

# Behavioural Factors Effect on Investors' Investment Performance: A Survey from the Nigerian Capital Market

BEKWERI MARK EDEH, UMAR ABBAS IBRAHIM, FAIZA MAITALA,  
CROSS OGOHI DANIEL

Department of Business Administration,  
Nile University of Nigeria,  
Cadastral Zone C-OO, Research & Institution Area, Airport Rd, Jabi 900001, Abuja,  
NIGERIA

*Abstract:* - Behavioural finance theory posited that the actions of individual investors have demonstrated that people appear to respond to and perceive the same information differently, generating psychological biases that are defined as Behavioural Factors. It is against this backdrop that this study empirically examines the effect of behavioural factors on investment performance. This study examines behavioural factors (Heuristics, Prospects, Herding, and Market) that influence stock investors' performance in Nigeria's capital market. Three hundred and eighty-four (384) respondents were sampled by an online survey method through a questionnaire from active investors using the top ten brokerage firms in Nigeria. Data were examined and analyzed by STATA software using the structural equation model technique (SEM) as the statistical tool. The data revealed a considerable positive link between behavioural factors indicators and investment performance. The study, therefore, recommends that NSE should continuously share information, and train the investors, which is geared towards positively influencing investment decisions. Through this information, investors will be in a position to make wise investment decisions. NSE should also evaluate the influences of prior events in relation to the specific counter under investigation. More so the effect of the learning process should be clearly evaluated to ensure that there is maximum benefit for all parties involved in selling and buying a security share.

*Key-Words:* - Behavioural factors; investment performance; Investment decision; Capital market

Received: June 24, 2022. Revised: November 5, 2022. Accepted: November 22, 2022. Available online: December 14, 2022.

## 1 Introduction

Behavioural finance is a field of study that analyses how investors' illogical or emotional behaviour affects stock prices, [1]. The power of behavioural finance is made clear when it is seen that a company's stock price fluctuates day by day even though there hasn't been any change in the fundamental elements of the business that should be the cogent drivers. In a practical sense, investors should concentrate on a firm's fundamental changes to make their predictions, which will in turn affect the stock price of that company. But the investors prefer to use their behavioural, psychological, and emotional elements when making decisions, [2]. However, the way in which these investors trade in and out of a particular stock of a company causes price fluctuations, which exposes the financial system and the state of the economy to risk. Investment is the acquisition of goods or assets with the hope of future growth in income or value. Investments carry larger risks than savings do, thus the individual investor will want higher returns from their investments, [3]. Investors have challenges in

making long-term financial decisions for reasons such as lack of financial complexity, inability to self-regulate, and lack of foresight. Individual investors can use a team of investment professionals under the direction of a portfolio or fund manager. These individuals work full-time on studying the markets, market trends, and individual stocks. Understanding investors' decision-making, requires one to study the behavioural factors which influence the decisions and performance of the investors. These factors are heuristic factors; (that is, representation, overconfidence, anchoring, gambler's fallacy, and availability bias); prospect factors; (that is, level of mental stress and regret aversion); herd factors; (that is, grazing and risk); market factors; (that is, market prices, stock preferences and changes in consumer reactions). It is against these factors that the researcher intends to carry out research on the influence of behavioural factors on investment performance in the capital market in Nigeria.

## 2 Problem Formulation

Numerous psychological research has examined the ways in which people consistently commit behavioural thinking mistakes, including overconfidence, placing too much emphasis on recent experience, representativeness, availability bias, gambler's fallacy, etc., [4]. This popularity could lead to misrepresentation. The study of the psychological and social factors that affect investing performance is known as behavioural finance. The number of businesses applying to list on the stock exchange in Nigeria has significantly increased in recent years. Investors on the other hand have responded absolutely as it is demonstrated by recurrent oversubscriptions for shares. However, a lot of investors have had to deal with the agony of losses as a result of overconfident behaviour and following the crowd. In [5], [6], the authors highlighted a clear lack of consensus among financial researchers questioning the strength of behavioural finance theory. This lack of agreement

shows that the idea of behavioural finance is still up for discussion. However, in [7], the authors stated explicitly that excess research has been undertaken in the secondary markets; there is minimal evidence of studies on the effect of behaviour determinants on investment success with reference to Nigeria's capital market.

### 2.1 Objectives of the Study

The major purpose of this research is to determine the effect of behavioural factors on investment performance in the capital market.

Other distinct goals are to:

Examine the effect of behavioural factors (heuristic, prospect, herd, market) on the investors' investment performance in Nigeria's capital market.

- a) Examine the mediating role of the investors' age and type of investment with behavioural factor on the investment performance in the Nigerian capital market.

#### 2.1.1 Conceptual Framework

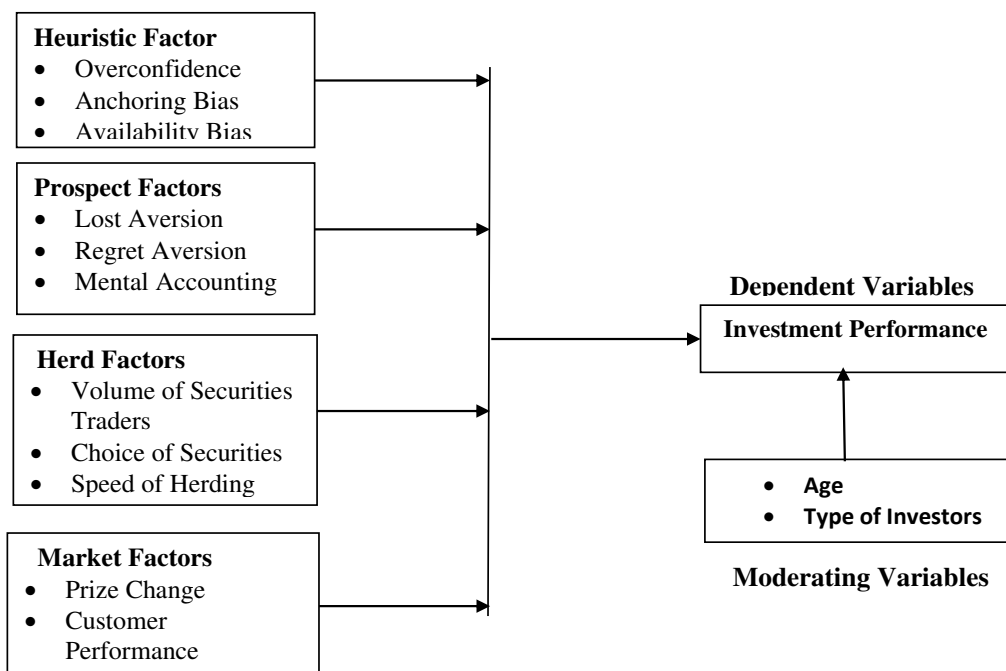


Fig. 1: Conceptual Model  
 Source: Researcher, 2021

### 2.2 Review of Related Literatures

This chapter explains the findings of various researchers on investment performance. Behavioural finance posits that an individual is irrational in his thought process, [6]. Behavioural finance refers to the application of psychology to finance. It can be defined as the study of the effects of investors' psychology and the financial market. Behavioural factors have been pulling their weight in trying to

expatiate its importance as regards how an investment can perform better. Behavioural factors mean many different things to different people, according to their professional backgrounds, [7]. Many people believe that these factors influence decisions made by investors. There are four major factors in behavioural finance these are Heuristics, Prospects, Herd, and Market factors. These factors help to explain the uncertainty in making choices

when it comes to investment and the decisions the individual investor has to make.

### **2.2.1 Heuristic Factors**

“Heuristic explains how investors make decisions, come to judgments and solve problems, typically when facing complex problems or incomplete information when making investment decisions in the stock market. The heuristic bias sways investors from reality to a place of oblivion (out of touch with reality-the facts) where they are heedless and take decisions by trial and error from which they develop a “rule of thumb”.

Overconfidence is a behavioural factor where investors overvalue or overrate their abilities, skills, and acquired knowledge, on which they rely or depend to make, ‘supposedly’ flawless investments or financial decisions. In [8], author surmised that overconfidence is believed to be a determining factor for success for the investor.

An anchoring heuristic describes an anchoring heuristic as a common human tendency to rely too heavily on, or “anchor” on one trait or piece of information when making decisions. It is also when an investor tries to reduce risks or ambiguity with some reference points and reaches a conclusion or a decision through appropriate adjustment, [9]. When presented with new information, the investor tends to be slow to change because his value is fixed or anchored on recent observations, [10].

### **2.2.2 Prospect Factor**

The prospect factor suggests that a choice among risky prospects is inconsistent. This factor expounds that an investor value gains and losses differently. If two equal choices are given to an investor, one in terms of potential gains and the other in terms of potential losses, the chances are that the investor would choose the former i.e., where the gain is, [11], and change in the value of stock leads an investor to loss or risk aversion.

Loss Aversion is when investors are discrepant or discordant towards risk. Loss-averse investors try to maximize their wealth and achieve a maximum level of utility and most of the time, investor behavior negates the expected utility theory’s premise, [12].

Regret Aversion is behavioural factor found amongst investors when making an investment decision when a prospect paints a picture of a profit and loss. Investors exhibit regret aversion when they make the wrong choice or make negative decisions in stock trading, [13]. In aversion to regret investors will ignore taking action or making any decisions if they feel their decision may be wrong. Regret

Aversion is not only the feeling of the wrong action but, sometimes investors feel regret for inaction (not taking actions)

### **2.2.3 Herd Factor**

This significant factor suggests that investors make identical/similar investment decisions or selections to one another, following a group of investors’ decisions mindlessly, or both. This is the most common mistake where investors tend to follow the investment decisions taken by the majority. That is why, in financial markets, when the best time to buy or sell is at hand, even the person who thinks he should take action experiences a strong psychological pressure refraining him because of pressure from or influence by peer investors. When an investor adheres to the herd, shutting down or ignoring his or her reasoning and opinions as he or she automatically imitates the behavior and movement of the group in the stock exchanges, [14]. Investors tend to think that it is unlikely that a large group could be wrong. This could make him follow the herd under the illusion that the herd may know something he does not.

### **2.2.4 Market Factor**

Changes in market prices, stock preferences, customer reactions, etc. all have an impact on investor decisions. This may cause an investor to act excessively or insufficiently in response to market conditions. An investor’s response and decision to invest can be influenced by changes in fundamental values, market knowledge, and pricing. Decisions regarding market investments. In [15], the authors likewise advised that investors must consider market information to make rational decisions. Changes in fundamental values, market price, and market information can lead to the reaction of an investor and his decisions to invest in the market.

### **2.2.5 Age and Investment Performance**

Investment performance depends on various factors. Those can be broadly categorized into economic factors, political factors, social factors, and personal factors. Personal factors indicate the demographic features of investors. In [16], the author indicated that the performance of investments of female investors is higher than the performance of male investors and older investors outperform younger investors in both female and male groups.

### **2.2.6 Investment Type and Performance**

Using data from Finland, this study analyzes the extent to which past returns determine the propensity to buy and sell, [17]. It also analyzes

whether these differences in past-return-based behavior and differences in investor sophistication drive the performance of various investor types. We find that foreign investors tend to be momentum investors, buying past winning stocks and selling past losers. Domestic investors, particularly households, tend to be contrarians. The distinctions in behavior are consistent across a variety of past-return intervals.

## 2.3 Empirical Literature Review

### 2.3.1 Studies that found Mixed Results

Exact research identified with value choice procedure in Malaysia directed by, [18], demonstrated nonpartisan data had all the earmarks of being the most significant factor the Malaysian financial specialists, trailed by bookkeeping data, social importance, and advocates' suggestions in the value determination process. Nonpartisan data was emphatically associated while bookkeeping data was contrarily connected with anticipated return. The investigation reasoned that the speculation choice of speculators did not depend on a single incorporated factor.

Studied herd behavior in a laboratory financial market with financial market professionals, [19]. The study combines the advantage of the controlled experiment with that of observing the behavior of professionals, who are engaged in the day-by-day activity of trading, pricing, and analyzing financial assets. This study compares two treatments, one in which the price adjusts to the order flow so that Herding should never occur, and one in which event uncertainty makes Herding possible. In the first treatment, subjects seldom, in accordance with both the theory and previous experimental evidence on student subjects. In the second treatment, the proportion of Herding decisions increases, but not as much as theory suggests; moreover, contrarianism disappears altogether.

Investigated the impact of behavioural factors on individual investors' investment decisions and performance in the Pakistani stock market, [20]. This research focuses on behavioural finance theories that already exist. The study's data was gathered through a questionnaire at the Pakistan Stock Exchange. The findings confirmed that behavioural factors such as heuristics, prospects, markets, and herding all have a significant impact on investors' decisions in Pakistani stock markets. However, one limitation of the study is that it did not look at specific indicators within each behavioural factor dimension. In-depth research into

certain behavioural factor dimensions would improve the knowledge of behavioural factors in finance. As a result, the current study aims to look into the impact of behavioural determinants on investment decisions on the Nigerian stock exchange.

### 2.3.2 Studies that found Positive Results

Some studies were found to have positive effects on the impact of behavioural factors on the investor's investment performance. The authors in [21], analyze how systematic differences in investors' investment objectives and strategies affect the portfolios they select and the returns they earn. The analyses in this study draw on transaction records of a sample of clients (65,325 individual accounts with over nine million trades from January 2000 until March 2006), from the largest online broker in The Netherlands. The data were obtained through an online questionnaire. The results might be useful for policymakers. It is found that investors who rely on fundamental analysis have higher aspirations and turnover, take more risks, are more overconfident, and outperform investors who rely on technical analysis. Our findings provide support for the behavioural approach to portfolio theory and shed new light on the traditional approach to portfolio theory.

In [22], the author surveyed the institutional investors at the Nairobi Stock Exchange. The work investigated the role of behavioural finance and investor psychology in investment decision-making. The study established that behavioural factors such as Representativeness, Overconfidence, Anchoring, Gamblers' Fallacy, Availability, Loss Aversion, Mental Accounting, and Regret Aversion affected the decisions of institutional investors operating at the Nairobi Stock Exchange.

In [23], the author conducted research to determine the behavioural factors influencing the following specific objectives: to determine the effect of risk aversion on investment decisions in the Kenyan stock market, to determine whether prospecting influences decision-making in stock market investments, to determine the effect of anchoring on investment decisions in the Kenyan stock market, and to determine the effect of herding on investment decisions in the Kenyan stock market. The study's target population consisted of 17 investment banks. The majority of the data included in the study came from primary sources.

### 2.3.3 Studies that found Negative Effects

Other studies were seen to have results based on the effect of behavioural factors on investment

decisions. The authors in [24], who did their study on mental accounting and false reference points discovered that this bias is present among investors who rely much on a particular reference point, particularly a false view? The false reference point is particularly attributed to regret aversion. In [25], the author argues that people who display this bias are trapped with fear that the decision they make towards an investment will not be optimal. The authors in [26], examined the impact of behavioural biases on the Nigerian stock exchange and discovered that there was a negative correlation between overconfidence and the stock exchange, as the investors are fueled with overconfidence the market underperforms. There was also a negative relationship between the framing and the stock market as investors prefer to make decisions subjectively.

The authors in [27], aimed at studying the cognitive biases and heuristics, to which, business students are subjected to.

The main purpose of the study was to look at how influenced the students are, by biases, heuristics, and framing effects. The behavioural survey was administered to a sample of sixty-eight students at Jacksonville University in the USA during November 2007 by administering a questionnaire and collecting empirical evidence about both undergraduate and graduate business students' own perceptions of bias. The findings concluded that students are less disposed to make the mistake of being overly confident and optimistic when there is more objectivity involved in making the assessment. Students did not display the illusion of control tendencies and a tendency to be subject to the familiarity heuristic.

In [28], the author studied the factors influencing the investor's behavior on the UAE financial market, the results show that the six most influencing factors in order of importance were: expected corporate earnings, get rich quick, stock marketability, past performance of the firm's stock, government holdings and the creation of the organized financial markets and the least influencing factors to be expected losses and minimizing risks.

### 3 Methodology

#### 3.1 Data Collection and Sample Representation

The research design that was adopted for this study is the Cross-sectional survey method. According to, [29], Cross-sectional designs are appropriate for measuring such complexities of the pattern of relationships that exists among measured variables. A cross-sectional research design would be preferred in this study because the design is capable of looking at the relationship between or among two or more variables. He explained further that Cross-sectional studies are relevant where there are many variables that are needed to be studied simultaneously. The study collected data from the top ten performing brokerage firms listed in the Nigerian Stock exchange (NSE, 2020) out of the 190 active brokerage firms in Nigeria. Using, [30], sample determination formula, the sample size is thus obtained to be  $n = 378.78$  approximately 379. This study relies solely on the primary sources of data. A well-structured questionnaire using a five-point Likert scale was adopted. The questionnaire design was given to the brokers in the selected brokerage firms for onward administration to their respective clients. Lastly, the Structural equation model (SEM), whereby the variables of interest were the independent variable which is the behavioural factor with proxies (heuristic, prospect, herd, and market), and the dependent variable was formulated to further test the hypothesis postulated at a 5% level of significance.

#### 3.2 Model Specification

The Structural equation model (SEM) or function that includes the independent and dependent variables for this study was computed as follows:

The model is stated as thus:

$$IP = \alpha + \beta_{IHEU} + \beta_{IPRO} + \beta_{IHER} + \beta_{IMAR} + iAGE + iTYPE + \mu \quad \dots \text{equation 1}$$

Where: Independent variable is

IP = investment performance

Dependent variables are:

HEU = heuristic factors

PRO = prospect factors

HER = herd factors

MAR = market factors

Mediating variables:

iAGE = investors age

iTYPE = investment type

$\alpha$  = Intercept

$\beta$  = Independent variable coefficient

$\mu$  = Error terms



very weak positive relationship ( $r= 0.178$ ) exists between vision prospect factor and investment performance, a weak positive relationship ( $r= 0.439$ ) exists between heuristic and market factor, a weak

positive relationship ( $r= 0.249$ ) exists between heuristic and herd factor, an approximately strong positive relationship ( $r= 0.652$ ) exists between market factor and prospect factor, and so on.

**Table 2a. Model Parameter Estimate and Summary**

Structural equation model	Number of obs	=	372
Estimation method	= ml		
Log likelihood	= -3691.2302		
( 1) [HUF]Behavioural_Factor = 1			
( 2) [HUF]_cons = 0			
( 3) [PRF]_cons = 0			
( 4) [HEF]_cons = 0			
( 5) [MAF]_cons = 0			

	OIM				[95% Conf. Interval]	
	Coef.	Std. Err.	z	P> z		
<b>Structural</b>						
<b>IPF</b>						
AGE	.1283295	.0486084	2.64	0.008	.0330587	.2236002
IVT	.100146	.0520668	1.92	0.054	-.001903	.202195
Behavioural_Factor	.8189714	.0735054	11.14	0.000	.6749034	.9630394
_cons	.0144463	.1589769	0.09	0.928	-.2971427	.3260354
<b>Measurement</b>						
<b>HUF</b>						
Behavioural_Factor	1	(constrained)				
_cons	0	(constrained)				
<b>PRF</b>						
Behavioural_Factor	.9931407	.0240012	41.38	0.000	.9460992	1.040182
_cons	0	(constrained)				

**Table 2b. Model Parameter Estimate and Summary**

<b>HEF</b>						
Behavioural_Factor	1.124137	.0216228	51.99	0.000	1.081757	1.166517
_cons	0	(constrained)				
<b>MAF</b>						
Behavioural_Factor	.9815052	.017908	54.81	0.000	.9464061	1.016604
_cons	0	(constrained)				
mean (AGE)	1.747312	.0418395	41.76	0.000	1.665308	1.829316
mean (IVT)	2.102151	.0461018	45.60	0.000	2.011793	2.192508
var (e.HUF)	.3478711	.0363036			.2835226	.4268243
var (e.PRF)	.9429905	.077522			.8026592	1.107856
var (e.HEF)	.605105	.0567711			.5034668	.7272617
var (e.MAF)	.375097	.0378018			.3078651	.457011
var (e.IPF)	.4437541	.0407328			.3706887	.5312211
var (AGE)	.6512025	.0477485			.5640309	.7518464
var (IVT)	.7906405	.0579726			.6848035	.9128348
var (Behavioural_Factor)	6.170946	.4780004			5.301733	7.182666
cov (AGE, IVT)	.2139843	.0388219	5.51	0.000	.1378947	.2900738

LR test of model vs. saturated:  $\chi^2(17) = 1203.28$ , Prob >  $\chi^2 = 0.0000$

## 4.2 Discussion of Findings

*H01: There is no significant effect of heuristic factors on the investors' investment performance in the Nigeria capital market.* As observed from the model summary table above, heuristic factors as a measure of behavioural factors are seen to have a coefficient of 1.000 with a p-value (0.000) which is less than 0.05 (5%) level of significance. This thus implies that there is a significant positive effect of the heuristic factor on the investor's investment performance. Hence, the null hypothesis which states that "There is no significant effect of heuristic factors on the financial performance of investors in Nigeria's capital market" is rejected.

This finding also supports the study of, [31], who investigated behavioural contextual factors on the Colombo stock exchange and found heuristics had a significant influence on individual investors' performance. Other research works that align with this conclusion are the works by, [32], [33], [34], which reveal that heuristics factors influence investment performance positively.

*H02: There is no significant effect of prospect factors on the investors' investment performance in the Nigeria capital market.* The second factor which is the prospect factor shows a model parameter coefficient of 0.9931 with a p-value of 0.000 which is positive and significant." This thus shows that with a unit increase in the investors' prospect factor, there will be a corresponding 0.993 unit increase in the investment performance of the investors. Furthermore, the null hypothesis will be rejected as stated and we conclude that there is the prospect factor has a significant and generalizable effect on investment performance.

This finding also supports the study of, [20], [31], [35], which reveals that prospect factor influence investment performance positively.

*H03: There is no significant effect of herd factors on the investors' investment performance in the Nigeria capital market.* The third variable which is the herd factor was also used to explain the financial performance of the investor in Nigeria's capital market. The herd factor shows a coefficient of 1.124 this is thus a positive effect on the investor's financial performance. This effect is also seen to be significant since it returns a p-value of 0.000 which is less than the 5% level of significance. Thus, we reject the null hypothesis "There is no significant effect of herd factors on the financial performance of investors in Nigeria capital market" and conclude that there is a significant positive effect of herd factors on the investor's financial performance. This is in line with the findings of the research carried out by, [35], which looked into the

relationship between the herd and investment performance and concluded that the herding effect has a substantial impact on investment success. Other studies that share the same conclusion that Herd is positively correlated and significantly related to investment performance include, [20], [36], [37]. This finding also supports the study of, [32], which reveals that herd behavior influences investment performance.

*H04: There is no significant effect of market factors on the investors' decision in the Nigeria capital market.* From the model summary table above, the market factor returns a model coefficient of 0.9815 which implies a positive effect on the investor's financial performance. Furthermore, this shows that with a unit increase in the market factor, the investors' financial performance will see about a 0.9815-unit increase. The coefficient also returns a coefficient p-value of 0.000 which is less than the 0.05 (5%) level of significance, and hence seen to be significant. Thus, on the basis of this, we reject the null hypothesis "There is no significant effect of market factors on the financial performance of investors in Nigeria's capital market" and conclude that there is a significant positive effect of the market factor on the investor's financial performance.

This finding also supports the study of, [38], which reveals that market factor has an influence on investment performance."

*Modeling behavioural factors together with the investors' age as a mediating variable on the investment performance.* The investor's age returns a coefficient of 0.1283 with a p-value of 0.008 which is positive and significant, while the behavioural factor returns a coefficient of 0.8189 which is positive and significant. Therefore, the null hypothesis "There is no significant effect of the investors' age and the behavioural factors on the investment performance in Nigerian capital market" is rejected and we accept the alternative which states "There is a significant effect of the investors' age and the behavioural factors on the investment performance in Nigerian capital market". Thus, we can conclusively say that the age of the investor is significantly mediating the effect of the behavioural factor on the investor's financial performance. This finding corroborates the works of, [39], which reveal that the age of investors influences investment performance. Furthermore, this can be said to mean that the investors' age is critical to measure the effectiveness of the behavioural factor on investment performance. *Type of investment as a mediating variable:* Similarly, we fitted the behavioural factor together with the type of

investment as a mediating variable on the investment performance. The type of investment returns a coefficient of 0.1005 with a p-value of 0.054 which is positive but not significant, while the behavioural factor returns a coefficient of 0.8189 which is positive and significant. Therefore, the null hypothesis “There is no significant effect of the investment type and the behavioural factors on the investment performance in Nigerian capital market” is not rejected thus suggesting that there is no significant mediating role of the type of investment and the behavioural factors on the investment performance in Nigerian capital market”. Thus, we can conclusively say that the type of investment is not significantly mediating the effect of the behavioural factor on the investor's financial performance. Furthermore, this can be said to mean that the type of investment is not critical to the effect of the behavioural factor on investment performance.” This finding also supports the study of, [40], which reveals that the type of investor has a negative effect on investment performance.

## 5 Conclusion

The study concludes that behavioural factors have a significant effect on investment performance in Nigeria's Capital Market. This confirms the study by, [41], which concluded that the herding effect, risk aversion, prospecting, and anchoring influence investment decision-making in the stock market. This study also confirms the study by, [42], who studies the impact of behavioural factors on individual investors' decision-making and investment performance in the Pakistani Stock Market and found that a specific dimension of behavioural factors would enhance the knowledge of behavioural factors in finance.

### 5.1 Recommendations

Investors should carefully evaluate and do research before making investment decisions, according to the study, and should not be swayed by their previous losses while making future investment decisions. This can limit attractive investment opportunities and have a detrimental impact on investor mentality, resulting in poor investment performance. Second, potential cognitive mistakes including representativeness, hindsight, the illusion of control, availability biases, and emotional biases like regret aversion and over-optimism should be highlighted. To manage and balance the impact of behavioural influences on investors' decision-making and investment performance, prospective

individual investors should be offered training programs that increase their awareness of how to spot and avoid cognitive errors and emotional biases that lead to poor investment decisions. Finally, it is thought that establishing a body to monitor market performance and offer the best investment advice to both potential and current market participants is a good idea for the future.

### 5.2 Contribution to Knowledge

The study contributes to the literature on the effect of Behavioural factors on the investors' decision-making in the following ways:

- i. It covers all active investors listed in the stock brokerage firms, not just one or a few as other studies on the subject matter have done. It, therefore, has a larger scope than previous studies and gives a better-rounded view of the effect across the entire economy;
- ii. It covers the subject from the Nigerian, and emerging market, perspective, extending the body of knowledge on the effect of Behavioural Factors on Investors' decision-making across markets and jurisdictions where studies on the subject had been relatively less extensive.

### Acknowledgments:

We wish to acknowledge the Nile University of Nigeria, Abuja for providing an enabling environment for this study.

### References:

- [1] Barberis, N., Thaler, R. (2003). A survey of behavioural finance. In: Constantinides, G., Harris, M., Stulz, R. (Eds.), *Handbook of the Economics of Finance*. North-Holland, Amsterdam. [https://doi.org/10.1016/S1574-0102\(03\)01027-6](https://doi.org/10.1016/S1574-0102(03)01027-6)
- [2] Morck, R. (2004). *Behavioural Finance in Corporate Governance-Independent Directors, Non-Executive Chairs, and the Importance of the Devil's Advocate*.
- [3] Sharpe, W. F., G. J., Alexander, and J. V., Balley, (2003). “Investments”. New Delhi: Prentice Hall of India Private Ltd.
- [4] Aigbovo, O., & Ilaboya, O. J. (2019). Does Behavioural Biases Influences Individual Investment Decisions. *Management Science Review*, 10(1), 68-89.
- [5] Baker, H. K., & Nofsinger, J. R. (Eds.). (2010). *Behavioural finance: investors, corporations, and markets (Vol. 6)*. John Wiley & Sons.

- [6] Razek, Y. H. A. (2011). An overview of behavioural finance and revisiting the behavioural life cycle hypothesis. *IUP Journal of Behavioural Finance*, 8(3), 7. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2098183](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2098183)
- [7] Subrahmanyam, S., & Gomez-Arias, J. T. (2008). Integrated approach to understanding consumer behavior at bottom of pyramid. *Journal of Consumer Marketing*. <https://doi.org/10.1108/07363760810915617>
- [8] Bogunjoko, A. (2021, August). Impact of Behavioural Finance on Investment decisions – An Investigation in to how psychological factors affect Investment decisions among millennial Investors in Nigeria.[Master's Thesis, National College of Ireland]. NCI
- [9] Liu, C. (2006). Research on Behavioural of Chinese Security. China National Knowledge Internet.
- [10] Shabarisha, N. (2015). Heuristic and biases related to financial investment and the role of behavioural finance in investment decisions – a study. *Zenith International Journal of Business Economics & Management Research*, 85. 4(12).
- [11] Jahanzeb, A., Muneer, S., & Rehman, S. (2012). Implication of Behavioural Finance in Investment Decision-making Process. *Information Management and Business Review*. 4(10). 532-536.
- [12] Asogwa, R. C. (2015). Governments' Options for Financing the Sustainable Development Goals (SDGs) in a Period of Economic Downturn. For CBN Executive Staff At Golden Tulip Hotel, Lagos, September 05-08, 2016, 53, 127.
- [13] Abdullah, M. (2018). Waqf, Sustainable Development Goals (SDGs) and maqasid al-shariah. *International Journal of Social Economics*, 45(1), 158–172.
- [14] Ayoub, Asad & Balawi, Ayman. (2022). Herd Behaviour and its Effect on the Stock Market: An Economic Perspective. *Quality - Access to Success*. 188. 10.47750/QAS/23.188.38.
- [15] Krishnan, R., & Booker, D. M. (2002). Investors' use of analysts' recommendations. *Behavioural Research in Accounting*, 14(1), 129–156. <https://doi.org/10.2308/bria.2002.14.1.129>
- [16] Talpsepp, T. (2013). Does gender and age affect investor performance and the disposition effect? *Research in Economics and Business: Central and Eastern Europe*, 2(1).
- [17] Grinblatt, M., & Keloharju, M. (2000). The investment behavior and performance of various investor types: a study of Finland's unique data set. *Journal of financial economics*, 55(1), 43-67. [doi.org/10.1016/S0304-405X\(99\)00044-6](https://doi.org/10.1016/S0304-405X(99)00044-6)
- [18] Tun-Pin, C., & Ming-Ming, L. (2011). An empirical evidence of factors in equity selection process in Malaysia. *African Journal of Business Management*, 5(15), 6221-6232. DOI: 10.5897/AJBM11.228
- [19] Bellmann, K., & Khare, A. (1999). The European response to issues in recycling car plastics. *Technovation*, 19(12), 721–734.
- [20] Anum, B. A. (2017). Behavioural Factors and their Impact on Individual Investors Decision Making and Investment Performance: Empirical Investigation from Pakistani Stock Market. *Global Journal of Management and Business Research*, 17(1).
- [21] Hunt, E. J., Zhang, C., Anzalone, N., & Pearce, J. M. (2015). Polymer recycling codes for distributed manufacturing with 3-D printers. *Resources, Conservation and Recycling*, 97, 24–30.
- [22] Kartašova, J. (2013). Factors forming irrational Lithuanian individual investors' behaviour. <https://repository.mruni.eu/bitstream/handle/007/10555/3/11-495-1-SM.pdf?sequence=1&isAllowed=y#:~:text=Empirical%20research%20has%20showed%20that,%2D%20tiveness%2C%20and%20crowd%20behaviour>
- [23] Wamae, J. N. (2013). Behavioural factors influencing investment decision in stock market: A survey of investment banks in Kenya. *International Journal of Social Sciences and Entrepreneurship*, 1(6), 68-83. <https://www.inderscienceonline.com/doi/abs/10.1504/AJFA.2014.059500>
- [24] Seiler, M. J., Seiler, V. L., & Lane, M. A. (2012). Mental accounting and false reference points in real estate investment decision making. *Journal of Behavioural finance*, 13(1), 17-26. [doi.org/10.1080/15427560.2012.653293](https://doi.org/10.1080/15427560.2012.653293)
- [25] Gazel, S. (2015). The regret aversion as an investor bias. *International Journal of Business and Management Studies*, 4(02), 419-424.
- [26] Babajide, A. A., & Adetiloye, K. A. (2012). Investors' behavioural biases and the security market: An empirical study of the Nigerian security market. *Accounting and Finance Research*, 1(1), 219–229. <http://eprints.covenantuniversity.edu.ng/id/eprint/1696>
- [27] Coelho, T. M., Castro, R., & Gobbo, J. A. (2011). PET containers in Brazil: Opportunities and challenges of a logistics model for post-consumer waste recycling. *Resources, Conservation and Recycling*, 55(3), 291–299.
- [28] Al-Tamimi, H., (2005). Factors influencing individual investor Behaviour: an empirical study of the UAE financial market. IBRC Athens, Aryan Hellas Limited. available at: [www.aryanhellas.com/107/ha.pdf](http://www.aryanhellas.com/107/ha.pdf).

- [29] Stangor, C. (2004). Social groups in action and interaction. Psychology Press. <https://www.amazon.com/Social-Groups-Action-Interaction-2nd/dp/1848726929>
- [30] Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and psychological measurement, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- [31] Menike, L. M. C. S., Dunusinghe, P. M., & Ranasinghe, A. (2015). Macroeconomic and firm specific determinants of stock returns: A comparative analysis of stock markets in Sri Lanka and in the United Kingdom. Journal of Finance and Accounting, 3(4), 86-96. doi: 10.11648/j.jfa.20150304.14
- [32] Kumari, N., & Sar, A. K. (2017). Cognitive and behavioural biases influencing investment performance. ZENITH International Journal of Multidisciplinary Research, 7(8), 49-62. <https://osf.io/uyfxj/download>
- [33] Kengatharan, L. (2019). Factors Influencing Investment Decision In Stock Market: Evidence From Individual Investors In The Northern Province of Sri Lanka. In 1st Asia Pacific Symposium on Academic Research (APSAR-2019). [https://apiar.org.au/wp-content/uploads/2019/03/1\\_APSAR\\_2019\\_BRR717\\_Bus\\_1-17.pdf](https://apiar.org.au/wp-content/uploads/2019/03/1_APSAR_2019_BRR717_Bus_1-17.pdf)
- [34] Kengatharan, L., & Kengatharan, N. (2014). The influence of behavioural factors in making investment decisions and performance: Study on investors of Colombo Stock Exchange, Sri Lanka. Asian Journal of Finance & Accounting, 6(1), 1. <http://www.sciedupress.com/journal/index.php/afjr/article/download/18535/11519>
- [35] Allameh, S. M., Pool, J. K., Kazemi, R. V., & Mostafavi, M. (2015). The impact of emotional intelligence on transformational leadership and leader effectiveness. Latin American Journal of Management for Sustainable Development, 2(1), 83-93.
- [36] Khan, M. H. (2014). An empirical investigation on behavioural determinants of perceived investment performance: Evidence from Karachi stock exchange. Research Journal of Finance and Accounting, 5(21), 129-137. [https://www.researchgate.net/publication/323726128\\_An\\_empirical\\_investigation\\_of\\_investor's\\_behavioural\\_biases\\_on\\_financial\\_decision\\_making](https://www.researchgate.net/publication/323726128_An_empirical_investigation_of_investor's_behavioural_biases_on_financial_decision_making)
- [37] Johnsson, M., Lindblom, H., & Platan, P. (2002). Behavioural Finance-and the Change of Investor Behavior During and after the Speculative Bubble at the End of the 1990s. <https://www.jstor.org/stable/3216841>
- [38] Shikuku, O. C. (2014). The effect of behavioural factors on individual investor choices at the Nairobi securities exchange (Doctoral dissertation, University of Nairobi). [http://erepository.uonbi.ac.ke/bitstream/handle/11295/13389/Kamau\\_The%20Effect%20Of%20Behavioural%20Factors%20On%20Investment%20Decisions%20At%20The%20Nairobi%20Securities%20Exchange.pdf?sequence=3&isAllowed=y](http://erepository.uonbi.ac.ke/bitstream/handle/11295/13389/Kamau_The%20Effect%20Of%20Behavioural%20Factors%20On%20Investment%20Decisions%20At%20The%20Nairobi%20Securities%20Exchange.pdf?sequence=3&isAllowed=y)
- [39] Subramaniam, A., & Velnampy, T. (2017). The role of behavioural factors in the investment decisions of household investors. International Journal of Accounting and Financial Reporting, 7(1), 392-412. <https://adjournal.org/index.php/conferenceseries/article/download/376/312/1223>
- [40] Nyamute, W., Lishenga, J., & Oloko, M. (2017). The relationship between investor behavior and portfolio performance at the Nairobi Securities Exchange. <http://erepository.uonbi.ac.ke/handle/11295/11066>
- [41] Sajjadi, S. H., & Lotfi, A. A. (2017). Investigating the Effects of Financial Behavioural Traps on the Decision Making Quality of Investors (Case Study: Investment Enterprises Accepted in the Tehran Stock Exchange). International Review of Management and Marketing, 7(1), 85-89. <https://econjournals.com/index.php/irmm/article/view/4482>
- [42] Lin, H.-W. (2012). Elucidating rational investment decisions and behavioural biases: Evidence from the Taiwanese stock market. African Journal of Business Management, 1630-1641 <https://doi.org/10.1108/QRFM-05-2016-0016>

### Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

- Bekweri Mark Edeh carried out the conceptualization and the manuscript preparation.
- Umar Abbas Ibrahim supervised the entire study.
- Faiza Muritala was responsible for the Statistics.
- Cross Ogohi Daniel supervised the study and was responsible for all corrections on the research

### Conflict of Interests

The Authors have no conflict of interests to declare.

### Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

This research received no specific grant from any funding agency in the public, commercial, or non-for-profit sectors.

### Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0 [https://creativecommons.org/licenses/by/4.0/deed.en\\_US](https://creativecommons.org/licenses/by/4.0/deed.en_US)