It relates to cognitive limitations on decision-making. As a result, human behaviour is made on the basis of simplified procedures or heuristics (Tversky and Kahneman, 1974). This is consistent with the study done by Slovic (1972) on investment risk-taking behaviour. He found that, man has limitations as a processor of information and show some judgmental biases which lead people to overweight information. People also tend to be over react to information (De Bondt and Thaler, 1985, 1987).

Shiller (1999) surveys some of the key ideas in behavioural finance, including Prospect theory, Regret theory, Anchoring, and Market over-and under-reaction. Prospect theory introduced by Khaneman and Tvernsky (1979, 1981, 1986) suggests that people respond differently to equivalent situations depending on whether it is presented in the context of a loss or a gain. "Regret theory" (Larrick, Boles, 1995) is another theory that deals with people's emotional reaction to having made an error of judgment. Anchoring (Yates, 1990), is a phenomenon in which, in the absence of better information, investors assume current prices are right. Market over-or under-reaction (DeBondt and Thaler, 1985), is the consequence of investors putting too much weight on recent news at the expense of other data. People show overconfidence. They tend to become more optimistic when the market goes up and more pessimistic when the market goes down. Hence, prices fall too much on bad environment.

It has long been recognized that a source of judgment and decision biases, such as time, memory, and attention are limited, human information processing capacity is finite. Therefore, there is a need for imperfect decision-making procedures, or heuristics (Simon, 1955, Tversky and Kahneman ,1974) Hirshleifer (2001) argues that many or most familiar psychological biases can be viewed as outgrowths of heuristic simplification, self-deception, and emotion-based judgments. Study done by Kent, Hirshleifer and Subrahmanyan (2001) had found the evidence for systematic cognitive errors made by investors and

these biases affect prices.

According to Kent, et al. (2001), The most common behaviour that most investors do when making investment decision are (1)Investors often do not participate in all asset and security categories, (2)Individual investors exhibit loss-averse behaviour, (3) Investors use past performance as an indicator of future performance in stock purchase decisions, (4)Investors trade too aggressively, (5) Investors behave on status quo, (6) Investors do not always form efficient portfolios, (7) Investors behave parallel to each other, and (8) Investors are influenced by historical high or low trading stocks.

Research Methodology

Data for the study is primarily collected through survey in the form of questionnaires from Retail stock market investors in Kottyam and Ernakulam District. Questions related to investors profile and determinants of investor behaviour were included using a Five point scale. Data collected were analysed through SPSS and Spread Sheet. *Analytic Hierarchy Process (AHP)* is used to find the relative importance of different behavioural traits of the investors in contributing overall investment behaviour. AHP is one of Multi Criteria decision making method that was originally developed by Prof. Thomas L. Saaty. In short, it is a method to derive ratio scales from paired comparisons.

The study identified four broad dimensions of investor behaviour that could have an impact on their investment decisions*(Overconfidence, Investor Optimism, Investor Involvement and Risk Preferences)* that were further divided into different factors and respondents were asked to rate each factor. On the basis of the overall responses of the investors and the ratings that they assign to the factors of the each dimension AHP determine the relative weights for each dimension of the investment behaviour and priorities them in terms of their level of contribution in the formation of behaviour of the investor.

Analysis and Interpretation

1.7.1 Profile of Respondents

The analysis was based on the data collected from respondents using questionnaire. The various demographic and economic factors regarding the respondents were as follows:

The gender ratio of respondents: Of the total respondents, 75.64 % were males and 24.36 % were females.

The age group distribution of respondents : Age of respondents varied between 20 to 70 years. It was aimed to include investors from all categories so that the pattern will get an equitable distribution. Majority of respondents were under 30-40 year age group (34.62%) followed by 40-50 year age group (28.21%). Investors less than 30 years of age group were 25.64% and above 50 years of age group were 11.53%.

The occupational distribution of respondents : The occupational distribution of respondents included

Salaried individuals (56.41%), Government employed (23.08%), Private organizations (33.33%),Self employed individuals (24.36%),Business (17.95%) and Agricultural background (6.41%).

The education level distribution of respondents : The majority of investors is having a Bachelors degree (52.56%) followed by Masters Degree (46.15%). It's clear that most of the respondents in this study have good educational backgrounds.

The investment experience of respondents : From the analysis of investment experience of investors, it was found that majority of respondents have an experience of 5-10 years (41.02%), followed by investors, having an experience of less than 5 years (39.74%).

Stock monitoring behaviour of respondents : Of the total respondents, 87.18% daily monitor their investments in stocks and they look for short term profits from favourable price movements. 10.26% of the investors monitor their investment weekly and the rest 2.56% of the investors monitor monthly. Investors with different level of investments are observed to have significantly different monitoring behaviour. The investors with high amount of investments and those with short horizon tend to monitor their investments more frequently when compared to those with low amount of investments and long term investors.

Investment objectives of respondents : By analysing the responses it could be inferred that 46.15% of the investors objectives is to take benefit from the daily price fluctuations, 11.54% of the investors make their investment to earn steady income in the form of dividends, 26.93% of the investors aim for growth objectives, while rest of the investors have multiple investment objectives.

Analysis of Determinants of Investor Behaviour (1)Frequency Analysis of Overconfidence:

Question	S.D(1)	D(2)	N(3)	A(4)	S.A(5)	Total
I am confident of my ability to do better than others in picking stocks *(Stock Picking Ability)*	2 (2.56%)	12 (15.38%)	15 (19.24%)	17 (21.80%)	32 (41.03%)	78 (100%)
I am fully responsible for the results of my investment decisions. *(Self-Control)*	4 (5.13%)	13 (16.67%)	14 (17.95%)	18 (23.08%)	29 (37.17%)	78 (100%)
I have complete knowledge of stock market *(Market Knowledge)*	3 (3.85%)	11 (14.10%)	17 (21.79%)	17 (21.79%)	30 (38.46%)	78 (100%)

Table1 : Frequency Results for Overconfidence

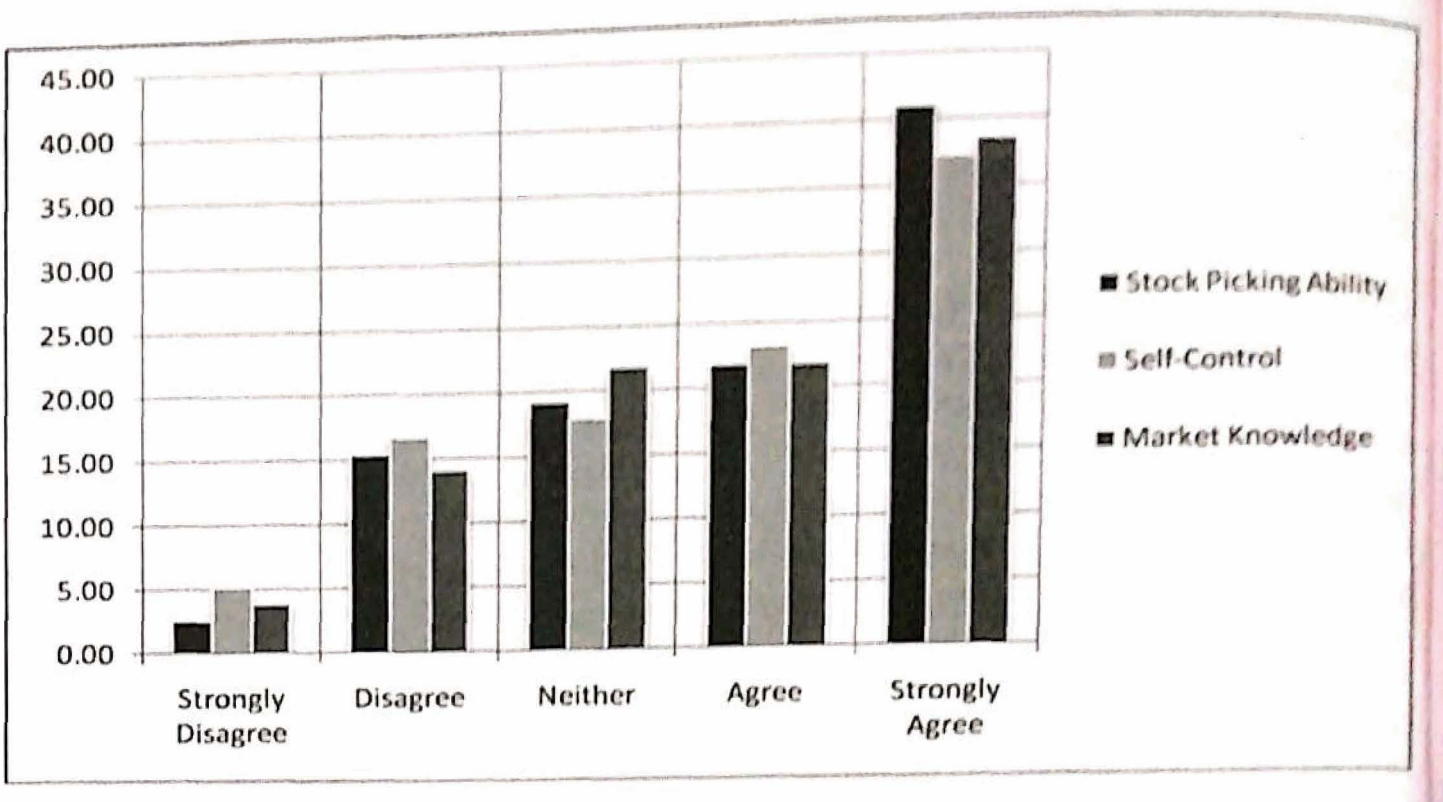


Figure1 : Frequency Diagram of Overconfidence

Source: Primary Data

The frequency results of these three statements tell reveals that investors have high level of Overconfidence as there is greater level of confidence on their *Stock Picking Abilities,* high level of *Self Control* and greater confidence of having Market Knowledge as majority of investors gave rating of 4 and above in case of each parameter.

AHP Analysis of Overconfidence

Feature	Stock Picking Ability	Self Control	Market Knowledge
Stock Picking Ability	1.00	4.00	2.00
Self Control	0.25	1.00	0.50
Market Knowledge	0.50	2.00	1.00

Table 2: Pairwise Comparison Matrix for Overconfidence

Table 3 : Normalized Matrix for Overconfidence

Feature	Stock Picking Ability	Self Control	Market Knowledge	Average
Stock Picking Ability	0.57	0.57	0.57	0.57
Self Control	0.14	0.14	0.14	0.14
Market Knowledge	0.29	0.29	0.29	0.29
Total	1.00	1.00	1.00	1.00

Table 4 : Rank Matrix for Overconfidence

Feature	%	Rank
Stock Picking Ability	57%	1
Market Knowledge	29%	2
Self Control	14%	3

The Analytical Hierarchical Process determined the relative weights of each factor of the dimension of *Overconfidence*. In the overall dimension of Overconfidence the most prominent factor was the Stock Picking Ability that result in successful investment, (approx 57%) followed by *Market knowledge* with approximate weights of 29% and Self Control ability with 14%.

(2) Frequency Analysis of Investor Optimism :

Question	S.D(1)	D(2)	N(3)	A(4)	S.A(5)	Total
I am confident of my ability to do better than others in picking stocks *(Stock Picking Ability)*	22 (28.20%)	16 (20.50%)	8 (10.27%)	13 (16.67%)	19 (24.36%)	78 (100%)
I am fully responsible for the results of my investment decisions. *(Self-Control)*	16 (20.51%)	15 (19.24%)	11 (14.10%)	15 (19.24%)	21 (26.32%)	78 (100%)
I have complete knowledge of stock market *(Market Knowledge)*	16 (20.51%)	10 (12.82%)	12 (15.39%)	20 (25.64%)	20 (25.64%)	78 (100%)

Table 5 : Frequency Results for Optimism

Source : Primary Data

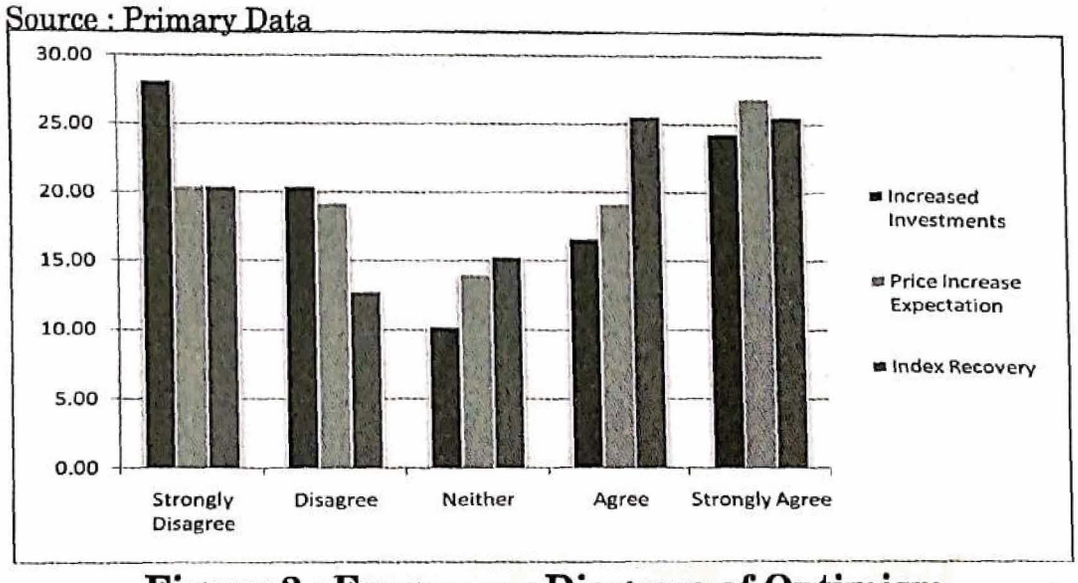


Figure 2 : Frequency Diagram of Optimism

By analysing the responses the overall Optimism among the investors is low but 51.38 % of investors do believe that even if the market falls, it will recover within a few days.

AHP Analysis of Optimism

Table 6 : Pairwise Comparison Matrix for Optimism

Feature	Increased Investments	Price Increase Expectation	Index Recovery
Increased Investments	1.00	0.33	0.50
Price Increase Expectation	3.00	1.00	2.00
Index Recovery	2.00	0.50	1.00

Table 7 : Normalized Matrix for Optimism

Feature	Increased Investments	Price Increase Expectation	Index Recovery	Average
Increased Investments	0.17	0.18	0.14	0.16
Price Increase Expectation	0.50	0.55	0.57	0.54
Index Recovery	0.33	0.27	0.29	0.30
Total	1.00	1.00	1.00	1.00

Table 8 : Rank Matrix for Optimism

Feature	%	Rank
Price Increase Expectation	54%	1
Index Recovery	30%	2
Increased Investments	16%	3

Interpretation : The second determinant Investor Optimism was measured in terms of investor's outlook of the stock market. AHP analysis assigned the highest rank to the factor *Price Increase Expectation* (54%), followed by *Recovery of the Index 30%.* Only 16% of respondents are interested in Increasing Investments. On the whole the optimism among the investors is very low.

(3) Frequency Analysis of Involvement :

Question	S.D(1)	D(2)	N(3)	A(4)	S.A(5)	Total
I am actively involved in trade activity*(Trade Activity)*	2 (2.56%)	1 (1.28%)	19 (24.36%)	21 (26.92%)	35 (44.88%)	78 (100%)
I make investment for making money quickly *(Quick Money)*	7 (8.97%)	4 (5.13%)	13 (16.67%)	29 (37.18%)	25 (32.05%)	78 (100%)

Table 9 : Frequency Results for Involvement

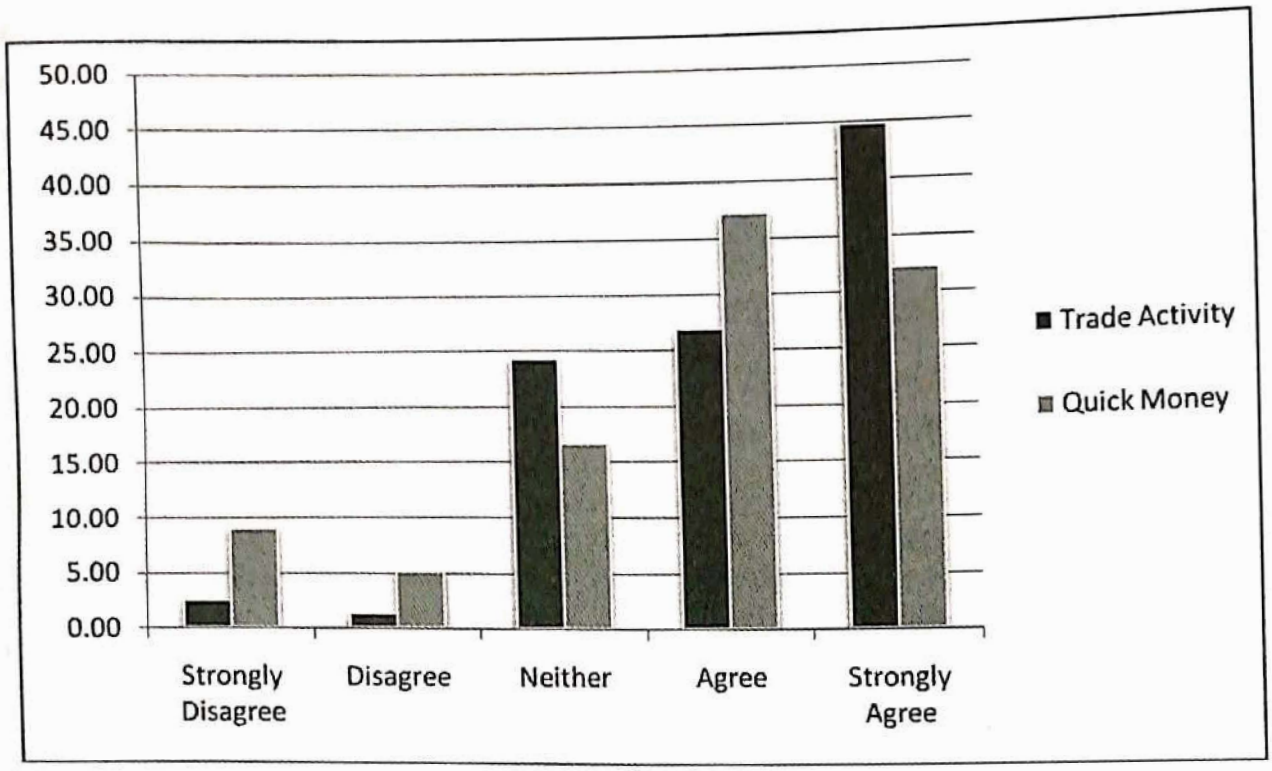


Figure 3 : Frequency Diagram of Involvement

Analysing responses it could be inferred that 69.23% of the respondents are involved in trade activity to make *Quick Money.*

AHP Analysis of Involvement

Feature	Trade Activity	Quick Money
Trade Activity	1.00	2.00
Quick Money	0.50	1.00

Table 10 : Pairwise Comparison Matrix for Involvement

Table 11 : Normalized Matrix for Involvement

Feature	Trade Activity	Quick Money	Average
Trade Activity	0.75	0.75	0.75
Quick Money	0.25	0.25	0.25
Total	1.00	1.00	1.00

Table 12 : Rank Matrix for Involvement

Feature	%	Rank
Trade Activity	75%	1
Quick Money	25%	2

To measure the overall Involvement of Investors in stock trading two factors namely level of *Trade Activity* and motive towards making *Quick Money* were analysed. On the basis of the responses of the investors AHP determined *Trade Activity* has the highest weights approximately 75% while the attitude of making *Quick Money* weights 25% approx.

(4) Frequency Analysis of Risk Preferences / Attitudes

Question	S.D(1)	D(2)	N(3)	A(4)	S.A(5)	Total
I make riskier investments for maximum gain (Enjoyment from *Risky Trading)*	30 (38.46%)	17 (21.80%)	8 (10.26%)	12 (15.38%)	11 (14.10%)	78 (100%)
I usually invest in companies I am familiar with *(Familiarity Bias)*	13 (16.67%)	9 (11.54%)	5 (6.41%)	21 (26.92%)	30 (38.46%)	78 (100%)
I am a risk taker *(Risk taking)*	11 (14.10%)	13 (16.67%)	14 (17.95%)	21 (26.92%)	19 (24.36%)	78 (100%)
I invest mostly in companies with stable expected returns *(Stable Returns)*	3 (3.85%)	7 (8.98%)	13 (16.67%)	26 (33.33%)	29 (37.18%)	78 (100%)

Table 13 : Frequency Results for Risk Preferences/Attitudes

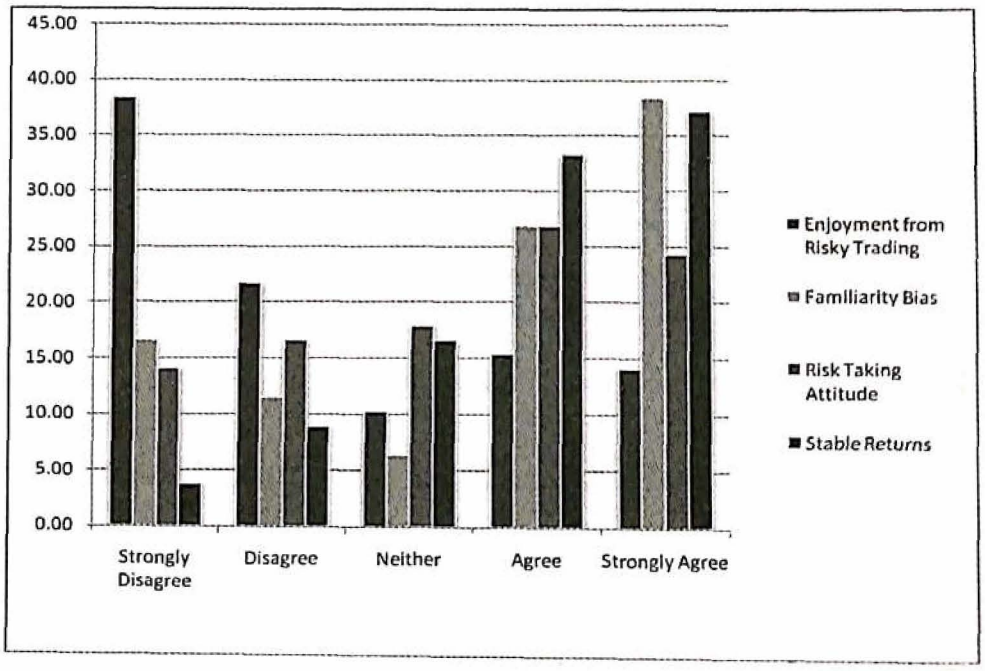


Figure 4 : Frequency Diagram of Risk Preferences/Attitudes

Interpretation : By considering the various factors collectively it could be inferred that majority of investors are risk averse and they do not prefer making riskier investments. Rather they prefer investing in familiar companies that give stable returns.

AHP Analysis of Risk Preferences/Attitudes

Feature	Enjoyment from Risky Trading	Familiarity Bias	Risk Taking	Stable Returns
Enjoyment from Risky Trading	1.00	0.25	0.33	0.33
Familiarity Bias	4.00	1.00	3.00	2.00
Risk Taking	3.00	0.33	1.00	0.50
Stable Returns	3.00	0.50	2.00	1.00

Table 14 : Pairwise Comparison Matrix for Risk Preferences/Attitudes

Feature	Enjoyment from Risky Trading	Familiarity Bias	Risk Taking	Stable Returns	Average
Enjoyment from Risky Trading	0.09	0.12	0.05	0.09	0.09
Familiarity Bias	0.36	0.48	0.47	0.52	0.46
Risk Taking	0.27	0.16	0.16	0.13	0.18
Stable Returns	0.27	0.24	0.32	0.26	0.27
Total	1.00	1.00	1.00	1.00	1.00

Table 15 : Normalized Matrix for Risk Preferences/Attitudes

Table 16 : Rank Matrix for Risk Preferences/Attitudes

Feature	%	Rank
Familiarity Bias	46%	1
Stable Returns	27%	2
Risk Taking	18%	3
Enjoyment from Risky Trading	9%	4

AHP analysis reveals that investors have greater fear of un-known and uncertainty and to avoid it, they make investments in the stocks of the companies which they are familiar with. The factor of *familiarity bias* gets the highest rank among all four factors with weights of 46% approx. The tendency of investing in stocks with *stable* returns weights about 27%. These two factors basically reveal the tendency of risk aversion of the investor. While the other two factors Risk taking and enjoying Risky trading measures the risk loving attitude of the investors. The cumulative score of *risk preference* reveals that investors are risk averse.

(5) AHP Analysis of Determinants of Investor Behaviour

Feature	Overconfidence	Investor Optimism	Involvement	Risk Preferences/Attitudes
Overconfidence	1.00	5.00	3.00	2.00
Investor Optimism	0.20	1.00	0.33	0.20
Involvement	0.33	3.00	1.00	0.33
Risk Preferences/Attitudes	0.50	5.00	3.00	1.00

Table 17 : Pairwise Comparison Matrix of Behavioural Determinants

Feature	Overconfidence	Investor Optimism	Involvement	Risk Preferences/Attitudes	Average
Overconfidence	0.49	0.36	0.41	0.57	0.46
Investor Optimism	0.10	0.07	0.05	0.06	0.07
Involvement	0.16	0.21	0.14	0.09	0.15
Risk Preferences/Attitudes	0.25	0.36	0.41	0.28	0.32
Total	1.00	1.00	1.00	1.00	1.00

Table 18 : Normalized Matrix of Behavioural Determinants

Table 19 : Rank Matrix of Behavioural Determinants

Feature	%	Rank
Overconfidence	46%	1
Risk Preferences/Attitudes	32%	2
Involvement	15%	3
Investor Optimism	7%	4

AHP determined that *Overconfidence* carries more than 46% weight, so it is the most prominent behavioural dimension that has greater impact in the formation of overall behaviour followed by *Risk Preferences/Attitudes* with a weight of 32% and other two dimensions *Involvement* and Investor Optimism with weights 15% and 7% respectively.

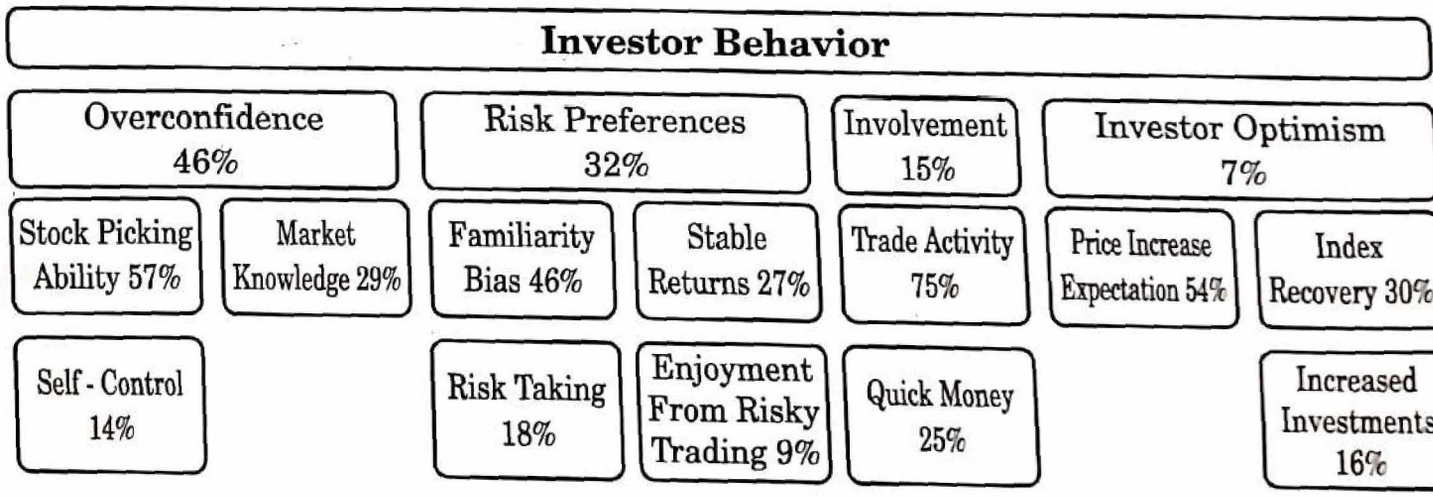


Fig 5. AHP Results of Investor Behaviour

Findings

The Investment behaviour of individual investor has been explained in terms of four broad behavioural dimensions viz; Overconfidence, Investor involvement, Optimism and *Risk attitude* that are measured in terms of different factors. The findings suggest that the dimension of overconfidence plays an important role in the determination of overall behaviour, followed by the role of *risk preferences, involvement and optimism.*

In this study overconfidence bias is measured in terms of four factors: self control, market knowledge, stock selection ability and specific skills. It's clearly found that majority of investors believe that they have better stock picking ability than other investors. They also believe that they have complete knowledge of market particularly those investors who have many years of investment experience. They are found to be confident of their specific skills that lead them to earn profits over their investments.

When studied the level of optimism among investors in terms of their outlook of future of the stock market, we found that investors are not much optimistic about the future of market. It's found that some investors want to keep their investments in the stock markets only because the stock prices have declined and they do not want to sell their stocks at a loss. Very few showed willingness to increase their investments in the stock market in next 12 months because they do not believe that stock market will not scale up immediately.

The dimension of investor involvement is measured in terms of their trade activity and tendency to make quick money. It was found that investors having short term profit seeking objectives are found to have greater level of involvement as compared to those with long term investment objectives as they have greater tendency to make quick money in short time periods.

When measured risk preferences of individual investors we found that investor's exhibit risk averse behaviour and they prefer investing in familiar companies with stable returns. But there are some investors who showed a strong preference for taking risk. It's found that investors with long term investment objectives and those with ages above 50 are more risk averse when compared to others.

Majority of investors seem to prefer to gamble with a possibility for a gain .Analysis shows that individuals have inconsistent attitudes towards risk in making investment decisions. They exhibit risk aversion in a profit making situation while risk seeking behaviour is exhibited in a loss making situation that explains the phenomenon of mental accounting. Moreover the presence of disposition effect and representativeness are also confirmed by this study.

Conclusion

Market participants have relied for a long time on the notion of efficient markets and rational investment behaviour when making financial decisions. However, the idea of fully rational investors always maximizing

their utility and demonstrating perfect self-control is not realistic and the market inefficiency in the form of anomalies and irrational investor behaviour have been observed more frequently during the past decades. The results obtained from the study suggest that the behaviour of individual investors is irrational to a greater extent. Study revealed that individual investors have high level of involvement and overconfidence while they are not much optimistic about the future outlook of market and moreover they have an aversion to risk.

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