

“THE ROLE OF PSYCHOLOGICAL BIASES IN RETAIL INVESTORS INVESTMENT DECISION IN THE INDIAN CAPITAL MARKET”

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ABSTRACT

The decision to invest is complex and influenced by numerous factors. Making the right investment selection is critical for retail investors in today's highly dynamic financial market conditions. There are a plethora of academic financial models and theories accessible to guide us in making an informed investment decision. However, our financial decisions are influenced by various psychological elements as well. Behavioural finance studies how an investor's investment decisions are influenced by their own psychological biases and circumstances. An investor's perception of the investment decision is examined in this study. This paper discusses the impact of psychological biases on a retail investor's investment choices and behaviour. The behavioural biases greatly influence the investor's investment decision. In the first session of this study, it explains the concept of biases, and in the second session, it examines the impact of behavioural bias on investment decision-making.

KEYWORDS: *Investment Decision, Psychological Biases, Heuristic Biases, Framing Effect, Cognitive Illusion, Herding bias*

INTRODUCTION

The emergence of modern finance can be traced back to the Efficient Market Hypothesis (Fama, 1970). Academics in the realm of investment and finance have long been fascinated by the concept of investor irrationality. Kahneman and Tversky are pioneers in this discipline (1979). Research and studies into the irrationality of investor behaviour and its influence on investing decisions began to take shape in the late 1990s in the academic community (Haugen, 1999, Rekenhaller, 1998, Thaler, 1999). Several research studies have shown that the prospect theory can understand investment decision-making behaviour (Chau et al. 2011, Rephael et al., 2012). After making an early contribution to behavioural finance, Selden (1912) claimed that the dynamics of stock price variations were heavily influenced by investor moods and perceptions long before the field was even known as behavioural finance. Tversky and Kahneman (1973-1981) made a major contribution to behavioural finance. The theory of prospects was a major contribution from them (Tversky and Kahneman, 1979). Decision-making is a human mental process that scientists and specialists widely accept. During the decision-making step, a common choice is eventually chosen from various alternatives depending on certain parameters. These characteristics may encompass external and internal elements, such as emotional and cognitive factors in the words of Wang (2007). Our feelings and anxieties undoubtedly influence our day-to-day decision-making. Behavioural finance theorists assert that investors make irrational or illogical decisions regarding spending or investing and that these choices are all based on gut feelings or hunches. After the 1970s, behavioural finance scholars began to question and criticize the classic standard financial theory's emphasis on rationality in investment decision-making. (1999; Fama, 1998; Shefrin, 2000; 1999; Shefrin, 2007)

Investing decisions are the product of a psychological and cognitive process. In the context of behavioural finance, it is revealed that individual investors are rarely acknowledged, and that basic and technical studies are not taken into account when making investment choices. Here, the emphasis is on how individuals make investment decisions based on evidence and how emotions play a role in that process (Waweru et al., 2008). According to behavioural theory, investors act ludicrously when making financial decisions. To put it another way, the pattern confirms that stockholders frequently purchase shares at

higher prices and sell them at lower ones. Recent research has sought to determine how an investor's overall behaviour is influenced by his or her emotions and prejudices. Heuristics, cognitive illusions, the framing effect, and herd mentality were all cited as significant contributors to the irrationality of these investing decisions (Economou et al., 2010).

BACKGROUND OF THE STUDY

The dominant narrative model for human rational decision-making, expected utility theory, has been considered (Friedman and Savage, 1948). Many studies eventually saw this notion as a determining factor in rational human decision-making. Despite this, the chosen outcome is consistently deviant from expected utility theory regarding the decision-making process (Allair 1953, Samuelson and Zeckhauser 1988). Prospect theory, proposed by Kahneman and Tversky in 1979, was a later alternative paradigm. When making investing decisions, individual investors are both reasonable and irrational. They cannot make sensible conclusions because of their mental prejudices and cognitive constraints. Individual investors are often unable to make appropriate decisions because of various behavioural biases (Zamri et al., 2017). Behavioural biases such as heuristics, framing effects, cognitive illusions, and herd mentality can affect individual investors' portfolio investing performance. They are either part of investor psychology or based on how investors make emotional judgments when investing. Anchoring bias, representativeness, and overconfidence have all played a role in transforming investors' views on stock market investments. Framing effects include regret aversion, mental accounting, and the endowment effect. ' (Lin, 2011). Conservatism, confirmation bias, and hindsight bias play a role in cognitive illusions (Lad & Tailor, 2017). In the stock market, herd mentality, linked to information processing, social group membership, and the bandwagon effect, plays a role in the outcomes (Bekiros et al., 2017). Dimensions such as financial competence, proficiency, and opportunity help investors make more informed stock market judgments. This research will support behavioural biases and their impact on financial decision-making.

BEHAVIOURAL BIASES

Heuristic Biases

"Representativeness," "Availability," and "Anchoring" are three heuristics and prejudices that have shown to be helpful in the past for determining investment decisions. Framing, or how the same issue is presented in several ways and addressed to decision-

makers, can significantly impact investors' decisions. (Tversky and Kahneman, 1981; Tversky and Kahneman, 1982)

As a person's cognitive computing capacity diminishes, they are limited in the amount of information they can process. The mind deliberately focuses on things already readily available in its memory to make up for this. They become illogical, look for accessible knowledge from recent memory, and decide to use that cognitive memory recall. This phenomenon has played a critical part in the investment decision-making process. For more information, please refer to Kahneman (2011).

Framing Effect

To make a decision more appealing, it is possible to convey it in a way that emphasizes its good or destructive features. Tversky and Kahneman used this strategy as part of their prospect theory development, which framed bets in gains or losses (Kahneman & Tversky, 1979). Risky choice framing and attribute framing have been recognized as examples of different types of framing approaches that can be used to motivate people (Levin et al., 1998).

For centuries, political communicators have used the term "framing" to describe how they emphasize certain aspects of a message to influence the audience's perception of it. Understanding how framing affects the public opinion of political candidates, legislation, or more prominent issues in this field has been studied extensively (Busby et al., 2018).

Cognitive Illusion

The psychological, linguistic, and mathematical causes for human error in statistical and logical judgement were proved by Daniel Kahneman and Amos Tversky using several examples of what is known as "cognitive illusions" (Tversky and Kahneman, 1974; Kahneman et al., 1982). The cognitive illusions they created subsequently provided empirical proof that people's reasoning abilities are poor logic and probability.

Herd Mentality

Through the theoretical lens of herding bias, the EMH can throw light on behavioural concerns that would otherwise remain obscure. As a result, the behaviour of the market herd might be described as one in which investors follow a decision even while they are receiving conflicting information. For more information, see Christie and Huang (1995). Herding has

evolved into a psychological issue for us, just as it has for the rest of society. As a result, we cannot make our own decisions since we are forced to follow others'. When it comes to making decisions in the financial markets, investors are likewise susceptible to the investor herd mentality. Overcrowding on markets and increased price volatility are the root causes of weak financial systems (Bikhchandani and Sharma, 2000). When investors follow the lead of other investors, even when they disagree, this is known as 'herding'. The herding mindset heavily influences investment decisions. S. Spyrou (2013). Investors' 'husky behaviour' is a result of regretful aversion, according to Ising, A. and Pompian, M. (2006), because of the widespread agreement that leads to future regret. The online bubble is an excellent illustration of a massive stock bubble that successfully guides investors in the proper direction. As a result, investors become paralyzed by their fear and follow the herd.

RESEARCH OBJECTIVES AND RESEARCH PROBLEM

An investigation into the impact of behavioural biases on retail investors' investment decisions in India's capital market was the study's goal. According to the findings, it's easier to distinguish the many kinds of psychological prejudices and how they could affect the investment choices of individual investors. Forming one's principles or copying others involves the investment decision-making process, which varies from investor to investor. It encourages irrational behaviour when making investments.

METHODOLOGY

To investigate the impact of behavioural bias on investment behaviour, a questionnaire was used to gather the necessary data from retail investors. There were 22 items in the questionnaire; 12 were linked to behavioural bias, 3 were designed to elicit investment behaviour, and seven were related to demographic data. Gender, age, education, job title, income, and prior investment experience were all included in the first section of the questionnaire. The second section focused on behavioural biases, and the final section asked about actual investment behaviour.

By using a convenient sample procedure, we were able to collect information from 300 different retail investors. Only investors or traders in the stock market with at least two years of expertise in investing or trading and who live in Alappuzha District, Kerala were eligible for inclusion in the sample. The statistical methods used in this study for analysis are FCA, Correlation, and SEM. Software packages used are SPSS and AMOS.

HYPOTHESIS

H1: Heuristic bias has a significant positive influence on behavioural bias.

H2: Framing effect has a significant positive influence on behavioural bias.

H3: Cognitive illusion bias has a significant positive influence on behavioural bias.

H4: Herding bias has a significant positive influence on behavioural bias.

H5: Behavioural biases have a significant positive influence on the investment decisions of the individual investor.

RESULT AND DISCUSSION

Table 1 shows the descriptive statistics regarding the demographic factors of the investors. It shows an estimated 80% of investors are men, while just 20% are women. 20% of the population is under 25, 45% are between 25 and 50, and 35% are over 50 years of age. 30% have completed their school education, 45% have completed their UG, and 25% have completed their PG, according to their educational qualifications. 42% of investors make under ₹ 25,000 per month; 38% make between ₹ 25,000 and ₹ 50,000 per month; and 20% make over ₹ 50,000 per month. In addition, 32% of investors have less than 5 years of experience investing, 48% are in the 5 to 10 years range, and 20% have more than 10 years of experience. 34% of the population is employed, 52% are in business or profession, and 14% are in other fields.

Table 1 – Descriptive statistics of demographic variables

Sl. No	Demography	Variable	Frequency
1.	Gender	Male	80%
		Female	20%
2.	Age	Less than 25 Years	20%
		25 – 50 Years	45%
		More than 50 Years	35%
3.	Educational Qualifications	School Education	30%
		UG	45%
4.	Monthly Income	PG	25%
		Less than 25,000	42%
		25,000 – 50,000	38%

		Above 50,000	20%
		Less than 5 Years	32%
5.	Experience in Investment	5 – 10 Years	48%
		More than 10 Years	20%
		Salaried	34%
6.	Occupation	Business/Profession	52%
		Others	14%

Source : Survey Data

Heuristic bias, framing effect, cognitive illusions, and herding bias are methods used to identify the most crucial decision-making variables in the equity share investing process. To make sound investing decisions in the stock market, investors must contend with many kinds of behavioural biases. Persistence of behavioural biases influence the stock investing decisions of individual investors. It has been intended to evaluate the provided hypotheses because accurate investment decisions are the outcome of the action. Factor analysis is used to develop a measurement model that identifies a perfect match with the data. Correlation between factors ranges from 0.789 to 0.922 in Table 2, while Cronbach's alpha values range from 0.827 to 0.922 in Table 3, which is higher than the minimum threshold value of 0.70. According to these findings, multi-collinearity isn't the biggest problem here.

Table 2: Correlation Matrix

Factors	Heuristic Bias	Framing Effect	Cognitive Illusion	Herding bias
Heuristic Bias	1	*0.898	*0.914	*0.834
Framing Effect	*0.898	1	*0.842	*0.798
Cognitive Illusion	*0.914	*0.842	1	*0.922
Heding bias	*0.834	*0.798	*0.922	1

* Significant at 0.05 level.

Source: Survey Data

Table 3: CFA Parameters

Latent Variables	Variable	Factor Loading	Cronbach Alpha	Composite reliability	Average Variance Extracted
Heuristic bias	Availability bias	0.932	0.922	0.922	0.725
	Representativeness	0.918			
	Anchoring Bias	0.914			
Framing effect	Mental Accounting	0.814	0.841	0.845	0.698
	Endowment Effect	0.873			
	Regret Aversion	0.812			
Cognitive illusions	Self Serving Bias	0.877	0.827	0.829	0.724
	Confirmation Bias	0.814			
	Hindsight bias	0.798			
Herding Bias	Bandwagon Effect	0.814	0.854	0.855	0.647
	Information Process	0.812			
	Social Group	0.718			

Source: Survey Data

Structural equation modelling (SEM) is a strong, multivariate technique used to investigate and assess causal links between several variables in scientific research. An essential difference between SEM and other modelling approaches is that they test direct and indirect effects on pre-established causal linkages. SEM is a three-generation-old statistical procedure with a history dating back nearly a century. A large part of its appeal comes from its ability to address complex substantive issues, which is enabled by the depth and breadth of the underlying statistical theory. The first generation of SEMs used path analysis to build the logic of causal modelling (Wright 1918, 1920, 1921). The social sciences added factor analysis to SEM as it evolved. SEM had increased its capacity by the time it was in its second generation. After Judea Pearl's "structural causal model" was developed in 2000, and Lee (2007) integrated Bayesian modelling, the third generation of SEM began. Multiple regression analysis and Confirmatory Factor Analysis form the backbone of SEM. As a result of the provided hypotheses, 12 observed variables are used to create five latent constructions: heuristic bias, framing effect, cognitive illusions, and herding bias. The reliability and

validity of the latent variables have been evaluated using a measurement model. Figure 1 shows the outcomes of the experiment.

An authorized first-order measurement model has all of its prerequisites in place, as shown in Table 4. A Chi-square value of 342.814, a p-value of 0.000, a CFI of 0.871, and an RMSEA value of 0.072 are calculated using the measurement model. As a result, the test of fit.

Table 4 : CFA Result

Chi-Square	df	p	CMIN/df	CFI	RMSEA
342.814	118	0.000	2.905	0.871	0.072

Source: Survey Data

Table 5 shows the results of the SEM's goodness of fit test, which used a variety of indices to show that the data fit the model. CFI (0.912), NFI (0.941), TLI (0,924, PNFI 0,911, PCFI 0,923, RFI 0,944, and IFI 0,902) all had computed values more than or equal to the threshold value of 0.9. Furthermore, the RMSEA value of 0.072 is much below the criterion of 0.08, which means that the data fit perfectly. As a result, SEM has made significant progress in its goodness of fit metrics, as all the suggested values are consistent. In this way, we can be certain of the validity of the statistical data.

Table 5: Goodness of Fit test result

Sl. No	Goodness of Fit	Statistics
1	Comparative fit index (CFI)	0.912
2	Normed-fit index (NFI)	0.941
3	Tucker–Lewis index (TLI)	0.924
4	Parsimonious normed fit index (PNFI)	0.911
5	Parsimony comparative fit index (PCFI)	0.923
6	Relative fit index (RFI)	0.944
7	Incremental fit index (IFI)	0.902
8	Mean square error of approximation (RMSEA)	0.071

Figure 1 : Hypothesized Model

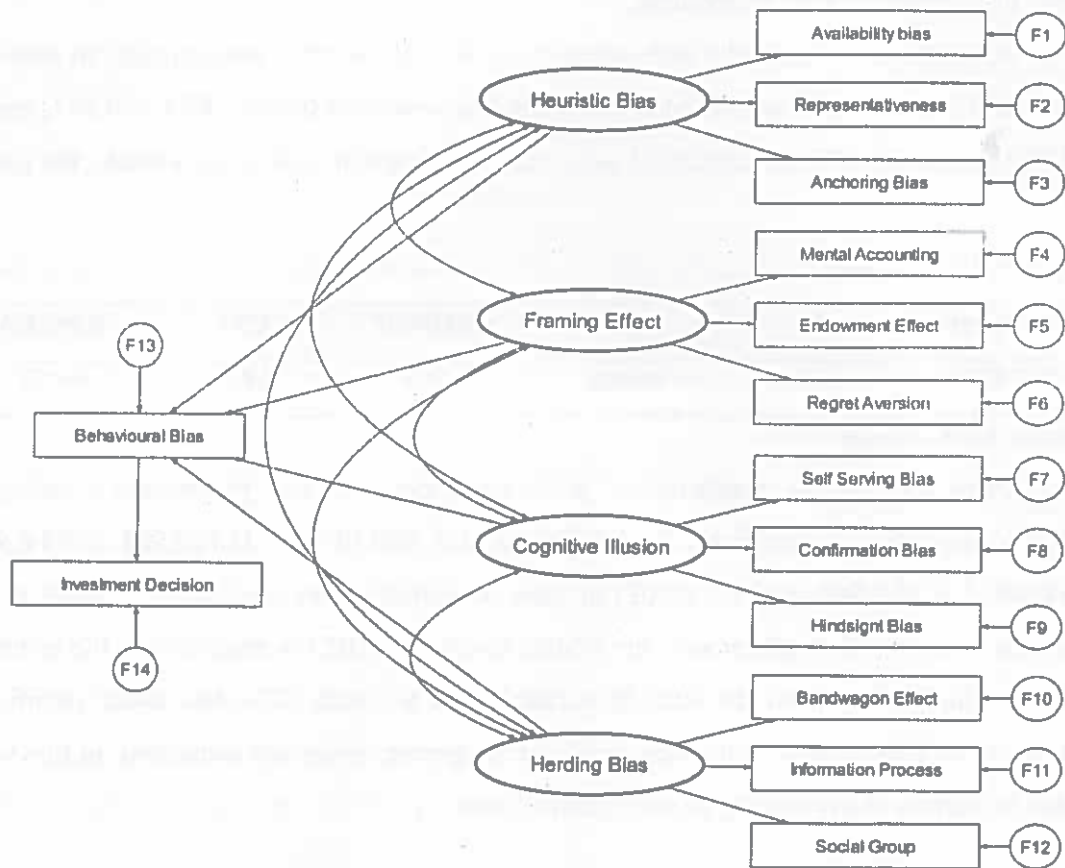


Table 6 : Hypothesis Testing Result

Sl. No	Hypothesis	Un- standardized		Std. coefficient	t- value	p- value
		Beta	Std. Error			
1	Heuristic bias ⇒ Behavioural biases	0.524	0.341	0.425	5.411	0.213
2	Framing effect ⇒ Behavioural biases	-0.614	0.421	-0.452	2.974	0.433
3	Cognitive illusions ⇒ Behavioural biases	-0.675	0.485	-0.269	3.721	0.466
4	Herd mentality ⇒ Behavioural biases	-0.468	0.324	-0.249	3.114	0.487
5	Behavioural biases ⇒ Investment decisions	0.035	0.054	0.041	4.109	0.250

Source: Survey Data

It is shown in table 6 that heuristic bias contributes to behavioural biases with a coefficient value of 0.425, which supports the notion that there is a direct and positive association between the two factors, therefore supporting hypothesis (H1). There is a coefficient value of -0.452 between behavioural biases and the framing effect, so hypothesis (H2) has been accepted. Cognitive illusions have a coefficient of -0.269 for behavioural biases, although hypothesis (H3), which discusses cognitive illusions and behavioural biases, is accepted. Hypothesis (H4) can be accepted because the herd mentality coefficient is -0.249 for behavioural biases. For capital market investment decisions, behavioural biases have a coefficient value of 0.041, pointing to the acceptance of hypothesis (H5), which deals with behavioural biases in investment decisions.

CONCLUSION

The study's purpose is to investigate the influence of behavioural biases on irrational behaviour in decision-making. Behavioural biases combine heuristic bias with the framing effect, cognitive illusions, and the herd mentality to produce outcomes. There is a lot of irrational thinking that goes into investment decisions. According to the study's findings, the behavioural approach to investing decision-making among retail investors is widened in this regard. This study came up with five different hypotheses for the study, measuring its effect on human behaviour in four different ways.

In contrast, the fifth hypothesis looked specifically at the role that human behaviour plays in investment decisions. Heuristics, rather than frames, illusions, or herd behaviour in investment decisions, are supported by this study. On the other hand, individual investors are primarily impacted by their heuristic bias. Because of this, investors frequently use the thumb rule as a primary decision-making tool. Investors sometimes create their frames depending on their expertise in the market. When it comes to picking stocks, investors will sometimes rely more on established strategies than on coming up with new ones. They will follow the crowd rather than make their analysis if they repeatedly fail or have a terrible experience. Behavioural biases have a significant impact on investment decision-making, according to research.

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