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Influence of Cognitive Biases on Individual Investors' Investment Decisions

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This study focused on the calibration and measurement of the relationship between cognitive bias on investment decisions of individual investors. Cognitive bias is one category of behavioural biases that arises due to bounded irrationality, limited information processing, and reliance on mental shortcuts. Three cognitive biases are selected in this study, which include confirmation bias, framing bias, and status quo bias. The study leveraged a structured questionnaire to 420 individual investors who are actively investing in the Indian Stock Market. Data was analysed using Structural Equation Modelling (SEM) through the SMART PLS software. The result confirms that confirmation bias and framing bias positively impact the investment decision, whereas status quo bias negatively impacts the investment decision of individual investors. The findings of this study will be helpful for individual investors, brokers, and policymakers in making informed decisions.

Keywords: Confirmation Bias, Framing Bias, Status Quo Bias, Investment Decisions.

1. Introduction

Investment decision-making is the process of selecting the best option among the various alternatives available to the investors. Traditional finance theories, which include the Efficient Market Hypothesis (EMH) and Expected Utility Theory, are based on the belief that investors are rational agents who process all available information objectively to maximize returns. However, the actual behavior of investors differs from rationality (Abhijith & Bijulal, 2025; Jain et al., 2023; Srivastava et al., 2025). Various empirical studies show that investors systematically deviate from rational behavior due to psychological factors (Srivastava el al 2024). This difference between theoretical rational behaviour and actual behaviour of the investors has given rise to the interdisciplinary field of finance, i.e., Behavioural Finance, which draws principles from psychology and economics. As stated by Kahneman and Tversky, behavioural finance theory shows that investors' psychological factors influence their investment decision-making of investors. Those psychological factors are further classified into emotional bias and cognitive bias. Emotion bias leads investors to rely on their emotional instincts, such as some investors overestimate their knowledge and belief, while others are loss-averse in nature (Bihari et al., 2022; Chandrakala & Ch, 2024). Another category of bias is cognitive bias that arises due to bounded rationality, limited information-processing, and reliance on mental shortcuts or heuristics. Individual investors are more susceptible to cognitive biases as they often lack professional expertise, face information overload, and operate under uncertainty in a dynamic market environment (Sathya & Gayathiri, 2024; Shunmugasundaram & Sinha, 2024). These biases may lead to irrational trading behaviour, sub-optimal portfolio diversification, delayed decision-making, and inconsistent risk-taking patterns (Shefrin, 2007).

Various studies confirm the effect of cognitive bias on investors' irrationality, for instance, anchoring bias, where investors are prone to base their decisions on the first piece of information, and availability bias, where investors base their decisions on easily available information (Choudhary et al., 2024; Srivastava and Moid, 2025). This study focuses on the three cognitive biases, i.e., confirmation bias, status quo bias, and framing bias. These biases impact investors at various stages of the decision-making process, including information evaluation, choice execution, and the interpretation of outcomes. Confirmation bias depicts the proneness of investors to seek, interpret, and recall information that supports their existing beliefs while ignoring the information that is available to them (Lather et al., 2020). It depicts the inclination of investors to assign more weight to the information that is in alignment with their existing beliefs and ignore the information that does not confirm their beliefs. Investors who invest their money in the stock market often form an initial opinion about the stocks based on limited information or experience (Sathya & Gayathiri, 2024).

This behaviour's irrationality affects the decision-making of investors, leading to distorted perceptions of the market and potentially risky investment decisions. Another bias is status quo bias, which is characterized by a preference for maintaining existing conditions or choices, even when alternative options may

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offer better outcomes (Mamidala et al., 2024). Investors who are prone to status quo bias continue holding their existing portfolio, and they resist changing their portfolio according to current market conditions due to inertia, loss-averse behaviour, or fear of regret. This behaviour leads to passive investment decisions and inefficient portfolio management. Framing bias, also known as the framing effect, occurs when individuals' decisions are influenced by the way information is presented to them rather than by its objective content (Griesdorn et al., 2014). In stock market investment, identical information can lead to different investment decisions depending on the way that information is presented to investors in the form of gains or losses. Investors show risk-averse behaviour towards information that is presented in the positive form, where they become risk-seeking when information is framed in the negative form. Such an interpretation of information irrationally affects the investment decision-making of investors.

The objective of this study is to examine the influence of Cognitive Bias (Confirmation Bias, Status Quo Bias, and Framing Bias) on investment decision-making of Individual Investors who are investing in the Indian Stock Market. According to the following hypothesis and research model is created.

H1: Confirmation Bias significantly influences the investment decisions of individual investors.
H2: Framing Bias significantly influences the investment decision of individual investors.
H3: Status Quo Bias significantly influences the investment decision of individual investors.

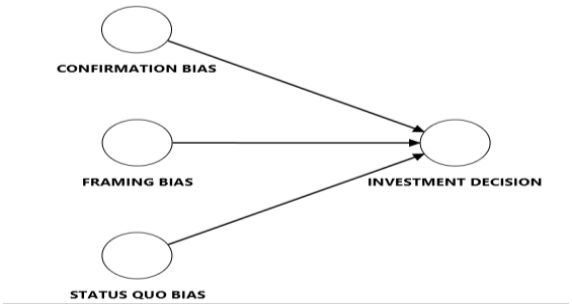

Figure 1: Research Model

This study particularly focused on the investors of the Indian Stock Market because it is one of the fastest-growing stock markets in the world, with a substantial increase in the retail investors' participation, driven by an increase in financial literacy among investors, financial inclusion initiatives, digital trading platforms, and easy access to market information (Baker et al., 2019; Khare & Kapoor, 2024). As the number of investors starts increasing in the stock market, it is important to test their behaviour while investing in the stock market, as investors are prone to various biases that irrationally affect their investment decisions. Individual investors often face challenges such as information asymmetry, limited financial literacy, which increases their susceptibility to cognitive bias, making this study more significant (Srivastava et al., 2025). This study contributes to both theoretical and practical implications. In the theoretical implication, this study will enrich the behavioural finance research by providing empirical evidence of cognitive bias on individual investors investing in the Indian Stock Market. Moreover, the findings of this study will be helpful for individual investors, brokers, and policymakers.

2. Method

The present study adopted a causal research design to examine the influence of Cognitive Biases (Confirmation bias, Status Quo bias, and Framing bias) on investment decision-making of individual investors (Deka et al., 2023). The exogenous variables are confirmation bias, status quo bias, and framing bias, whereas as endogenous variable is investment decision-making. The target population includes the individual investors who are actively investing their money in various avenues of the Indian stock market, i.e., equities, mutual funds, and derivatives. In this study, only those investors are selected who have a demat account and investment experience of at least 2 years. This criterion ensured that respondents possessed adequate market exposure and familiarity with investment-related decisions. A structured questionnaire was used to collect the information from the investors. The questionnaire was divided into two sections. First sections include the demographic details of individual investors, i.e. gender, age, education qualification, income, and investment experience. Another section of the questionnaire includes the items to measure the cognitive bias and investment decision. Confirmation bias was measured using the four items adopted from the scale (Rassin, 2008). Status Quo bias was measured using the four items adopted from the scale (Kahneman et al., 1991). Framing bias was assessed using four

items adopted from the scale (Lakshmi et al., 2013). The investment decision of individual investors was measured using the standardized items from (Srivastava et al., 2024). All measurement items are based on a Likert scale with 1 as strongly disagree and 5 as strongly agree. Primary data were collected through a structured questionnaire, which was administered online using Google Forms. The questionnaire link was circulated among investors with the support of stockbrokers, enabling effective access to active market participants. For the analysis of data, PLS SEM is used to draw the connection between selected cognitive biases and investment decisions by using Smart Pls software (Srivastava et al 2025).

3. Result

3.1. Demographic Detail

The demographic detail of the 420 individual investors who are investing in the stock market is shown in Table 3. Demographic details include the data related to gender, age, education qualification, annual income, and stock market experience of individual investors.

Table 1: Demographic Profile of Individual Investors

Profile	Group	%
Gender	Male	54.5%
	Female	45.5%
Age	< 30 Years	36.5%
	30-45 Years	48.4%
	45-60 Years	15.1%
Education Qualification	Graduate	41.5%
	Post-Graduate	40.5%
	Professional Degree	18%
Annual Income	< 10 lakhs	12.5%
	10-15 lakhs	41.5%
	15-20 lakhs	35.6%
	> 20 lakhs	10.4%
Stock Market Experience	2 Years	32.5%
	>2-5 Years	49.4%
	>5 Years	18.1%

3.2 Measurement Model

3.2.1 Convergent Validity

In PLS SEM analysis, convergent validity measures the degree of association among the same construct. It deals with Cronbach's alpha, construct loading, and average variance extracted (AVE). The Cronbach's alpha value of variable confirmation bias is 0.890, framing bias is 0.885, status quo bias is 0.883, and investment decision is 0.891. As well value of composite reliability is greater than 0.70, and the average value extracted is greater than 0.50. All values are within the limit, which means convergent validity is established (Hair et al., 2019). Table 2 displays the result of convergent validity.

3.2.2 Discriminant Validity

Discriminant validity includes measuring the Fornell-Larcker criteria. According to Fornell Larcker, the value of the inter-construct correlations should be less than the square root of the average variance (Fornell & Larcker, 1994). The conditions were met and are presented in Table 3.

3.3 Structural Model

The structural model was used to analyze the impact of exogenous variables (Confirmation

Table 2: Cronbach Alpha, Composite Reliability, and AVE

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Confirmation Bias	0.890	0.899	0.924	0.753
Framing Bias	0.885	0.887	0.921	0.743
Investment Decision	0.891	0.893	0.920	0.697
Status Quo Bias	0.883	0.885	0.920	0.741

Table 3: HTMT Analysis

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
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Bias, Status Quo Bias, and Framing Bias) on the endogenous variable (Investment Decisions). SmartPLS software was used to test the relationship between the construct by calculating bootstrapping with 5000 sub-samples (Hair et al., 2021). The R-squared value of the investment decision is 0.454, which means that the variables that are included in this study show 45% variation in the investment decision of individual investors, and the remaining 54% variation is because of other factors that are not included. The result shows that confirmation bias positively impacts the investment decision (β= 0.196, p = 0.000, t = 4.419), framing bias also positively impacts the investment decisions (β= 0.254, p = 0.000, t = 5.685), and status quo bias negatively impacts the investment decisions (β= -0.404, p = 0.000, t = 8.135). The model fitness was tested by using SRMR (Standardized Root Mean Square Residual). The SRMR value of 0.044 indicates a good fit between the model and the data. Table 4 shows of Hypothesis testing, and Figure 2 shows the results of the PLS SEM model with R-squared values.

4. Discussion

The present study examines the influence of cognitive biases (Confirmation bias, Status Quo bias, and framing bias) on investment decisions in India. The findings of the study show that all three biases have a significant impact on irrational investment decisions. Confirmation bias has a positive influence on investment decisions. This suggests that confirmation bias causes investors to rely on the information that confirms their existing belief, and this leads them to be overconfident in nature (Kumar and Prince., 2023; Adiputra, & Nathaerwin,2024). In the Indian stock market context, where investors often follow familiar stocks, broker recommendations, and past experiences, confirmation bias can provide psychological comfort and confidence in decision-making. By reinforcing existing beliefs, investors feel more assured about their investment choices, which may lead to quicker and irrational decision. The results further reveal that framing bias positively impacts investment decision-making. Investors' decisions were found to be sensitive to the manner in which information is presented, such as gains versus losses or positive versus negative market news (Hodgkinson et al.,2002; Korteling et al.,2023). In the Indian market, financial information is frequently framed through media reports, analyst opinions, and brokerage advisories. Positive framing of returns or growth prospects tends to encourage investment participation and take risks, thereby irrationally affecting their decision-making. This finding suggests that investors respond more favourably to information framed in an optimistic manner, which enhances perceived investment attractiveness and influences decision outcomes. In contrast, the study finds that status quo bias negatively influences investment decision-making. Investors exhibiting status quo bias tend to prefer existing portfolios and resist changes,

Table 4: Hypothesis Testing Result

		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
H1	**Confirmation bias -> Investment Decision**	0.196	0.201	0.044	4.419	0.000
H2	**Framing Bias -> Investment Decision**	0.254	0.254	0.045	5.685	0.000
H3	**Status Quo Bias -> Investment Decision**	-0.404	-0.403	0.050	8.135	0.000

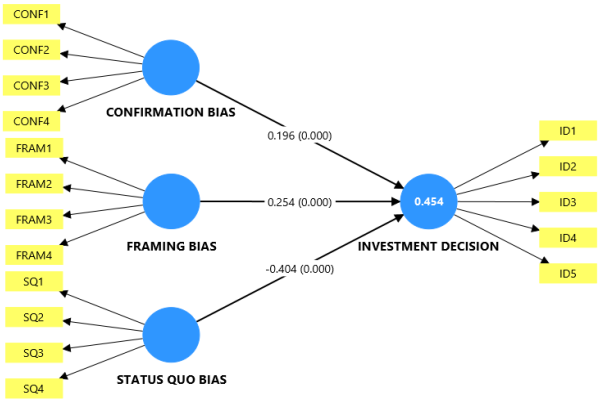

Figure 2- PLS SEM Result

Note: CONF: Confirmation Bias, FRAM: Framing Bias, SQ: Status Quo Bias, ID: Investment Decisions

even when market conditions or new information suggest the need for adjustment (Kahneman et al., 1991; Mamidala et al., 2024; Godefroid et al 2023). This reluctance to alter investment choices may lead to sub-optimal portfolio performance, missed opportunities, and delayed responses to market dynamics. In the Indian context, where many investors follow long-term holding strategies or remain attached to familiar stocks, status quo bias can restrict proactive decision-making and reduce adaptability to changing market conditions.

The findings of this study have both theoretical and practical implications. In the theoretical implication, this study will enrich the behavioural finance research by providing empirical evidence of cognitive bias on individual investors investing in the Indian Stock Market. Further, this study has important practical implications for individual investors, financial advisors, and policymakers. Individual investors' proneness to cognitive bias and irrationality affects their decisions. Understanding the influence of cognitive biases can help investors become more aware of their behavioural tendencies and make more informed decisions. Financial advisors and brokers can design better communication strategies by framing information appropriately while encouraging investors to critically evaluate contrary viewpoints. Policymakers and regulators may also promote investor education programs aimed at reducing the adverse effects of behavioural biases.

For future research, scholars may extend this study by examining other behavioural biases such as overconfidence, herding, anchoring, and loss aversion. Additionally, incorporating mediating or moderating variables such as financial literacy, risk tolerance, investment experience, or market volatility may provide deeper insights into the relationship between cognitive biases and investment decision-making.

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