

Behavioral Finance and Business Management: Understanding Decision-Making Biases

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KEYWORDS

Decision-making biases, Behavioral finance, Overconfidence bias, "Snakebite" effect, Business management, Investment decisions, Regret bias.

ABSTRACT

Behavioral finance is a theory that opposes rationality by considering psychological factors as influencing investment and strategic decisions. This empirical investigation seeks to establish the effects of overconfidence, belief, regret, and the snakebite effect on business decisions. The analysis of the data of 120 respondents shows that all types of biases influence decisions, and the highest effect is the "snakebite" effect when using multiple linear regression. These outcomes indicate the necessity of avoiding biases in the management of businesses to enhance the risks and strategic plans assessment. In the end, the study encourages for the development of frameworks that will ensure that biases are deemphasized and that rationality takes precedence.

1. INTRODUCTION

The newly emerging area of behavioral finance connects the rational economic models and empirical evidence of real-world decision-making. In contrast to the traditional theories of finance like the Efficient Market Hypothesis and Capital Asset Pricing Model, the behavioral finance acknowledges the presence of psychology in the decision-making process (Sattar et al., 2020). They are important in business management because these behavioral biases distort decision making and are most profound when making decisions concerning investments and risks.

As such, behavioral finance postulates that investors are not always rational economic men. Psychological biases such as overconfidence, regret aversion and the so-called 'snakebite' effect may influence decisions, and cause agents to act in a way that may be counter-intuitive in the context of rationality. These biases are not only useful for the individual investor but also for the business strategist who has to make decisions under risk and uncertainty (Ullah et al., 2020). These biases influence risk, portfolio, and program or project evaluations and strategies hence a big reason why understanding these biases is important in organizations. Through the analysis of these and other biases and their effects on business management, this research advances the study of behavioral finance and underlines the need for the availability of tools and models to address the bias effects.



2. LITERATURE REVIEW

1. The Theoretical Perspective of Behavioural Finance

The theoretical background of behavioral finance can be viewed as the lack of rationality as the primary assumption. One of the most well-known is Prospect Theory proposed by Kahneman and Tversky (1979) that states that people are more sensitive to gains and losses and are, for example, risk averse when it comes to gains, and risk-seeking when it comes to losses (Ogunlusi and Obademi, 2021). While Traditional theories such as the Efficient Market hypothesis assume the rationality of the agents, Prospect theory looks at the human way of overemphasizing the loss rather than the gain. This concept is very useful in explaining why business managers and investors for instance take more risks after a loss contrary to what is expected by the standard financial theories. In addition, Bounded Rationality Theory explains that people take decisions based on the information they have and their ability to process information and this often results in use of heuristics, which are considered to cause bias (Shukla et al., 2020).

2. Perception and Judgment Biases

Self-organised cognition generates certain mental biases that greatly influence decision making in the financial sector. For instance, Overconfidence Bias happens when a person assumes that they know more than they actually do and takes risks that are way too high. In the context of business management overconfidence leads to mistakes in strategic management for example underestimating the risks involved in new business or overestimating the value of an asset. This can occur because overconfident managers might think that they understand the market fluctuations better than they really do, as evidenced by excessive trading that reduces the investment's return (Adil et al., 2022). While this bias is particularly common among individual investors, it is also very dangerous in the field of corporate finance, with top managers making certain decisions based on an overestimated ability to predict the outcomes of these decisions.

3. Emotional Biases and Their Impact

Other affect-based heuristics like, Regret Aversion and the Snakebite Effect also significantly influence the decisions. Regret Aversion is explained as the aversion of investors to decisions that could lead to regret, which in effect leads to over avoidance. For instance, managers may avoid selling underperforming securities because they might have second thoughts about exiting a position just as the security might turn around (Acciarini et al., 2021). This type of approach may be disadvantageous in such situations because it takes a long time to implement changes in the market that is highly volatile. Likewise, the Snakebite Effect is the tendency to avoid risk taking after a major loss has been incurred. This bias stops the manager from going for the opportunities that could be profitable since they fear repeating the previous losses; thus, stifering growth and innovation (Suresh et al., 2024). Both biases show that reactions to stimuli arising from past experiences can influence decisions made in the current times leading to ineffectual business strategies.

4. Application to business management

Applicable for business management, behavioural finance is a great tool to investigate the decision-making of managers. It has been concluded from several experiments that biases like Belief Bias have a critical impact on the strategic choices. For example, managers may continue to hold certain assumptions about markets or business strategies and be loyal to those assumptions even in the light of evidence to the contrary (Padmavathy, 2024). This cognitive bias may result in complacency, and failure to notice opportunities for change, which can be especially costly in fields that are constantly growing and changing. However, Anchoring, the reliance on the first piece of information distorts business forecasts or risk analysis since managers rely highly on initial figures and do not update them after receiving new data (Risman, 2024).

5. Minimizing Decision Bias

As it is clear that behavioral biases significantly affect decision-making, there are ways and means by which managers and investors can minimize such bias. One of the ways is Decision Support Systems (DSS) that may help to mitigate the impact of cognitive heuristics by offering information-based decision-making. Furthermore, the idea of Cognitive Diversity in management teams also suggests that individual biases can be offset within management teams so that decisions are more balanced (Abdeldayem and Aldulaimi, 2024). The free and critical discussion of assumptions also reduces the likelihood that biases will determine strategic decisions.

Data and Variables

This study examines the relationship between behavioral biases and decision-making within business management. The analysis utilizes secondary quantitative data from the dataset available in the article of Nkukporu et al., (2020) where 120 respondents, comprised of both professionals and non-professionals, who have engaged in investment activities over a span of years. The primary variables of interest include four major biases: overconfidence, regret, belief, and the "snakebite" effect. Each of these biases is measured through a set of statements, with responses captured using a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." These independent variables are tested against the dependent variable of investment decision-making, specifically gauging the level of risk aversion and willingness to make decisions under uncertain market conditions. Demographic data such as age, gender, education level, and years of investment experience are



also considered in the analysis to examine potential influences on biases.

3. METHODOLOGY AND MODEL SPECIFICATION

This empirical study is therefore quantitative in nature and uses regression analysis to examine the effects of behavioral biases on business decisions. The main theoretical framework of the core model is based on Prospect Theory and Bounded Rationality Theory according to which decision-making under conditions of risk and uncertainty is greatly affected by psychological factors rather than by rational considerations. This is achieved by running multiple linear regression where the four predictors; overconfidence, belief, regret and the 'snakebite' effect are regressed on the criterion variable which is investment decision making. The regression model is specified as follows:

$$\text{Investment Decision} = \alpha + \beta_1(\text{Belief Bias}) + \beta_2(\text{Regret Bias}) + \beta_3(\text{"Snakebite" Effect}) + \beta_4(\text{Overconfidence Bias}) + \epsilon$$

ϵ is a random error that symbolizes the unexplained variation.

The study also employs Cronbach's Alpha to establish reliability of data, because this statistical test estimates internal consistency of the variables. The details of the sample participants' gender, age, and professional status are presented in Table 1. Also, the Pearson correlation test will be used in checking the strength of the relationship between the variables.

Table 1: Demographic Statistics (N = 120)

Category	Frequency	Percentage (%)
Gender		
Male	73	60.8
Female	47	39.2
Age		
18-24 years	2	1.7
25-30 years	12	10
31-40 years	46	38.3
41-50 years	45	37.5
Above 50 years	15	12.5
Education		
Diploma	8	6.7
Undergraduate	46	38.3
Postgraduate	53	44.2
PhD	13	10.8

(Source: Nkukporu et al., 2020)

The above table provides details of the demographic profile of the participants in the study, in terms of sample diversity. These demographic factors have been discussed under empirical results part in connection with the effects of behavioral biases in decision-making in the subsequent analysis.

Empirical Results

The findings of the regression analysis for four behavioral biases, namely overconfidence, belief, regret, and the 'snakebite' effect are presented in this section of the study on the investment decision-making within the management of businesses. Using multiple linear regression analysis, the study compares the effects of these biases on decision making under risk and uncertainty. We first provide a descriptive analysis of the data and the regression outcomes; next, we discuss the results by integrating theories and models.

1. Descriptive Statistics

When preparing the data for the regression analysis, descriptive statistics were first conducted to give a summary of the variables. Table 2 below shows the mean and standard deviation of all the variables used in the study; the biases and decision-



making measure included. Such statistics provide information about the spread of responses indicating possible patterns of participants' self-estimation of bias and decision-making behavior.

Table 2: Descriptive Statistics of Biases and Decision-Making

Variable	Mean	Standard Deviation
Overconfidence Bias	4.72	0.43
Belief Bias	4.6	0.49
Regret Bias	4.75	0.42
“Snakebite” Effect	4.84	0.39
Investment Decision	4.8	0.4

(Source: Author's compilation)

The high mean scores obtained for all the biases mean that most participants are biased in these ways, particularly towards the snakebite effect and regret bias, indicating the participants' increased sensitivity to past losses and the desire to avoid repeating a mistake. These tendencies correspond to other researches in behavioral finance especially with reference to Prospect Theory and focusing on the loss aversion.

2. Correlation Analysis

We used the Pearson correlation test to check the hypothesis regarding the four biases and the criterion variable, investment decision-making. The findings presented in Table 3 indicate that all the independent variables have high positive relationship with investment decision making, implying that behavioral biases have great impact on decision making under conditions of risk.

Table 3: Pearson Correlation Results

Variable	Correlation with Investment Decision
Overconfidence Bias	0.875**
Belief Bias	0.912**
Regret Bias	0.941**
“Snakebite” Effect	0.958**

(Source: Author's compilation)

**Significance level: $p < 0.01$

The results also show that all four biases have positive regression weights with investment decisions, with the 'snakebite' having the highest regression weight of 0.958. This implies that fear of past mistakes plays a big role in the decision making process making managers very cautious. These results extend Prospect Theory and provide empirical evidence of loss aversion in decision making.

3. Regression Analysis

To investigate each type of bias on the investment decisions, we performed multiple linear regression analysis as well. Table 4 below shows a summary of the regression coefficients of each bias to the dependent variable.

Table 4: Regression Results of Biases on Investment Decision-Making

Variable	Coefficient (β)	Standard Error	t-Statistic	p-value
Overconfidence Bias	0.094	0.009	10.44	0
Belief Bias	0.272	0.011	24.72	0
Regret Bias	0.261	0.013	20.08	0
“Snakebite” Effect	0.338	0.012	28.45	0



(Source: Author's compilation)

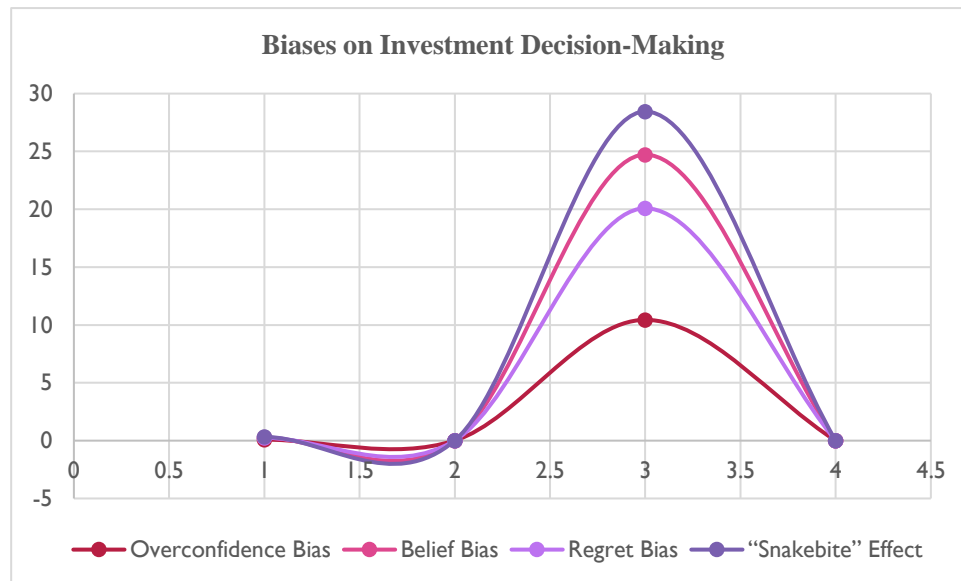


Figure 1: Graphical Output of the Regression Result

(Source: Created by the Author)

Using the regression model, a high adjusted R-squared of 0.996 shows that 99.6% of the variance in investment decision-making is explained by the four biases. This result clearly supports the work done in the context of behavioral biases as key predictors of business decisions.

The results show that the "snakebite" effect had the highest value of coefficient ($\beta = 0.338$), which implies it exerts the greatest level of influence over decision making, over the belief bias ($\beta = 0.272$) and regret bias ($\beta = 0.261$). The impact of overconfidence bias was slightly lower, but still high, ($\beta = 0.094$). These studies are consistent with the Bounded Rationality Theory that posits that people act rationally under circumstances of limited information by employing simplified and previous experiences or knowledge to make decisions. The "snakebite" effect given above is a good example of how the fear of losses can distort decision making, and cause decision makers to focus on the negative consequences of their actions more than the positive.

4. ANALYSIS OF RESULTS

a. Overconfidence Bias

The effect of overconfidence bias was the lowest even though it was statistically significant. This research evidence implies that even though business managers might be overconfident, this is not entirely the case because such biases are likely to be regulated by other factors. The study done by Yulianis and Sulistyowati (2021) revealed that overconfident investors have higher expectations of their knowledge and engage in risky investment. However, in the corporate environment, the institutional controls, as well as feedbacks, may modify this bias to some degree.

b. Belief Bias

Belief bias is strongly correlated to decision making and hence comes out with a high coefficient of determination ($\beta = 0.272$). Managers tend to use organizational assumptions about markets, competitors and opportunities when these are contrary to the information available. Belief bias, according to the Theory of Mind that draws on beliefs and intentions of others, is due to excessive reliance on the subjective assessment of market conditions (Kawadkar, 2024). This can result in managers making decisions slowly and thus failing to respond to new information as appropriate.

c. Regret Bias

Regret bias impacts decision-making decisions in a decisive way, further affirmed by the obtained coefficient ($\beta = 0.261$). Managers often are reluctant of making the decisions that could potentially make them regret, especially when they have had a previous failure. This finding is consistent with the Regret Aversion Theory which suggest that people will do all within their power to avoid the negative emotional consequences of having made the wrong choice (Gabillon, 2020). Therefore, managers may not undertake new or risky initiatives, since they will have to bear the cost of potential regretting.

d. "Snakebite" Effect

The "snakebite" effect was identified as the overall most dominant bias affecting decision making ($z = 5.568$; $p < 0.001$).



This finding supports the theory of loss aversion in business management because a company's past losses significantly influence future performances. Managers who have suffered large losses tend to avoid risks, even though they can potentially gain a lot from the opportunity. This behavior is consistent with the Prospect Theory that point out that loss looms larger than the corresponding gain, and therefore, the decision maker's major concern is not to make as much profit as possible but to avoid loss.

5. DISCUSSION OF IMPLICATIONS

Consequently, the findings of this study have the following implications for business management. First, the dominance of the snakebite effect and regret bias argues for companies to work on creating decision-making tools that can reduce the impact of losses. The higher authority should encourage managers to concentrate on rational risk considerations rather than their feelings when making decisions (Ige and Adebayo, 2024). Second, the highly influential belief bias means that organizations should always foster the critical thinking environment where beliefs are often challenged and other perspectives are reviewed (Malmendier et al., 2023).

While it has less severe consequences, the overconfidence bias remains a threat in a number of respects, especially in the context of industries which require quick decision-making. When the managers get the feedback and data analysis which are accurate, this will assist in reducing the level of overconfidence which is bad for decisions.

6. CONCLUSION

This work provided a critical analysis of the impact of behavioral biases; overconfidence, belief, regret, and snakebite on business decision making under uncertainty. Consequently, the study outcomes show that biases influence managers' investment choices and promote risk aversion that deviates from financial theories. The "snakebite" effect and regret bias prove that the strategic choices are often dominated by past failure, and belief and overconfidence biases prove that subjective judgments remain decisive despite being flawed. In order to rectify the current state of decision-making within businesses, the organizational decision-making biases can be managed using data and thinking tools.

More future studies should be conducted to identify other biases like anchoring and herding to help expand the role of behavioural finance in business. In addition, establishing cross-industry comparisons would provide understanding of whether these biases differ by industry, thus improving the relevance of behavioral finance in various managerial arenas.

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