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Impact of Selected Behavioural Bias Factors on Investment Decisions of Equity Investors

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Abstract: Behavioral finance is a new discipline in finance, which studies the cognitive psychology of an individual's money-related decisions. It has evolved as a response to standard economic theory, which presumes that people are rational, risk-averse and profit maximizes. This concept of the rational individual formed the base for numerous theories about the capital markets. But the reality is that all individuals are far less rational in their decision making than the economic theory takes over. Individual's investment decisions is a complex procedure which controls logic, abstract thought and planning qualities. Based on the influence of these attributes, individual's investment decisions are emotional, fast and automatic. This study is intended to find out the impact of behavioral bias factors on investment decision of equity investors. Retail investors who access the Indian equity market from the Tamil Nadu state are taken as respondents for this survey. By utilizing the broad critique of literature, six behavioral bias factors are identified to find out its impact on investors' investment decisions. They are mood, emotions, heuristics, frames, personality and gambling. This study also examines the relationship among these behavioral bias factors. Descriptive research is utilized to identify the factors that influence investors' investment decisions. This research involves the use of both secondary and primary data. The secondary data includes the selection of broking firm and primary source of data is collected by using well-structured and non-disguised questionnaire. The multistage random sampling technique is applied to select respondents. The data are collected from the retail investors who access Indian equity market from the chosen area of Tamil Nadu. Cornbrash's alpha is used to find out the reliability of the constructs. The findings of the Cornbrash's alpha test reveal that the reliability of the study variables is greater than the threshold value of 0.6. Besides, Composite Reliability of all the variables is larger than the reference value of 0.6. The gathered data are analyzed quantitatively by using several statistical tools. Conceptual Model is developed by using Structural Equation Modeling (SEM). The findings of this study reveal that all the selected behavioral bias factors have shown significant influence of investors' investment decisions. The result of the impact of interdependence among the behavioral bias factors reveals that, except mood factor, all the factors have shown a strong relationship with other factors.

Keywords: Bias Factors, Equity Market, Investors, Investment Behavior, Investment Decisions.

I. INTRODUCTION

The financial market is a market for securities, where companies and governments can raise long term funds. It is a market designed for the selling and buying of stocks and bonds. In a market economy like India, financial market institutions provide the avenue by which long-term savings are mobilized and channeled into investments. The confidence of the retail investors in the market is imperative for economic growth of the country. In India, hardly around 2 percent of retail investors are accessing the capital market. According to financial dictionary, retail investor is an individual who purchases securities for his or her own personal account rather than for an organization. Retail investors typically trade in much smaller amounts than institutional investors. In India, the retail investor participation in the stock market has declined from 20 million in the 1990s to 12 million in 1999, and just around 8 million in 2009, according to official data, this despite the fact that the capital market has grown by 20 times during this period. Retail investors have diverted their funds to real estate and risk-free investments such as bank deposits and national savings scheme, as the equity market has been more or less static in the last five years.

The decline in investor participation is mainly due to crises in the market, less awareness level and investor's errors and biased investment decisions. Errors and biases provoke the investors to make on irrational decisions. The standard finance is comprised of modern portfolio and efficient market hypothesis theory. Harry Markowitz [59] is the pioneer of framing the modern portfolio theory, which explains the portfolio's return of investments, standard deviation, and its relationship with the supplementary stocks or mutual funds held within the portfolio. This theory explores the efficient portfolio of an investment. Efficient market hypothesis theory (EMH) assumes that "the prices are right", in that they are set

by the agents who understands the market and the Bayes' law. Both these theories argued that investors are rational and the market prices are determined by the investors. People who are against rationality argue that investors are irrationally making decisions on investments. The acknowledgement that individual behavioral factor influences market outcomes which has started a new research stream in financial economics called behavioral finance. Behavioral finance research is about using lessons from psychology to financial decision making. Even with the domination and triumph of standard finance theories, behavioral finance has begun to come out as an option to the theories of standard finance. Behavioral finance is not fully discounted the theories of traditional finance. Instead, it explains that the marketplace is not effective and the investors are not always rational on approaching the market. Behavioral finance is the study of finance, which inculcates psychological concepts into financial discipline to understand the behavior of investors.

Further, it explains why and how the markets become inefficient. How investors' psychological bias affects the market behavior and change the price movements are explored by Selden [2] in his book entitled "Psychology of the Stock Market". Feininger, Riecken and Schachter [5] brought out a fresh concept in social psychology called "hypothesis of cognitive dissonance". According to this theory, individual's belief is altered in their cognitive process. If the end product of the cognitive process is unpleasant, then it will lead to cognitive dissonance. Kahneman and Tversky [4] explain investors' decision making choices in their prospect theory. They argued that risk and uncertainty affect the investors' choices. Further, they added that decisions making involves two processes, namely editing the prospects and assess the chances. Ackert, Church and Devas [1] explain how affects influence individual's decision making process. They opine that first affect push individuals make decisions. Second, it serves to reach optimal decisions. From these, it concludes that cognition and affect play a crucial role in the individual's decision making process. These two factors are influenced by many behavioral bias factors.

Despite the increasing attention devoted to behavioral bias factors and investors' investment decisions, most studies ignore affect related issues on investment decisions. Therefore, it is difficult to resolve the exact behavioral factors which influence the decisions making process of the investors. This is an initial motivation to bear out this work, which looks at six major behavioral bias factors and its impact on equity investors investment decisions. These variables are chosen based on the discernment of the review of literature (discussed detail in the review of literature). In particular, emphasis is placed on to find out the impact of interdependence among the behavioral bias factors and investors' behavior.

II. AN OVERVIEW OF INVESTORS PARTICIPATION IN INDIAN CAPITAL MARKET

India has the highest saving rate of households than the rest of nations in the world. Around 50 percent of all savings locked in real estate and gold and the remaining 50 percent in financial assets, which includes only 4 percent of the total household savings in the equity market. According to the survey of SEBI sponsored household report (2011), only 11 percent of Indian households invest in equity, mutual funds, debt, derivatives and the other financial instruments in the market. Remaining 89 percent of household savings diversified into non-risky investments of banks, insurance, post office deposits, etc. Out of 11 percent of total household investors, 20 percent of investors belong to urban and 6 percent belong to rural India. The distributions of the investors across different portfolios are shown below.

Table.1. Distribution of investors with different portfolios

	All India	Urban	Rural
Bond	3.64	2.29	1.35
Debenture	1.7	1.3	0.39
IPO	2.46	1.29	1.17
Secondary Market	5.28	3.24	2.04
Mutual Fund	10.5	6.21	4.29
Derivatives	0.89	0.89	0
Total	24.48	15.23	9.25

In rural India, only 2 percent of investors are accessing the secondary market. Most of the investors perceive the equity investing as risky and similar to gambling. The preference of investors towards mutual funds is 43 per cent and secondary market is 22 per cent. In urban areas, 41 per cent of investors invest in mutual funds and 21 percent in secondary markets, whereas, 46 percent of rural population chooses mutual funds and 22 percent prefer secondary markets. Equity market plays a major role for companies to leverage and raise the debts for their projects. Hence, an efficient equity market forms a foundation of economic growth of the nation. Investors can get a maximum tax free return of 15-18 percent from the equity market. Investors of around 41 percent felt that they are getting inadequate information about the financial market and lacked investment skills, (SEBI survey report, 2011).

III. RETAIL INVESTORS' PARTICIPATION IN THE EQUITY MARKET

Retail investors' participation in the equity cash market is very low, with more and more savings finding their way to properties, gold, risk-free avenues like bank deposits and high-yield debt instruments. The daily average volume of retail turnover is down to `6,690 in 2011-the lowest since 2005 and a 51% drop from the peak of `13,709 crore in 2009. The daily average volume generated by retail investors was `10,882 crore in 2010 and `6,690 crore in 2011. As a percentage of the total population, the retail investor participation is just 1.3%, whereas in the US and China, it is 27.7% and 10.5% respectively, (SEBI report 2011). SEBI has targeted an optimistic figure of 8% for retail participation in India.

IV. NEED TO SELECT THE RETAIL INVESTORS FOR THIS STUDY

Retail investors have different backgrounds, experience and also varied motives. Some retail investors invest in the long-

run, whereas others wish for short term investments. India has a very low percent of retail investor participation in the capital market. It needs to be increased. In order to achieve this, more awareness of capital market should be inculcated. The recent evidence suggests that investors should learn to control their behavioral biases in order to explore the rational market behavior. Lo et al. suggest that any investor, who have given proper instruction and training, can achieve in the stock market. Institutional investors have superior market awareness and experience. Therefore, this study focuses on retail investors' participation in the equity market and their behavioral biases.

V. THEORETICAL BACK GROUND OF BEHAVIOURAL FINANCE

A. Traditional Finance Paradigm

"Standard finance is the body of knowledge built on the four pillars of principles which are arbitrage principles of Miller and Modigliani, the portfolio principles of Markowitz, the capital asset pricing theory of Sharpe, Linter and Black and the option-pricing theory of Black, Scholes, and Merton", (Statman, 1999). These four principles conclude that the market is systematic and efficient. Proponents of traditional finance advocate that "individual behavior" often reflect the economic cost of the stock. Modern financial literacy calls this reflection as homo-economics. Simon [83] explains homo-economics as, "It is an unlimited cognitive and computational capability and is a super mind who takes all likely choices and their consequences into consideration". Homo-economics give importance to the value of money or consumption to capitalize on self-interest and the value so consigned is not discriminated by factors as temper, familiarity with a particular state of affairs, unpredicted increases in fear or regret and rectifies his beliefs in the approved manner with the reception of new information. Moreover the "homo-economics" is either risk neutral or has an aversion to risk.

B. Efficient Market Hypothesis

Samuelson, is the pioneer of framing the efficient market hypothesis. At one step further, Ritter explains EMH as "the building block of modern finance, is based on the assumption that investors compete for seeking abnormal profits". This indicates that the investors impel the stock prices to its fundamental values. "Efficient market hypothesis states that stock prices reflect all the available information relevant to the stocks and also prices can be treated as an optimal estimate of real investment value at all times. It also explains that people behave rationally, maximize their expected utility and process all available information", Sheller,. Proponents of standard finance states that the market and investors who access the market are rational. But in reality, lament investors cannot act as rationally all the time. They are often influenced by psychological factors like mood, emotion and belief, which mislead them to act as irrational investors. Kahneman and Tversky, [2] are the pioneer in modern finance point out that, "people fail to update beliefs correctly and have preferences that differ from rational agents". Previously, Simon had the same notation that investors have limited capacity of processing information for solving the complex problems. Simultaneously, individuals have some restrictions or limitations of attention capabilities and they give some importance to social considerations also on making investment decisions, Kahneman,. Barberis and Thaler, [9] have a different opinion of the rationality of investors. They opined that "rational traders are bounded in their possibilities such that, markets will not always correct non-rational behavior. From the above findings, it concludes that the traditional theories are incomplete and misleading description of financial behavior. Most of the theories of standard finance give less importance to investor decision processes and the quality of judgment. Therefore, it is advocated that the standard finance is against the rationality of the markets and investors. Hence, there is a need to evolve modern finance to study these anomalies. "The Structure of Scientific Revolutions", portrays the modern finance as; "the old paradigm of an efficient market is crumbling. But the outlines of a new paradigm, the Behavioral Finance, are visible in the resulting cloud of intellectual dust".

C. Draw Backs of Standard Finance

The first drawback of standard finance was the application of sophisticated econometric techniques for constructing the theories. Roll advocated that, "the foundation stone of standard finance, the CAPM was almost certainly unverifiable". Between the period of 1980s and 1990s, more research works and theories suggest that the traditional theory is incomplete, if not faulty. In 1992, Eugene Fama, one of the proponents of CAPM, withdraws his support from the CAPM model. Hence, there is a need to change the paradigm shift from the traditional, neo classical mathematical modeling approach based on a representative, fully rational agent and perfectly efficient markets to a behavioral based model. As markets get more complex and the investors use some rule of thumb to shift the market into another face. (e.g. Anderson et. al., [5]). Therefore, it is unavoidable to study the behavioral based approach for replacing the EMH theory.

D. Evolution of Behavioural Finance

Behavioral finance is useful to predict the market perfectly, identify the flexible prices of the stocks, and understand the behavior of other players who access the market. Behavioral finance is a new paradigm of finance theory, which seeks to understand and predict systematic financial market implications of psychological decision-making,. The new paradigm of behavioral finance is not fully avoiding the standard finance. Rather, it supplements the standard theory of finance. Further, it specifies that the existing paradigm can be true within certain limitations. With the help of behavioral finance, standard finance model is improved to explain the current realities of today's evolving markets. Behavioral finance adopts the psychological and economic principles to improve the individual's financial decision-making process. Shefrin wrote a book of behavioral finance and EMH titled "Beyond Greed and Fear". This book explores the various behavioral biases of investors. The key concept conveyed in his findings that the people are" imperfect processors" of

information and are usually biased, commit mistakes and have perceptual problems. At present, there is no unified theory of behavioral finance exists. Shefrin and Statman identify how individual decision making affects the financial market behavior. Proponents of standard finance argued that "Behavioral finance" give more importance to decision making process of individuals, instead of giving importance to fundamental factors. But now, it has acknowledged that the individual decision making process significantly influence the market price movements.

E. Understanding Investment Behaviour

The human decision making process is a complex phenomenon which was determined by many physical, environmental, and behavioral factor. Psychology is the familiar discipline often used in the medical field to understand or to study the behavior of people. Behavioral finance incorporates psychology context into finance to understand the behavior of investors in making decisions in the context of equity markets. Individual investors tend to be inconsistent in making investment decisions. In particular, they are under diversified, loss averse [7], and overconfident [7]. They advocate that individuals trade too much and tend to hold on to losing stocks too long and selling the winners too early. Hence, they are reluctant to accept the losses. Interesting evidence suggests that investor moods, which were influenced by cloud or the number of hours of daylight, affect financial markets and stock price movements (Hirshleifer and Shumway, Kahneman states that people are lacking the ability to perform multiple tasks. Due to the limited working memory, people often struggle to process the available information quickly. Previously, Miller found that people have limited memory of grasping things. Therefore, their cognitive load required for complex decisions often exceeds their cognitive capabilities. People try to overcome the cognitive problems by using a rules-of-thumb, or simple heuristics, which may result in faster decisions. But their decisions are not fully rational.

Influence of cognitive biases on investors' decisions making process has given more importance in recent literature of finance. Proponents of standard finance opined that few agents in the economy can turn the market into fundamental perspectives. Now, the trend has changed. More retail investors access the market and they turn the market into different perspectives. Evidence from the field of psychology and financial research suggest that people expect more, when the market becomes uncertain. Further, it is noted that most of the individual's financial decisions are taken in the situations of high degree of uncertainty and complexity. This reveals that the situations play a significant role in influencing individual's investment decisions. Standard finance explored that individuals examine all the relevant information and alternatives before reaching any conclusions. Finally, they may select the best choice or solutions. Conversely, findings from psychological work suggest that people are not able to behave in such a way in many situations. People are limited in their abilities and capabilities to solve, especially complex problems . In order to overcome these issues, people may adopt simple rules-of-thumb, or heuristics, that may result in behavior that is not fully rational.

VI. REVIEW OF LITERATURE

Behavioral finance attempts to explain the irrational behavior of investors' which can affect investment decisions and market prices. It also explains how emotions and cognitive biases influence investors' decision-making process. The contribution of behavioral finance is not to eliminate the underlying work that has been made out by the proponents of efficient market hypothesis. Instead, it is to examine the importance of relaxing unrealistic behavioral assumptions and make it more realistic.

Mood: Traditional theory of finance assumes that 'investors are fully rational and the stock prices are not reflecting the investors' psychological biases like affect and cognition. But a recent study of behavioral finance suggests that investors are not fully rational. Moreover, investors' investment decisions are more influenced by their psychological biases than the fundamental factors. Amongst the psychological biases, contributions of affect (mood and emotion) are inevitable. Practically, both of them are used interchangeably. But in theory, there is a slight difference between them. One of the main differences can be seen is in the form of 'expression'. The mood is something a person cannot be expressed, whereas emotions are expressed. Another important difference is existence of mood is longer than emotion. The influence of mood on investment decision has long been ignored by the traditional finance practitioners, because its influence is considered as temporary and unimportant. Now sufficient evidence suggests that mood does significantly influence decision-making, especially when the decisions involve risk and uncertainty. Researchers suggest that mood is not only affects judgment and decision-making, but also altering the behavior of investors. A mood could affect the choices, risk taking, rational cognition, and the investment decisions.

Therefore, investors' decisions are fluctuating with their mood. The mood is debatable an important focusing mechanism in economic decision-making (Etzioni, [4]) and good mood is associated with fast and effective decision-making. From these, it is clear that mood is an inevitable one for an individual's investment decisions. Moods have different forms. Some of them are happiness, sadness, calmness, carefulness, tiredness, Energeticness, angriness and fearfulness. Amongst these, happiness and sadness influences are high on investor investment decisions. According to bless et al [2], happy mood state increases reliance on general knowledge such as scripts and stereotypes. Investors who are in happy mood may rely on heuristic approach (Ruder & Bless, [6]). On the other side, negative mood state results in analysis of information very carefully before making decisions, (Bless, Bohner, Schwarz &Strack, [2]). According to Devries, Holland &Witteman [1], positive mood matched with intuitive decisions and negative mood matched with deliberate decisions. These findings suggest that mood plays

a significant part of acting upon the decisions making process of investors.

VIII. OBJECTIVES OF THE STUDY

The major focal point of this study is to find out the impact of selected behavioral bias factors on equity investors' investment decision. The behavioral bias factors included in this research are Mood, Emotions, Heuristics, Frames, Gambling and Personality. This study also aims to study how each behavioral bias factor influences other behavioral factors on the decisions making process of investors.

IX. CRONBACH ALPHA TEST FOR RELIABILITY

Reliability is a test of sound measurement. It is used to find out whether a measuring instrument provides an accurate and consistent result. In this research, behavioral bias factors contain the statements which are measured by using five point Likert scale starting from strongly disagree to strongly agree. Cranach alpha is one such reliability instrument used in SPSS to find out the reliability of measurement. The instrument is reliable if and only the Cranach alpha value should be greater than 0.6. The altered questionnaire was tested for reliability by using set of 30 respondents. This procedure was repeated again with another set of 30 respondents to make sure of consistent results. The alpha values of the respective behavioral bias factors are shown in the following Table.2.

Table.2. Cronbach Alpha Test for Reliability

S. No.	Alpha Value			
	Variable	Pilot Study	First 30 respondents	Next 30 respondents
1	Mood	0.6	0.621	0.629
2	Emotions	0.829	0.839	0.845
3	Heuristic	0.817	0.843	0.84
4	Frame dependence	0.661	0.681	0.678
5	Personality	0.709	0.71	0.719
6	Gambling	0.829	0.83	0.836

The Table.2 illustrates that the alpha value is improved after conducting a pilot study. After making some changes the alpha values for the first 30 respondents are improved i.e. greater than 0.6. This shows that the statements used to measure the behavioral bias variables are reliable. The alpha values of the second set of 30 respondents are more or less same as the alpha values for data collected from the first 30 respondents. This implies that there is no further change warranted and there is no early response bias.

X. RESEARCH METHODOLOGY

Sample design is a technique or the procedure the researcher would adopt in selecting items for the sample. The sample design to be used must be decided by the researcher taking into consideration the nature of the inquiry and other related factors (Kothari C.R., 2004).

Sample Unit: Retail investors who are accessing the Indian equity market from the Tamil Nadu are taken as the sample unit.

Sample Frame: Details of broking firms are collected through SEBI and BSE/NSE websites. Based on the information collected from these sources, a consolidated list of broking firms is prepared, which is considered to be the sample frame of this study.

Sample Population: As the study calls for analysis and rendering of data without any subjective action, this can be viewed as a descriptive survey. The size of populations of this study is very high. In order to simplify the sample selection process, Multi stage sampling technique is employed. Under multi stage sampling method, the following steps are adopted to select the samples for this study. Initially, 32 districts in Tamil Nadu state are segmented into five zones as North, South, East, West and the Central part of Tamil Nadu. For each zone, one place or city is selected based on the criteria of investors are highly accessing the capital market from that place. Places randomly selected for this study are Chennai, Coimbatore, Trichy, Madurai, and Tirunelveli. After selecting the place, leading broking offices are identified in each place to collect a target data. Five broking offices are randomly selected to collect the target data. They are Aditya Birla money limited, Reliance money, Sharekhan, India info-line and HDFC Securities. Investors who access the equity market from these places are taken as a sample population for this study.

Sampling Technique: The multistage random sampling technique is used to collect the target data from the respondents. Each and every item in the population has an equal probability of inclusion in the sample (Kothari C.R., 2004).

Sample Respondents: Data is gathered from the target audience of retail investors who access the equity market from the selected cities of Tamil Nadu state.

Sample Size: The sample size is calculated by using the formula, $n = (z^2s^2) / e^2$, where 'n' is the sample size, 'z' is confidence limit, 's' is the standard deviation and 'e' is an error (Kothari C.R., 2004). After calculating the sample size, it is found that the sample size should be a lower limit of 720. Hence a total of rounded figure of about 800 questionnaires were targeted to collect the data from the respondents.

Data Collection: Each broking firm was targeted at 32 questionnaires. Questionnaires were given to respondents directly to collect the data, when they visit the broking offices. From the 800 questionnaires, 780 responses were received, out of which 38 were excluded because of incomplete data or response bias of extreme values. The remaining usable questionnaires were 742. This stands for an effective response rate of above 90 percent of the entire sample. Hence the sample size for this study is 742.

XII. BEHAVIOURAL BIAS INTERDEPENDNECE MODEL

Behavioral bias factors and its influence of the investment decisions of investors is shown in the figure 1. Here, mood bias variables have shown no significant associations with the counterpart behavioral bias factors. Hence it has been excluded to construct the following interdependence behavioral bias model. The result of this model is shown in the Table.3 and Table.4.

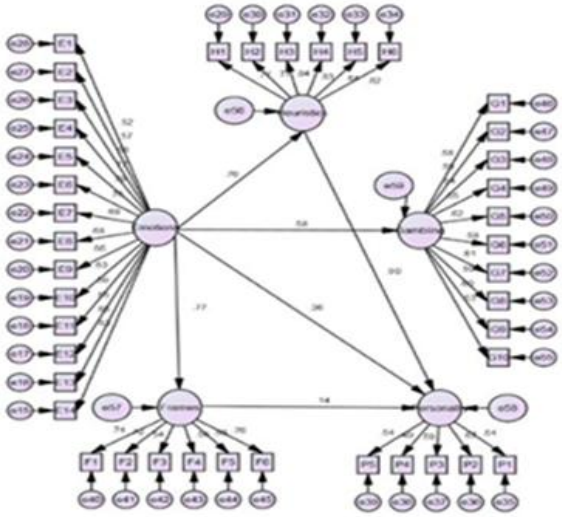

Fig1. Displays the six causal relationships namely, the relationship between emotions and heuristics, emotions and frames, emotions and personality, emotions and gambling, heuristics and personality and frames and personality respectively.

Table.3. Results of Overall Relationship Model

Independent variable	Dependent variable	Path co-efficient	Std error	t-value	p-value
Emotions	Heuristics	0.76	0.053	14.34	0
Emotions	Frames	0.77	0.07	10.99	0
Emotions	Gambling	0.58	0.054	10.74	0
Emotions	Personality	0.36	0.074	4.86	0.004
Heuristics	Personality	0.9	0.155	5.8	0
Frames	Personality	0.14	0.042	3.33	0.157

The Table3 shows the beta value; error value and t-value corresponding to the first causal relationship between Emotions and Heuristics are 0.76,0.053 and 14.34 respectively. The p - value is 0.00 which reveals that the relationship is significant. It indicates that there is a positive relationship between Emotions and Heuristic of investors. The beta value, error value and t-value corresponding to the second causal relationship between Emotions and Frames are 0.77, 0.070 and 10.99. The p- value is 0.00 which suggests that the relationship is significant. It indicates that there is a positive relationship between Emotions and Frames of investors. The beta value, error value and t-value corresponding to the third causal relationship between Emotions and Gambling are 0.58, 0.054 and 10.74. The p - value is 0.00 which indicates that the relationship is significant. It reveals that there is a positive relationship between Emotions and Gambling of investors. The beta value, error value and t-value corresponding to the fourth relationship between Emotions and Personality are 0.36, 0.074 and 4.86. The p - value is 0.00 which indicates that the relationship is significant. It reveals that there is a positive relationship between Emotions and Personality of investors.

The beta value, error value and t-value corresponding to the fifth causal relationship between Heuristics and Personality are 0.90, 0.155 and 5.80. The p - value is 0.00 which indicates the relationship is significant. It reveals that there is a positive relationship between Heuristics and Personality of investors.

The beta value, error value and t-value corresponding to the sixth causal relationship between Frames and Personality are 0.14, 0.042 and 3.33. The p - value is 0.157 which indicates the relationship is not significant. It reveals that there is no causal relationship between Frames and Personality of investors. It indicates that there exists a complete mediation effect among the Emotions, Personality and Frames paths. Comparing the path coefficients of behavioural bias factors, the relationship between heuristics and personality path coefficient is shown stronger than other relationship factors. It illustrates that heuristic factor plays a lead role of defining the personality of investors. At the same time, individual's emotion play a major role of determining their heuristic and framing development.

Table.4. Result of Goodness of Fit for Overall Model

Model	Normed Chi-square	P-value	GFI	AGFI	NFI	CFI	RMESA
Study model	4.869	0	0.9	0.89	0.9	0.91	0.072
Recommended value	≤ 5	≥ 0.05	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≤ 1

The Table.4 shows the value of various goodness-of-fit indices. The normed chi-square is 4.869, RMESA is 0.072, GFI is .90, AGFI is .89, NFI is .90 and CFI is .91. These fit indices meet its recommended values. This suggests that the available data set is perfectly fits into the model.

XIII. CONCLUSION

Role of behavioral bias factors on individual investment decisions is a more discussed topic amongst the financial practitioners all over the world. This study opens the door to another step to study the behavioral bias factors and its' role of defining the investment behavior of investors. In this study, SEM model is adopted to find out the interdependence among the behavioral bias factors. Findings of this model suggest that relationship between heuristics and personality path coefficient is shown stronger than other relationship factors. Simultaneously, investor's emotion plays a lead role of determining their heuristic and framing development. Discriminant analysis is used to find out the impact of behavioral bias factors on investment decisions of investors using the categorical investments variables like investments in various avenues and investments in the equity market respectively. Findings of discriminant analysis explore that investors' frames, personality and mood bias factors influence their general investment decisions. Simultaneously, investor's emotions, heuristics, frames and gambling bias factors play a significant role of defining their equity investment decisions. The major implications of this study will be useful to retail investors to understand the behavioral bias factors and its influence on their investment decisions. This study attempts to find out the causal relationship between the behavioral bias variables with the help of structural equation models. The pictorial relationship model enriches the knowledge of retail investors to rectify the errors and biases in making investment decisions. This research offer several practical implications for the mutual fund industry. The conceptual model provides a systematic

framework that fund managers can use to frame suitable niche products (funds) to meet the needs of the customers. The primary aim of Mutual fund industries tries to sell their products to the customers. They don't educate the customers often to retain them till the maturity of the fund. This research opens doors to the mutual fund industry to educate their customers about the behavioral bias factors which hinders their successful investment decisions. They can motivate the retail customers to indirectly approach the capital market through mutual fund schemes to avoid unsuccessful investment decisions. This research framework covers the major behavioral bias factors and its impact on investment decisions of equity investors. Managers of the broking firm and investment analysts can use this study to understand the investor's market behavior on stock market investments. They can educate their clients often to make a successful investor. The major outcome of the research is the data used in this study have strongly supported the theorized model and the hypotheses well. This study encourages the academic practitioners for healthy arguments on the theory and proposition, measurement scale, way of approaching the research works and managerial implication.

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