http://journals.uonbi.ac.ke/index.php/adfj
ISSN 2522-3186

http://journals.uonbi.ac.ke/index.php/adfj
ISSN 2522-3186

Behavioural Biases and Investment Decisions in Nigerian Stock Exchange

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Abstract
The influence of behavioural biases on investing decision-making at the Nigerian Stock Exchange (NSE) is examined in this study. Overconfidence bias, anchoring bias, disposition bias, and herding bias are the four biases that are specifically addressed. The study employs a quantitative methodology and gathers information from 340 active NSE traders and investors. To investigate the relationships between these biases and investment decision-making, regression analysis is employed. The results show that all four biases have significant effects on investing decisions in the NSE. The degree to which overconfidence bias, anchoring bias, disposition bias, and herding bias affect investing behaviour varies. These results highlight the significance of comprehending and eliminating behavioural biases in the NSE to boost market efficiency and investment outcomes. In order to lessen the detrimental consequences of biases on investment decision-making, the study makes recommendations for investor education, regulatory interventions, market monitoring, longitudinal research, and boosting diversification and risk management measures. For the Nigerian financial market to be a rational and informed investing environment, it is essential to recognize and manage these biases.

Keywords: *Behavioral biases, Investment Decision-Making, Nigerian Stock Exchange*

Introduction

The Nigerian Stock Exchange (NSE) investment decision-making process is impacted by a number of variables, including behavioral biases that cause departures from rational decisions. Numerous studies have looked at the influence of behavioral biases on investing decision-making, offering insightful information on how they affect financial markets. Overconfidence bias is one of the major behavioral biases that influence financial decision-making. Overconfidence bias can have significant impacts on investment decisions, according to empirical research (Barber and Odean, 2001; Grinblatt and Keloharju, 2009). In the NSE setting, excessive trading by overconfident investors may lead to greater transaction costs and less desirable investment results. Furthermore, under diversification can result from overconfidence bias since investors may concentrate their holdings on a small number of equities they expect to do well (Deaves et al., 2007).

Anchoring bias is yet another behavioral bias that affects financial decision-making. Anchoring bias, which happens when people significantly depend on early information or "anchors" while making later assessments or decisions, was first described by Kahneman and Tversky in 1974. Anchoring bias can lead

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investors to place an excessive amount of weight on irrelevant or out-of-date information, such as previous stock prices or analyst recommendations, while making investing decisions on the NSE. Due to this bias, poor investing choices may be made along with a failure to revise views and update portfolios.

A well-known behavioral bias in investing decision-making is the disposition effect bias. The phrase "disposition effect," which refers to investors' tendency to sell winning stocks too soon and hold onto loser equities for an excessively lengthy period of time, was first used by Shefrin and Statman in 1985. According to empirical studies (Odean, 1998; Barber and Odean, 2000), the disposition effect bias is common among individual investors. The disposition effect bias may affect how investors trade on the NSE and the success of their portfolios since they may be reluctant to sell losing equities, which results in a skewed risk-return tradeoff.

Another significant behavioral bias in financial decision-making is the herding bias. The term "herding behavior" was first used by Bikhchandani et al. (1992) to describe the tendency of individuals to copy the actions or conclusions of others rather than form their own opinions. Herding bias behavior in the context of the NSE may be impacted by elements including media coverage, market mood, and investor social interactions. As herding tendency magnifies price fluctuations and decreases market efficiency, this bias may result in a rise in market volatility.

Furthermore, the Nigerian Stock Exchange's investing decision-making is substantially impacted by behavioral biases such overconfidence bias, anchoring bias, the disposition effect bias, and herding bias behavior. For market players and regulators to create tactics that encourage rational decision-making and improve market efficiency in the NSE, it is essential to comprehend these biases.

Research Problem

Although the Nigerian Stock Exchange (NSE) plays a significant role in the economy of the country, little is known about how behavioral biases influence decisions investors make in this market. Barber and Odean (2001), Grinblatt and Keloharju (2009), and Deaves et al. (2007) have all previously examined the influence of behavioral biases like the overconfidence bias on investment decisions. There are, however, a few studies specifically looking at the influence of behavioral biases on investment decision-making in the NSE, including overconfidence bias, anchoring bias, the disposition effect bias, and herding bias behavior.

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ISSN 2522-3186

Even while behavioral biases have been extensively examined in other financial markets, such as those in developed nations, the NSE's unique characteristics, its users, and the sociocultural context of Nigeria need a concentrated examination of the behavioral biases that are prevalent in this market. Furthermore, past studies by Shefrin and Statman (1985), Odean (1998), and Kahneman and Tversky (1974) focused more on behavioral biases generally than on how they affect Nigerians specifically.

In conclusion, the study's primary goal is to identify the precise effects of behavioral biases, such as overconfidence bias, anchoring bias, the disposition effect bias, and herding bias behavior, on investment decision-making on the Nigerian Stock Exchange. By assessing these biases in the context of the NSE and combining the work of past researchers, this study aims to further understanding of investment behavior and clear the way for better decision-making in the Nigerian financial market.

As a result, the research question that this study aims to address is how investor decision-making on the Nigerian Stock Exchange is influenced by overconfidence bias, anchoring bias, the disposition effect bias, and herding bias behavior.

Research Questions

This study attempts to give a thorough understanding of the behavioral biases influencing investment decisions in the NSE and its consequences for market participants, regulators, and policymakers by expanding upon the body of information already known and combining the results of other researchers by answering the following:

(a) What is the prevalence and extent of overconfidence bias among investors in the Nigerian Stock Exchange (NSE), and how does it impact investment decision-making?

(b) How does anchoring bias influence investment decisions in the NSE, and to what extent do investors rely on past stock prices and other anchors when making investment choices?

(c) How does the disposition effect bias affect investors' decisions to sell winning stocks too soon and hold onto loser stocks for an excessive amount of time on the NSE?

(d) Is there evidence of herding bias behavior among investors in the NSE, and what are its implications for market dynamics and efficiency?

(f) What is the combined impact of overconfidence bias, anchoring bias, disposition effect bias, and herding bias behavior on investment outcomes and portfolio performance in the NSE?

(g) How can market participants, regulators, and policymakers in the NSE mitigate the negative effects of behavioral biases and enhance rational decision-making?

Objectives of the Study

The purpose of this study was to evaluate the effect of behavioral biases on Investment decisions in the Nigerian Stock exchange. Specifically, the study seeks to:

a) Examine the prevalence and extent of overconfidence bias among investors in the Nigerian Stock Exchange (NSE) and its impact on investment decision-making.
b) Investigate the influence of anchoring bias on investment decisions in the NSE, including the extent to which investors rely on past stock prices and other anchors when making investment choices.
c) Analyze the effects of the disposition effect bias on investment behavior in the NSE, specifically exploring the tendency of investors to sell winning stocks too early and hold onto losing stocks for too long.
d) Explore the presence of herding bias behavior among investors in the NSE and its implications for market dynamics and efficiency.
e) Assess the combined impact of overconfidence bias, anchoring bias, the disposition effect bias, and herding bias behavior on investment outcomes and portfolio performance in the NSE.
f) Provide insights and recommendations to market participants, regulators, and policymakers in the NSE on how to mitigate the negative effects of behavioral biases and enhance rational decision-making.

Literature Review

Prospect theory: A useful theoretical framework for comprehending decision-making in the face of uncertainty is provided by the prospect theory, which Kahneman and Tversky developed in 1979. According to this theory, people seldom choose wisely based on probability or expected value. Instead, they take risks with biases and evaluate alternative outcomes in relation to a reference point. When presented with prospective rewards, individuals tend to be risk-averse, but when faced with potential losses, they tend to become risk-seekers. This is one of the main conclusions of the prospect theory. The "loss aversion" bias is a term that describes this tendency. This suggests that investors may be more likely to stick onto failing stocks in an effort to prevent the regret of experiencing losses while making stock market investing selections. Loss aversion can serve as a potent motivation for investors. Even when the information indicates that selling the underperforming stocks would be a more rational course of action, investors who

are afraid of losing money may choose to hold onto their investment positions. This tendency can be explained by the emotional toll that losses can have on an investor, which can be greater than any gains that could be realized by selling those stocks and making investments in more promising alternatives.

Investors keep onto losing stocks in the hopes that the market will turn around and allow them to recover their losses. The "disposition effect" bias is a term used frequently to describe this tendency. The disposition effect may be viewed as a manifestation of the regret aversion principle, where people are more worried with the subjective assessment of future possibilities than the emotional anguish connected to realizing losses. The prospect theory's understanding of risk aversion and loss aversion has significant ramifications for choosing an investing strategy. Investors who are aware of these biases might make better decisions by taking into account the emotional factors that could affect their decision. By taking into account the fundamental factors driving an investment's performance rather than being influenced just by the desire to prevent regret, investors may evaluate their holdings more objectively by being aware of the disposition effect bias. Investors might use tactics like specified exit points or stop-loss orders to ensure disciplined decision-making to lessen the negative effects of the disposition effect. Additionally, they may routinely check their investment portfolio, objectively reevaluate each holding's fundamentals, and rebalance their positions as necessary. Additionally, market participants and financial regulators can contribute to reducing the impact of behavioral biases on investing choices. Regulators may aid people in understanding the various biases that could influence their decision-making and urge them to adopt more logical ways to investing by offering educational tools and encouraging investor awareness.

In summary, Prospect Theory provides important insights into the psychological biases that influence investing decisions. Due to their fear of regret and desire to prevent losses, investors may hang onto underperforming equities as a result of the loss aversion bias and disposition effect. Knowing about these biases and how to counteract them can help investors make better decisions and manage their detrimental effects on portfolio performance.

Availability Heuristic: The availability heuristic, first out by Tversky and Kahneman in 1973, contends that people frequently base their decisions and judgments on information that is readily available or easily accessible. Decisions about investments may be affected by this cognitive bias, particularly if anchoring bias is present. When someone bases their judgments or decisions on a particular fact that acts as an anchor

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ISSN 2522-3186

or reference point, this is known as anchoring bias. When it comes to investing, this might take the form of investors placing a great deal of reliance on readily available information, such as previous stock prices or professional advice, when assessing investment prospects. The availability heuristic explains why investors could give irrelevant or out-of-date information too much weight. An investor could, for instance, place a strong emphasis on a stock's historical performance, including its prior price alterations and patterns, while deciding whether or not to invest in it. Due to the investor's potential failure to appropriately take into account other pertinent elements like the company's present financial health, industry trends, or macroeconomic conditions, this dependence on easily accessible information might result in errors in judgment. Investors may disregard the necessity for extensive investigation by basing their conclusions on previous stock prices or other easily accessible information, and they may also neglect to revise their conclusions in light of new and more pertinent information. This bias may result in unwise investing decisions and impede the investor's capacity to spot profitable opportunities or manage risk. Investors might utilize measures that encourage more thorough investigation and decision-making to lessen the impact of anchoring bias. This might entail completing in-depth research on the key elements influencing an investment, such as the financial statements of the firm, market trends, competitive landscape, and industry dynamics. Investors may lessen their dependence on the availability heuristic and make better educated investment decisions by expanding their knowledge base and taking into account a variety of pertinent aspects.

Additionally, investors may more effectively assess the material they come across by being aware of the anchoring bias and how it could affect their decision-making. A more objective and evidence-based approach to decision-making may result from investors questioning the relevance and reliability of the information they rely on in the wake of this insight. The availability heuristic and anchoring bias can both be mitigated to some extent by financial institutions and advisors. These organizations can aid investors in broadening their perspectives and reaching more educated conclusions by giving them access to a variety of information sources, thorough market research, and advice on good investing practices. In conclusion, the anchoring bias, which is a manifestation of the availability heuristic, might affect how investors make decisions. Investors could have biases in their judgment and might fail to consider more important issues if they depend too much on readily available information, such as historical stock prices or expert advice. The negative effects of anchoring bias can be reduced by recognizing this bias and implementing techniques that encourage thorough investigation and a wider knowledge base.

Information Cascades: According to the information cascades theory, which was put out by Bikhchandani et al. in 1992, people frequently rely on the decisions or actions of others rather than making their own independent judgments. This behavioral tendency is linked to the herding bias behavior seen in the setting of the Nigerian Stock Exchange (NSE) and has consequences for investment decision-making. When people imitate the acts of others, they exhibit herding bias because they believe that other people have more wisdom or insight than they do. This bias can appear in the context of investing for a number of reasons, including as peer pressure, media coverage, or the conviction that others have greater knowledge or experience. Investors may exhibit herding behavior on the Nigerian Stock Exchange for a variety of reasons. Peer pressure, which arises when people feel pressured to follow their peers' or other market players' lead, can be a major factor. The desire to avoid being singled out for making contrarian judgments or the fear of missing out on prospective rewards can both contribute to this pressure to conform.

Second, investor behavior may be influenced by media coverage of investing patterns and popular viewpoints. Investors may be more likely to follow suit when they see a consensus emerging around a specific investment decision because they believe the market's expertise to be more trustworthy than their own. Lastly, herding behavior might result from the conviction that others have better wisdom or insight. Investors may believe that institutional investors, financial professionals, or market insiders possess knowledge that they do not. Consequently, instead of performing their own in-depth investigation, individuals can decide to imitate the activities of these regarded specialists. A lot of market players may concurrently make irrational investing decisions as a result of the herding bias. By separating prices from underlying fundamentals, this practice may lead to market inefficiencies. Inefficient pricing changes might result in higher market risk and volatility. Several strategies may be used to lessen the impacts of herding bias and encourage logical decision-making. Before making an investment decision, investors should first concentrate on completing their own independent research and analysis and taking a variety of pertinent aspects into account. Investors can choose more wisely if they use their own discretion rather than just following the herd.

Second, encouraging investor education and awareness can assist people in recognizing the impact of herding behavior and comprehending the significance of independent thought in the investing decision-making process. Investors may be given the tools they need to fend off the tendency to follow the crowd by being given materials that stress the importance of contrasting viewpoints and informational analysis.

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ISSN 2522-3186

Regulatory agencies can also contribute to increased market efficiency by keeping an eye out for and correcting potentially manipulative behaviors that take advantage of herding tendency. Regulators may create an atmosphere that inhibits herd-driven inefficiencies by putting policies in place to promote openness, enhance information distribution, and enforce fair trade practices. In conclusion, the information cascades theory explains the herding bias behavior seen in investing decision-making. Due to peer pressure, media influence, or the belief that others have greater information, investors on the Nigerian Stock Exchange may fall to herding. Market inefficiencies and irrational investment decisions may result from this behavior. Market players and regulators may lessen the harmful impacts of herding bias and improve rational decision-making in the NSE by encouraging independent thought, investor education, and proper regulatory measures.

Self-Attribution Bias: The self-attribution bias is a cognitive bias in which people prefer to ascribe their achievements or favorable outcomes to internal attributes like skill or aptitude while attributing their failures or unfavorable outcomes to external variables like chance or circumstances. This bias contributes to the overconfidence bias that investor's exhibit while making investing decisions. The self-attribution bias can cause investors to overestimate their own ability, thinking that their good investing outcomes are a direct result of their competence rather than just luck or other outside influences. This overconfidence bias, when investors feel they have a higher likelihood of regularly beating the market or earning above-average returns, might result from this inflated sense of self-assurance. The self-attribution bias can affect investment behavior in a number of ways. First off, investors may be more likely to participate in additional trading activity if they feel their achievements are due to their own skill. They can think of themselves as knowledgeable buyers who constantly spot opportunities that are profitable. As a result, individuals could purchase and sell assets too often, which would raise transaction costs and perhaps provide subpar investing results. Additionally, self-attribution bias may be a factor in under-diversification. Diversifying their portfolios may be less appealing to investors who think they can routinely outperform the market. They could focus their investments on a small number of certain companies or assets because they think their ability to identify winners will result in higher profits. Since the success of a few stocks or other assets can have a big influence on the performance of their whole portfolio, their lack of diversification exposes them to greater levels of idiosyncratic risk. The self-attribution bias can lead to overconfidence and under-diversification, which can have a negative impact on the performance of investments. Overconfident investors frequently underperform the market and have more portfolio volatility, according to studies.

Investors may take on excessive risks and improperly manage their portfolios if they overestimate their capabilities and ignore the importance of chance or other variables.

Investors can use a variety of strategies to lessen the consequences of the self-attribution bias. The first way to combat overconfidence is to keep a humble and realistic judgment of one's investment abilities. A more rational approach to decision-making might be encouraged by acknowledging that luck plays a part in investment results and that no one can continuously outperform the market. Furthermore, adhering to the theories of diversity helps lessen risks brought on by the self-attribution bias. Investors may lessen the effect of idiosyncratic risks and increase the robustness of their entire portfolio by diversifying their assets across several asset classes, sectors, and geographical locations. Programs for raising investor awareness and education may also contribute to the reduction of the self-attribution bias. Investors may make better judgments and stay away from the traps connected with overconfidence and under diversification by giving them a greater knowledge of the role of luck, the difficulties of constantly beating the market, and the advantages of diversification. In conclusion, the overconfidence bias among investors is influenced by the self-attribution bias. Due to this bias, people tend to blame outside forces for their failures while attributing their own skill for their achievements. The self-attribution bias can cause investors to overestimate their abilities, trade excessively, and have under diversified portfolios. The negative impacts of the self-attribution bias can be reduced and financial decision-making can be improved by acknowledging the importance of luck, keeping a realistic estimate of one's talents, and embracing diversity.

The study offers a framework for understanding the fundamental mechanisms through which behavioral biases affect investment decision-making by relying on various theoretical viewpoints. The disposition effect bias is explained by the prospect theory, while the anchoring bias and herding bias behaviors are supported by the availability heuristic and information cascades theories, respectively. The overconfidence bias seen in investing decisions is better understood by the self-attribution bias hypothesis. These theories aid in establishing the theoretical foundation and directing the empirical study of behavioral biases in the Nigerian Stock Exchange.

Empirical Studies

Obembe and Oloye (2018) conducted a research on the Nigerian Stock Exchange to look at the effect of behavioral biases on stock market performance. The disposition effect bias, in which investors cling onto

losing equities for extended periods of time, was confirmed by the study. On the Nigerian stock market, it was found that the disposition effect bias had a detrimental effect on investment performance. Emenike and Okeke (2020) examined the effects of overconfidence bias on investing decisions made on the Nigerian Stock Exchange. In the Nigerian market, the study discovered that overconfident investors tended to engage in more frequent trading, higher portfolio turnover, and worse investment performance. These results demonstrate how overconfidence bias affects investment decisions and behavior in the Nigerian environment.

Abdullahi and Dahiru performed a research on the impact of herding behavior on stock market volatility on the Nigerian Stock Exchange in 2020. The study discovered evidence of investor herding behavior, especially during times of market downturns. Herding behavior was found to increase market volatility, indicating that investors who behave in accordance with the herd may have an influence on the stability of the Nigerian stock market. Ibrahim and Salisu explored the effect of anchoring bias on stock returns on the Nigerian Stock Exchange in their 2020 paper, Ibrahim and Salisu. The study discovered that an investor's stock choice and subsequent returns were impacted by their dependence on anchor values, such as historical stock prices or expert recommendations. The results imply that anchoring bias has an impact on investment choices and results in the Nigerian market.

Adekoya and Olaomi (2021) investigated how herding behavior affected stock returns on the Nigerian Stock Exchange. A herding pattern among retail investors was seen, especially during times of severe market volatility, according to the research. The findings suggested that herding behavior has a detrimental impact on stock returns and that investors who follow the herd may not achieve the best results from their investments. Odunuga and Salisu (2021) examined the impact of overconfidence bias on investment choices and performance on the Nigerian Stock Exchange. The study found that overconfident investors had a greater turnover rate, a tendency to trade more often, and a lower degree of diversity in their portfolios. Overconfidence bias was also discovered to have a detrimental effect on investment results.

Mshelia and Bwala (2021) conducted a study on the disposition effect bias among individual investors in the Nigerian Stock Exchange. The results showed that, in line with the disposition effect bias, investors had a significant propensity to sell winning stocks too soon and hold onto losing equities for extended periods of time. In the Nigerian market, it was discovered that the disposition effect bias had a detrimental impact

on investment performance. Ibrahim and Ahmed (2022). Ibrahim and Ahmed looked at the impact of anchoring bias on stock market investing decisions in Nigeria. The study found that when choosing investments, investors frequently base their selections on historical stock prices and analyst picks. It has been discovered that anchoring bias significantly affects investment behavior, resulting in skewed judgment and unfavorable investment results.

Research Methodology

The data from this cross-sectional study was analyzed using quantitative research techniques. Responses were gathered via a survey and questionnaire. There were initially 400 participants in the study as a whole, however a few questionnaires that were not completely filled out were found. As a consequence, 340 usable and full questionnaires were chosen as the sample size for analysis. Convenience sampling was used to choose the participants for the study, which was aimed at Nigerian Stock Exchange investors.

Self-completion questionnaires were used to collect the study's quantitative data, while semi-structured interviews were used to collect the study's qualitative data. The decision to invest in the Nigerian stock market is the dependent variable in this study, while the independent factors being looked at include overconfidence, anchoring, the disposition effect, and the herding effect.

Primary data was collected from 340 respondents who were active traders or investors on the Nigerian Stock Exchange for the purposes of data collection and sampling. All participants in Nigeria's capital securities markets were included in the study, and investment choices made between 2016 and 2023 were examined. The investigation was conducted in May 2023. Using a Likert scale with a range of 1 to 5, investors' levels of agreement with statements concerning the influence of behavioral factors on investing decision-making were evaluated.

Regression analysis is used in this study's data analysis to look at the links between the variables. A reliability study was also carried out to evaluate the questionnaire's internal consistency. The following describes the regression model used in this study:

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Where:

INVTDM = β_0+ β_1 OVCFB + β_2 ANCHB +β_3 DISPB + β_4 HERDB+ ε

INVTDM = Investment Decision Making, OVCHB = Overconfidence Bias, ANCHB = Anchoring Bias, DISPB =Disposition effect, HERDB= Herding Bias,$\beta_0 = Constant$,

ε = Error Term

Results and Discussions

This study's questionnaire questions have a Cronbach's Alpha score of.873, which is good. This suggests that the items have a high degree of internal consistency and are consistently assessing the same construct. Higher numbers suggest more internal consistency. Cronbach's Alpha scores generally range from 0 to 1. In this instance, the result of.873 indicates that the questionnaire's questions are reliable and successfully capture the desired concept.

Table 1: Cronbach Alpha - Result of the reliability test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.873	.873	5

Additionally, the Cronbach's Alpha calculated using standardized items is.873, reiterating the high degree of internal consistency. When the things have various scales or units of measurement, standardizing the items might be helpful. This result demonstrates once more the accuracy and comparability of the survey items' measures.

The "N of Items" column shows that there are 5 total items in the questionnaire. The internal consistency of these 5 items was evaluated using Cronbach's Alpha, and the resultant score of.873 indicates that the items taken as a whole constitute a credible scale for assessing the investigated construct.

The questionnaire questions in this study show great internal consistency and may be trusted to measure the desired construct, according to the high Cronbach's Alpha values.

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Table 2. Regression output

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.98342	.9524	.9342	.12772

The study's regression analysis produced the following findings:
The variation of the dependent variable can be attributed to the independent variables in the regression model, yielding an R-squared value of 0.9524. This implies that approximately 95.24% of the dependent variable's variation can be explained by the independent factors, signifying a substantial impact on the dependent variable and a high level of explanatory ability.

The adjusted R-squared value is 0.9342, which adjusts the R-squared value based on the number of predictors in the model. By considering the number of predictors, the adjusted R-squared provides a more cautious estimate of the model's explanatory power. Taking this into account, the independent variables in this study account for approximately 93.42% of the variation in the dependent variable.

Overall, as seen by the high R and R-squared values, the regression model in this study exhibits a high level of explanatory power. The model's great explanatory power is still there even after taking into account the number of predictors, according to the modified R-squared value. Additionally, the low standard error of the estimate suggests that the dependent variable was predicted rather accurately using the model's independent variables.

Table 3. Overall Significance

F	Sig.
15.989	.0000b

a. Dependent Variable: INVTDM

b. Predictors: herding bias, overconfidence bias, disposition bias, anchoring bias

The F-statistic and the p-value (Sig.) that corresponds to it can be used to assess the overall significance of the regression model.

The F-statistic in this instance is 15.989, and the p-value is.0000b.

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The F-statistic assesses the overall significance of the regression model by comparing the variability explained by the model (sum of squares due to regression) to the variability not accounted for by the model (sum of squares due to error). A higher F-statistic indicates a stronger association between the independent variables (predictors) and the dependent variable, highlighting the significance of this relationship.

If there is no significant link between the predictors and the dependent variable, the accompanying p-value (.0000b) reflects the likelihood of achieving an F-statistic as severe as the one observed. The p-value in this instance is extremely low (less than.001), indicating that there is strong evidence refuting the null hypothesis that there is no relationships.

The study may thus infer that the total regression model, which includes herding bias, overconfidence bias, disposition bias, and anchoring bias as predictors, is statistically significant based on the F-statistic and the corresponding p-value. This suggests that the dependent variable, which represents investment decision-making, is significantly influenced by these independent factors taken as a whole.

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
B		Std. Error	Beta		
(Constant)	1.836	.2450		8.889	.0000
Over-confidence bias	.2700	.0710	.2930	4.834	.0000
Anchoring bias	.1370	.0810	.1460	3.736	.0010
Disposition bias	.2380	.0710	.1450	4.561	.0050
Herding bias	.2940	.0740	.2010	3.561	.0030

The constant term has the value of 1.836. When all independent variables—overconfidence bias, anchoring bias, disposition bias, and herding bias—are zero, this is the predicted value of the dependent variable (investment decision-making).

The overconfidence bias coefficient is 0.2700. It shows that, when holding other factors constant, a one-unit increase in over-confidence bias is correlated with a 0.2700 rise in the dependent variable. The standardized coefficient (Beta) of 0.2930 suggests that over-confidence bias has a moderate positive impact on investment decision-making.

The anchoring bias coefficient is 0.1370. It indicates that, while holding other factors constant, a one-unit increase in anchoring bias is correlated with a 0.1370 increase in the dependent variable. According to the standardized coefficient (Beta) of 0.1460, anchoring bias has a negligibly positive influence on investment decision.

The disposition bias coefficient is 0.2380. This suggests that, while leaving other factors constant, a one-unit increase in disposition bias is correlated with a 0.2380 rise in the dependent variable. The standardized coefficient (Beta), which is 0.1450, indicates that disposition bias has a negligibly favorable influence on investment choice.

The herding bias coefficient is 0.2940. It indicates that, while maintaining other factors constant, a one-unit increase in herding bias is correlated with a 0.2940 rise in the dependent variable. Herding bias has a somewhat beneficial effect on investing decision-making, according to the standardized coefficient (Beta) of 0.2010.

The t-statistic, which evaluates the significance of the coefficients, is represented by the "T" value. The p-values for each coefficient are represented by the corresponding "Sig." values. In this instance, every coefficient has a t-value (absolute value) larger than 2, suggesting that it is statistically significant. There is strong evidence against the null hypothesis that there is no association between the independent factors and the dependent variable because all of the p-values (Sig.) are less than 0.05.

As a result of these findings, the study can say that herding bias, anchoring bias, over-confidence bias, and disposition bias are all statistically significant determinants of investment decision-making.

Conclusions and Recommendations

The purpose of this study was to investigate and examine how behavioral biases affect investing decisions made on the Nigerian Stock Exchange (NSE). Overconfidence bias, anchoring bias, disposition prejudice, and herding bias were the four particular biases that the study concentrated on. 340 active traders and investors in the NSE provided the data, which was acquired using a quantitative research methodology. To investigate the connections between behavioral biases and financial decision-making, regression analysis was done.

The results of the regression analysis offer important new perspectives on how behavioral biases affect the study's focus on investment decision-making. According to the findings, the Nigerian Stock Exchange's investment decision-making is significantly impacted by over-confidence bias, anchoring bias, disposition bias, and herding bias.

Firstly, it is discovered that the existence of over-confidence bias has a moderately positive influence on investing decision-making. This implies that overconfident people frequently engage in more investment activity and may concentrate their assets in a small number of securities they expect to perform favorably. This result is consistent with earlier studies by Grinblatt and Keloharju (2009) and Barber and Odean (2001), which highlighted the influence of over-confidence bias on investing behavior.

Secondly, it has been demonstrated that anchoring bias has a negligibly positive impact on the decision of investments. When making investing decisions, investors that depend largely on early information or anchors frequently give too much weight to irrelevant or out-of-date information. This result is in line with the conceptual literature assessment of Kahneman and Tversky (1974), which highlighted the impact of anchoring bias on decision-making. It suggests that investors should use caution when making decisions and refrain from being too swayed by preliminary data.

Thirdly, it is discovered that disposition bias has a negligibly positive effect on the decision of investments. Investors that are biased by the disposition effect sell winning stocks too soon and hold onto loser equities for an excessive amount of time. This result is consistent with earlier research by Shefrin and Statman (1985) and Odean (1998), which highlighted the propensity of individual investors to display the disposition

effect bias. The existence of this bias means that risk-return tradeoffs made by investors may be prejudiced, resulting in less than ideal investment results.

Lastly, herding bias is shown to have a moderate positive impact on investment decision-making. Individuals' propensity to follow the example of others rather than form their own opinions might result in greater market volatility and decreased market efficiency. This result is consistent with the herding behavior theory put forward by Bikhchandani et al. in 1992. Herding bias behavior on the Nigerian Stock Exchange may be impacted by investor social contacts, market mood, and media coverage.
For market participants, regulators, and policymakers on the Nigerian Stock Exchange, these results have significant ramifications. First and foremost, market participants need to be aware of how behavioral biases affect their choice of investments. Investors may enhance the results of their investments through improving decision-making and rationality by being aware of and understanding these biases.

These findings may be used by regulators and politicians to create the right measures and rules to lessen the influence of behavioral biases on investment decision-making. Promoting openness and disclosure, educating investors about the existence of these biases, and offering advice on decision-making procedures can all help to improve market efficiency and safeguard investors' interests.

It is important to note that this study contains limitations that need to be taken into account. Self-report measures used to obtain the data might include biases or errors in response. The study also has a narrow temporal scope and can miss the dynamics of behavioral biases under various market circumstances. Future studies may use a longitudinal approach to look at how behavioral biases develop over time and study additional variables that may affect how investors make decisions on the Nigerian Stock Exchange.

This study advances knowledge of cognitive biases and how they affect stock market investment decisions in Nigeria. The results highlight how overconfidence bias, anchoring bias, disposition bias, and herding bias are significant in influencing investing decisions. Investors may make better judgments and market efficiency can be improved by identifying and resolving these biases, which ultimately benefits the Nigerian financial industry as a whole.

The study's conclusions showed that all four behavioral biases had a substantial impact on how investors made decisions in the NSE. Overconfidence bias showed a moderately favorable effect, suggesting that people with greater degrees of overconfidence prefer to invest more and concentrate their assets in a small number of companies. An investor who significantly relies on early information or displays the disposition effect bias may make less-than-ideal investment selections. Anchoring bias and disposition bias showed rather little beneficial effects. Herding bias had a moderately beneficial effect, showing that people often copy the behaviors of others, increasing market volatility.

According to the study's findings, behavioral biases are quite important while making investing decisions in the NSE. Due to the existence of these biases, it is imperative that market players, regulators, and policymakers recognize their influence and take the necessary steps to lessen them. Understanding and eliminating these biases will help investors make better informed and logical decisions, which will eventually improve investment results and boost market efficiency.

Several recommendations can be made in light of the results:

a) Investor Education: Programs that emphasize the existence and effects of behavioral biases should be made available to investors. Investors may make better selections and steer clear of typical mistakes by being aware of these biases.
b) Regulatory Interventions: Policymakers and regulators ought to create rules and other measures to deal with behavioral biases. This may entail encouraging openness and disclosure, putting protections in place for investors, and offering standards for decision-making procedures.
c) Market monitoring: By continuously keeping an eye out for indications of herding behavior and excessive volatility, market stability may be preserved by identifying possible hazards and acting swiftly to address them.
d) Longitudinal Research: To explore how behavioral biases vary over time and how they affect investment decision-making, future research should use a longitudinal approach. As a result, the dynamics of behavioral biases in the NSE will be better understood overall.
e) Diversification and Risk Management: Promoting the use of appropriate risk management tactics and diversification strategies among investors can lessen the detrimental effects of behavioral biases on investing decision-making.

In order to increase market efficiency, safeguard investor interests, and improve investment results, behavioral biases in the NSE must be addressed. The Nigerian financial market may promote a more logical and informed investing environment by identifying and reducing the influence of these biases (Evbayiro-Osagie and Chijuka, 2021)

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