

Impact of Behavioral Biases Observed on Investors' Performance in The Nepalese Stock Market

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Abstract Article Info.

The purpose of this research article is to clarify how behavioral biases affect the performance of investors within the framework of the Nepalese stock market. This study employs a quantitative analysis utilizing a purposive and causal research design. Data was collected between April and May of 2024 through a survey conducted with 124 respondents who actively trade in the Nepalese stock market. Secondary data was gathered from existing research papers to support the findings. The analysis reveals that emotional biases, specifically Loss Aversion Bias and Overconfidence Bias, significantly impact investor performance. In contrast, cognitive biases, such as Anchoring Bias, Availability Bias, and Representativeness Bias, showed no significant effect on investor performance. This suggests that while cognitive biases can be identified and adapted, emotional biases may have a more profound influence on trading decisions. Implications The significance of this study extends beyond individual and institutional investors. It provides insights into the importance of understanding various biases that affect investor performance in the Nepalese context. By addressing these biases, investors can improve their decision-making processes and potentially enhance their investment outcomes. This research contributes to the existing literature on behavioral finance by focusing on the specific biases affecting Nepalese investors. It highlights the need for further exploration of these biases to mitigate inconsistencies in investor performance and promote more informed trading strategies in the Nepalese stock market.

Keywords: anchoring bias, availability bias, loss aversion bias, overconfidence bias, regret aversion, representativeness bias

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Introduction

An investment involves allocating resources in the present with the expectation of obtaining benefits in the future (Sapkota & Chalise, 2023). Making investment decisions can be very difficult for investors, especially in a changing market with many options. Investment decisions cannot be made solely on personal resources and complex models (Sajid, 2015). Behavioral finance investigates how

people make decisions in the face of uncertainty, specifically focusing on how an individual should select different investment possibilities. (Madaan, 2016). The investors show irrational behaviors in the market that cause variations between the actual and estimated return (Chhetri, 2022). For long-term growth, investor literacy, awareness, availability, access to information, and ability or knowledge to analyze are important for making decisions. (Rana, 2019). The stock market of Nepal



fluctuates heavily due to "The Fear of Missing Out". The urge to invest in shares has increased and declined respectively to not miss out on the opportunity to earn more and by following the crowd that said there would be potential which can lead to loss in the future. (Silwal & Bajracharya, 2021).

Investors in Nepal rely on paper and digital media and also take help from interpersonal circles, professionals, and family members when making investment decisions, leading to large gains, as seen by the multiple ups and downs in stock prices (Gurung et al., 2024). Despite analyzing stocks thoroughly, investors still face losses due to misinterpreting available information. This misinterpretation can stem from insufficient data or biases like cognitive and emotional biases (Khilar & Singh, 2020). Various factors impact the investment decisions of the investors. This paper explores how behavioral biases such as cognitive biases (Anchoring, Availability, and Representativeness) and emotional biases (Regret aversion, Loss Aversion, and Overconfidence), impact the overall performance of the Nepalese investors investing in the Nepalese Stock Exchange (NEPSE).

Problem Statement

The human mind is difficult to comprehend, and people's responses are always contingent on the circumstances at hand, which makes it difficult to determine their genuine intentions when responding to Likert scale questions during a study (Silwal & Bajracharya, 2021). Hence, people often behave the way that they do because of several reasons such as nature, experience, the time when it is happening, the environment they have been raised in, and their wants and needs

In order to find what are the factors influencing the decision-making process while investing many studies have been conducted in the area. While study by Silwal and Bajracharya (2021), Sattar et al. (2020) found to have a positive effect of overconfidence, representativeness, and so on. Similar studies conducted by Rehman and Umer (2017), and Shah (2018) in this area found the

opposite findings. While some of the findings were partially supported by the others, there were some inconsistencies in the findings.

Research Objective

This paper aims to explain the impact of behavioral biases on the performance of investors in the Nepalese stock market.

Empirical Review

The performance of investors in the Nepalese stock market is influenced by various factors, including market dynamics, regulatory frameworks, and investor behavior. Mishra and Aithal (2023) highlight the importance of understanding the association of factors influencing financial practices, which can extend to the stock market context. Their research emphasizes that informed investment decisions are crucial for enhancing investor performance, particularly in emerging markets like Nepal.

Furthermore, Mishra and Aithal (2022) discuss the imperative of green financing, which reflects a growing trend among investors to consider sustainable and socially responsible investment opportunities. This shift in investor focus can significantly impact the performance of companies listed on the stock market, particularly those engaged in environmentally friendly practices.

Additionally, the exploration of foreign aid contributions for development (Mishra & Aithal, 2021) suggests that external financial support can also play a role in bolstering market confidence and investor performance. By understanding these dynamics, investors in Nepal can better navigate the complexities of the stock market and make informed decisions that align with both financial and ethical considerations for assuring profitability (Mishra et al., 2021; Mishra & Kandel, 2023).

Silwal and Bajracharya (2021) found biases including anchoring, that heuristic overconfidence, etc. tend to have a positive impact, it also concluded that the prospect factors including loss and risk aversion tend to have a negative impact on investor's performance.

Sattar et al. (2020), also found to have similar findings for heuristic biases and the opposite for the prospect. The research found out that the investor's decision-making process is positively impacted by behavioral biases including overconfidence, anchoring, availability, etc. along with the prospect factors such as risk aversion and loss aversion.

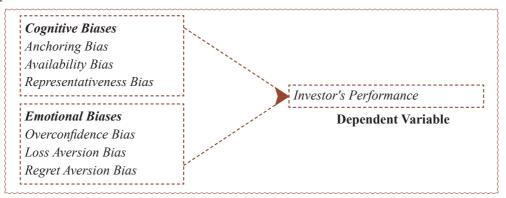
Lebdaoui et al. (2021), found out that among the heuristic biases, representativeness and availability had the most significant impact among the investors. It showed that these biases had a positive impact on the performance while the other biases like anchoring, availability, and herding had no significant impact and it hardly existed among the Moroccan investors.

On the other hand, the research conducted by Shah et al. (2018) provides a different perspective, by examining the role of heuristic biases. The study found that all heuristic biases such as anchoring, representativeness, availability, etc. have a negative impact on investment decisions.

The study by Rehan and Umer (2017) found that anchoring, risk aversion, overconfidence, representativeness, and regret aversion have a positive impact on investor decisions. On the other hand, this study did not find the significance of availability bias and mental accounting on the investor decision-making process.

Figure 1

Conceptual Framework



Hypothesis

- **H1:** Loss Aversion bias does not have a significant impact on the performance of investors of the Nepalese Stock Market
- **H2:** Regret Aversion bias does not have a significant impact on the performance of investors of the Nepalese Stock Market
- **H3:** Overconfidence bias does not have a significant impact on the performance of investors of Nepalese Stock Market
- **H4:** Availability bias does not have a significant impact on the performance of investors of the Nepalese Stock Market
- **H5:** Anchoring bias does not have a significant impact on the performance of investors of the Nepalese Stock Market

H6: Representativeness bias does not have a significant impact on the performance of investors of the Nepalese Stock Market.

Literature review

With the view to complete this paper, the researchers have performed an empirical review, theoretical review, methodological review, and variable review followed by the conceptually developed definition in the own words of the researchers.

Theoretical Review

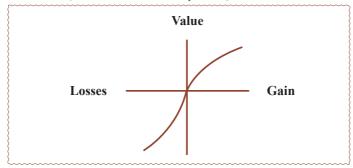
Prospect Theory

The prospect theory developed by Daniel Kahnemann and Amos Tversky (1979), is based on the human tendency to act on the information based on the way it is presented, which in simple terms is

referred to as frame dependence. The first property of this theory is that it defines the deviation from the reference point. The other is that the function

is concave and convex in nature for gain and loss respectively.

Figure 2 A hypothetical Value Function (Kai-Ineman & Tversky, 1979)



Heuristics

Heuristics often refer to situations where investors use the trial-and-error approach or conventional rule of thumb while making decisions in an uncertain and unpredictable environment (Sattar et al., 2020). This theory was developed by Amos Tversky and Daniel Kahnemann in 1974. They defined heuristics as mental shortcuts for

faster and easier decision-making processes. It helps reduce the cognitive burden as it simplifies complex choices. But this comes at a cost, as it also introduces the individuals to biases, which can reduce the accuracy.

Methodological Review

The famous method of review followed from Kai-Ineman and Tversky (1979)

Table 1 Methodological Review and Proposed Method

	S.N.	Silwal and Bajracharya -2021)	Sattar (2020)	G. (2021)	Shah (2018)	Lebdaoui (2021)	Proposed Method
Objective	Objective	Identifying the behavioral factors influencing individual investors' decisions and analyzing the relationship between these factors and investment decision performance	Exploring how behavioral biases affect investment decision making under uncertainty.	Examine how financial literacy correlates with behavioral biases in investment decision	Clarifying the mechanism by which heuristics biases influences the investment decisions of individual investors, actively trading on the Pakistan Stock Exchange (PSX), and the perceived efficiency of the market	Investigating the impact of behavioral biases and financial literacy on investment performance in an emerging stock market context.	Investigate the impact behavioral finance bias has on the performance of investors in the Nepalese stock market.
Domilotion/	Universe	300	NA	NA	Active traders in the PSX	All Moroccan Investors	Investors who have been enjoying profit in the market for 2 years and reside in KTM valley

S.N.	Silwal and Bajracharya (2021)	Sattar (2020)	G. (2021)	Shah (2018)	Lebdaoui (2021)	Proposed Method
Sample Size	167	195	250	143	196	124
Sampling technique	convenience homogeneous sampling	quantitative research approach	convenient sample method	Convenient, Purposive sampling	Convenience	Purposive sampling
Tools for data collection	questionnaires, social media	survey, questionnaire	questionnaire, pre testing and validation	questionnaire	questionnaire, oogle forms, linkedin	questionnaire, google forms, survey

Variable Review

Loss Aversion Bias

Investors that suffer from loss aversion bias tend to hang onto a poor investment even in situations where there is little probability that the price will rise again (Akinkoye & Bankole, 2020).

Overconfidence Bias

Overconfidence biases arise when investors or individuals have greater confidence in their abilities, skills, and ability to predict success (Verma, 2016).

Risk Aversion

Investors who exhibit risk aversion never want to experience the agony of making poor investment choices. Because they are afraid of losing money, investors purchase underperforming equities, which are then not offered for sale. (Sattar et al., 2020).

Anchoring Bias

Anchoring bias describes how people tend to base their decisions excessively on the first piece of information they are given, or the "anchor". When an anchor is established, it becomes the focal point of all future evaluations and decisions, which leads to bias or inaccuracy when interpreting subsequent data (Shah et al., 2018).

Availability Bias

This bias is justified by the fact that investors significantly prefer to invest in local businesses where information is readily available (Silwal & Bajracharya, 2021).

Representativeness Bias

Representativeness bias in an investor is when their decisions are based on the results of recent

investments. If an investor's previous investment decisions proved successful, he or she will likely repeat those identical choices in their future investment decisions without taking different patterns of uncertainty into account (Masomi & Ghayekhloo, 2011).

Research Design

With the variables clearly defined and the problems well known, this research aims to explain the cause and effect of multiple to one single variable making it causal explanatory research. The research relies purely on facts and information that are well known and the variables are also clearly defined so the research takes that info to analyze and makes critical evaluation making it highly analytical in nature. It focuses on adding or reevaluating the existing knowledge. In simple words, gathering knowledge for knowledge's sake is based purely on theories.

In philosophy, the research type is realism as likert scales have been used in ontology and math regression models in epistemology along with the references to the prior research conducted in similar topics. The approach of this research is deductive in nature because the confirmation has been derived from the theory itself. The strategy that is used for this research is the survey strategy as the questionnaires will be distributed to the respected population group. The choice of research is mixed research led by quantitative analysis because for analysis only one model has been used, along with the occasional reference to literature review. Since the data will be collected from April 2024 to May 2024, at only one point of time and collected in one lot, which makes the time horizon cross-sectional in nature.

Demographic Profile

Table 2 shows the demographic of the sample size. 73 out of 124 respondents are in the age group 20-30 years. This accounts 58.87% of the total sample collected, indicating the major age

group is between 20 to 30 years. 50 out of 124 people had invested more than Rs. 1 Million in the market, which can be considered relatively higher considering the majority age group.

Table 2 Demographic Profile of Respondents

	Particulars	Frequency	Percent		
	Under 20	10	8.06%		
	20-30	73	58.87%		
Age	30-40	37	29.84%		
	50+	4	3.23%		
	Total	124	100.00%		
	Less than Rs. 100,000	29	23.39%		
	Rs. 100,000- Rs. 500,000	25	20.16%		
Amount Invested	Rs. 500,000- Rs. 1,000,000	20	16.13%		
	More than Rs.1000000	50	40.32%		
	Total	124	100.00%		
	Less than 2 Years	34	27.42%		
A -4: V	2-5 Years	53	42.74%		
Active Years	More than 5 Years	37	29.84%		
	Total	124	100.00%		

However, unlike the age group the difference in the amount invested people do not seem to have higher differences, as 23.39%, 20.16%, 16.13% of the respondents had invested less than Rs. 1 hundred thousand, Rs. 1 to 5 hundred thousands and Rs. 5

hundred thousands to Rs. 1 million respectively. The majority of people in the market has been in the market has been active in the market for 2 to 5 years.

Findings and Discussion

Table 3 Correlation with Investors' Performance

	Modern Summary							
Model R F		R Square	Adjusted R Square	Std. Error of the Estimate				
1	0.628a 0.395		0.353	0.62656				

The tools used for the analysis is a regression model which was done in SPSS. R-value of 0.626 suggests that the variable is moderately correlated to the dependent variable. In short, it means that emotional and cognitive biases are related to investment decisions, even though the intensity of the relationship is not deep. The R square value of 0.395 indicates that only 39.5% of the times

performance of investors are explained by the six variables taken into account, among which three are emotional and three are cognitive.

When degree of freedom is accounted for then the proportion through which the performance of investors is explained with the six variables is only 35.3% of the time.

Table 4 *Model Fitness Using ANOVA*

ANOVA	ANOVA							
Model	Sum of Squares	df	Mean Square	F	Sig.			
Regression	22.51	6	3.752	9.557	0.000b			
Residual	34.547	88	0.393					
Total	57.057	94						

In this case ANOVA is done to check the fitness of the model. The significance value of 0, which is

lower than 0.05 indicates that the regression model is overall fit for study.

 Table 5

 Correlation Based Decision

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Discussion
	В	Std. Error	Beta			
(Constant)	2.220	0.468		4.748	0.00	-
AVG_LAB	-0.356	0.089	-0.377	-4.011	0.00	YES
AVG_RAB	0.206	0.125	0.186	1.656	0.101	NO
AVG_OCB	0.319	0.120	0.312	2.646	0.01	YES
AVG_AB	0.009	0.125	0.007	0.069	0.945	NO
AVG_ANC	0.217	0.119	0.191	1.829	0.071	NO
AVVG_RB	-0.046	0.087	-0.051	-0.524	0.601	NO

The model that can be drawn from the table is;

Where,

Y = Investors' performance

LAB = Loss Aversion Bias

RAB = Risk Aversion Bias

OCB = Overconfidence Bias

AB = Availability Bias

ANC = Anchoring Bias

RB = Representativeness Bias

In the coefficient table, it can be seen that the significance value of loss aversion bias and overconfidence bias have a significance value below 0.05, which indicates that these variables have a significant effect on the performance of investors. This means that the null hypothesis H1 and H3 are rejected.

This shows that the model is now reduced to:

$$Y = 2.22 - 0.356 LAB + 0.217 ANC$$

Loss aversion bias seems to have a negative impact on the performance of investors. This means a higher presence of loss aversion bias in an individual leads to inferior investment decisions impacting the final performance. This findings however seems to partially align with the prospect theory, which suggests that loss aversion bias has negative impact on the performance of investors. The result however could not justify the theory proposed regarding risk aversion, but aligns with the latest study (Mahmood et al., 2024), which indicates regret aversion is not statistically significant. The findings on loss aversion bias, also aligned with the findings of Silwal and Bajracharya (2021), Lebdaoui et al. (2021).

Similarly, the analysis showed that overconfidence bias is significant and has a positive impact on the performance of investors.

Which means if an investor is highly overconfident then they tend to have better decision making and performance. The findings were similar to that of Silwal and Bajracharya (2021), Sattar et al. (2020), and Lebdaoui et al. (2021) as discussed above.

On the other hand, other variables like risk aversion bias, and all three cognitive biases; anchoring, availability and representativeness bias do not have a significant effect on the performance of investors. Hence, the null hypothesis is not rejected i.e H2. H4, H5, H6.

The findings of these variables are validated by Lebdaoui et al. (2021) on anchoring and availability and Mahmood et al. (2024), on representativeness and regret aversion, where these study also concluded that these variables does not have any significant impact on the performance of investors.

Overall, only two variables out of six seem to have an impact on the performance of investors. These two variables are both emotional biases, and we can conclude that investors in the Nepalese stock market tend to have a significant impact of emotional biases and do not tend to show any effect of cognitive biases.

Conclusion

In conclusion, the use of SPSS software to perform linear regression analysis has provided valuable insights into the behavioral biases affecting investor performance in the Nepalese stock market. The study established that loss aversion bias significantly negatively impacts investor performance, which aligns with the principles of prospect theory. This finding indicates that investors in the Nepal Stock Exchange (NEPSE) are particularly concerned about potential losses, leading them to exercise caution in their investment decisions. Such behavior underscores the psychological barriers that can hinder optimal investment strategies.

Conversely, the study found that overconfidence bias has a significant positive effect on investor performance. This suggests that investors who exhibit overconfidence may engage in more aggressive trading strategies, potentially leading to higher returns. However, it also raises concerns about the sustainability of

such performance, as overconfidence can lead to excessive risk-taking and poor decision-making in volatile markets.

The analysis revealed that other behavioral biases, including anchoring, availability, and representativeness biases, did not show statistically significant effects on investor performance. This may suggest that while these biases exist, they are less influential compared to emotional biases like loss aversion and overconfidence. The ability of investors to identify and adapt to cognitive biases could explain their limited impact in this context.

The research methodology involved the collection of primary data through questionnaires distributed to investment bankers, brokerage houses, and individual investors actively participating in the stock market. This comprehensive approach ensured a robust dataset for analysis.

Overall, the findings of this study highlight that investors do not always behave rationally; instead, their decisions are heavily influenced by behavioral biases, which can have both positive and negative effects on their investment outcomes. Understanding these biases is crucial for investors, as it can inform better decision-making strategies and improve overall performance in the stock market.

In light of these findings, it is essential for investors and financial advisors to develop awareness and training programs that address behavioral biases. By fostering a better understanding of these psychological factors, investors can enhance their decision-making processes and navigate the complexities of the stock market more effectively. Future research could further explore the interplay of these biases in different market conditions and among diverse investor demographics, providing deeper insights into investor behavior and performance in the Nepalese stock market.

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