

## BEHAVIOURAL FINANCE FACTORS AND INVESTMENT DECISION MAKING IN THE MARITIME SECTOR OF NIGERIA

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**Abstract:** This study investigates how behavioural finance factors influence individual investors' investment decisions in Nigeria's maritime sector. The study specifically examines how overconfidence, regret effect, herding style, risk perception, and heuristic effect influence investment decision making. The study's data were collected using well-structured questionnaires distributed to 238 respondents, with only 217 valid questionnaires. At the 5% level, we used the Spearman rank correlation coefficient. We discovered that overconfidence, regret effect, herding style, and heuristic effect all have a positive and significant impact on investment decision making. Though risk perception influences individual investors' investment decisions, it is only marginally significant. We conclude that behavioural finance factors have a significant impact on individual investors' investment decisions in Nigeria's maritime sector. The study advises individual investors to analyse and monitor the market rather than making investment decisions based on their intuitions, as this may have an impact on their returns. Individual investors who are new to the market should be actively trained and closely monitored by the Nigeria exchange group.

**Keywords:** Cascading, Heuristic, Overconfidence, Behaviour, Nigeria

### 1.0 Introduction

Price fluctuations, investor decisions, and investment patterns have long been a global concern for practitioners and academics. Theoretically, these issues have remained one of the most prominent topics of discussion in the field of finance. Komba (2020) divides them into two separate categories. The first premise is that the market is efficient and investors act rationally (Markowitz, 1952; Sharpe, 1964), and this dominates the prior investment performance of investors (Kishore, 2005). The second premise is founded on the behavioural aspect of finance, which takes investors' irrational decision-making patterns into account when making investment decisions (Shantha, 2019).

Modern portfolio, capital asset pricing, and arbitrage pricing theories are mathematical models that support rational expectation-based theories, according to Sharpe (1964) and Markowitz (1995). As a result, investors

employ these concepts to strengthen their investment selections, react swiftly to newly available information, and adjust their pricing to reflect this information (Kishore, 2005). In other words, share prices reflect the securities' intrinsic value. Consequently, it is believed that market returns for investors adhere to the random walk hypothesis (stock prices cannot be predicted), supporting the efficient market premise that there is no such thing as a free lunch. Nonetheless, based on the availability of investment data and the breadth of research, Fama and French (1995) argue in earlier and later works that this perspective is not widely accepted.

Behavioral finance does not accept the market's total rationality and efficiency; rather, it argues that market informational efficiency and investor rationality are undermined by obstacles (Sherfrin, 2002). According to Statman (2014), it stems from the cognitive flaws of investors, including overreaction, herding, over/under

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confidence, and cognitive bias (Shafi, 2014). Behavioral investment decisions cause one to four times the normal level of market volatility (Andrikopoulos et al., 2014). Excessive market volatility causes mispricing and mispricing of stocks, which reduces market efficiency (Huang, Lin, & Yang, 2015). Only investors skilled at exploiting mispriced stocks have a shot at outperforming the market. Institutional investors outperformed individual investors in terms of investment performance (Ahmed, 2014). Individual investors who rely on behavioural finance factors for market leadership suffered poor investment performance and financial losses due to the larger issue (Chung & Wang, 2016).

Poor investment performance and monetary losses are likely to be more prevalent in a market dominated by individual investors due to behavioural finance factors (BFFs). An example of such a market is Nigeria. Prior research has been conducted on institutional BFFs because institutional investors are financially savvy; however, less research on individual BFFs in Nigeria has been conducted because individual investors are less financially savvy. Concerning investment decisions in the maritime sector of the Nigerian economy, the specific issue was a lack of knowledge regarding individual BFFs. Moreover, at the time of writing, none of the studies had examined the effects of BFFs on the investment decision-making process of Nigerian maritime investors. For instance, Edeh (2020) examines how BFFs influence the decision-making of individual investors on the floor of the Nigeria Exchange Group (NGX); Ogunlusi and Obademi (2019) investigate the impact of BFFs on investment banks in Nigeria; and Anthony and Joseph (2017) investigate the impact of BFFs on the NGX. This research aims to fill this void in the literature. The decision to focus on this aspect is a result of the maritime industry's volatile business climate, which is characterised by constant fluctuations in bunker cost and freight rate; thus affecting the ability of individual investors to make consistently profitable investment decisions on their own. The sections of this paper are as follows: introduction, literature review, methodology, results and discussions, conclusions and recommendations.

## **2.0 Literature Review**

### **Prospect Theory**

Kahneman and Tversky (1979) put forth their Prospect Theory to explain human behaviour in future situations. It provides a comprehensive analysis of investor behaviour in the face of uncertainty. They claim that people's perceptions of gain and loss are not equal. Because of this, prospect theory is an alternative to the expected utility theory, which instead attempts to prototype the decisions that completely logical agents would make. They determined that the negative impact of a loss is roughly double the positive impact of a gain. That is, the anguish of defeat is felt twice as keenly as the elation of victory. The term "loss aversion" refers to the belief that the emotional impact of losing is roughly double that of winning. Another implicit argument of prospect theory is that people are more likely to take calculated risks to limit their losses than they are to take calculated risks to increase their gains. To rephrase, when investors see profits, they are more likely to be cautious, but when they see losses, they are more likely to take risks. In contrast, Markowitz's (1952) expected utility theory states that a savvy investor will always act in the same way, regardless of whether they are risk-averse or risk-takers.

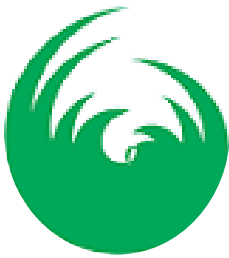
### **Heuristic Theory**

Tversky and Kahneman (1974) This set of assumptions underpins a heuristic style of thinking, wherein people routinely resort to heuristics like principles of thumb in order to streamline their decision-making.

De Bondt et al. (2008) provided further support for the idea that people (investors) have a leanings in their perception that influences their thoughtfulness and decision-making. According to Fromlet (2001), a heuristic is "the use of experience and practical efforts" in an attempt to decipher data quickly through the use of examples and gut feelings. It clarifies how people (and organisations) make choices in the face of ambiguity. When making decisions, investors often err due to relying on principles of thumb rather than rigorous analysis. To one side, a heuristic strategy can speed up the decision-making process. This method may introduce methodological flaws or biases.

### **Framing Theory**

Cognitive bias is framed after heuristics. Traditional finance assumes transparent framing (Frensidy, 2016).



Behaviorists believe many images are opaque, making it hard for investors to notice. Thus, information presentation will heavily influence decisions. Following the previous investigation, Frensidy (2016) mentioned someone (Daniel) differently utilizing the same details on two classes, A and B. In class A, Daniel is clever, assiduous, spontaneous, critical, tenacious, and jealous. In class B, Daniel is jealous, tenacious, critical, spontaneous, assiduous, and clever. Reversing Daniel's traits affects the groups' assessments. The test demonstrates that initial defining features have more sway than later ones. Class A rates Daniel much higher than class B. He proposed two explanations. First, as one absorbs more knowledge, one may pay less consideration to the info behind. Second, first opinions often outweigh subsequent info. These two causes bias.

Empirically, Gu (2023) investigates how BBFs affects entrepreneurship through managers' overconfidence in publicly traded Chinese firms using empirical evidence. Gu (2023) created an index that comprehensively captures managers' overconfidence. The study confirms that mergers and acquisitions have a negative impact on entrepreneurship innovation and profitability. Ahmad and Wu (2022) investigate the impact of herding styles on investment decisions, market efficiency, and the performance of the Pakistan Stock Exchange. The study confirms that herding styles of investors in the PSX retard investment performance and market efficiency; however, it affects individual investors decision making positively using a structured questionnaire involving 309 investors who trade on the PSX. In Nigeria, Ogunlusi and Obademi (2021) investigate how BFFs influence investment bank investment decisions. Using a total of 200 questionnaires from four different banks, the researchers confirm that prospect theory significantly stimulates individual investment decisions; however, heuristics theory significantly reduces individual investment decisions. Kathiravan et al. (2021) argue that weather (windspeed, temperature, and humidity) influences investor decision-making in a few selected countries (China, Japan, Hong Kong, India, and Singapore). According to Kartini and Nahda's (2021) research, behavioural finance factors such as anchoring, loss aversion, optimism, overconfidence,

loss aversion, and representative biases, as well as herding style, strongly influence individual investment decisions in Yogyakarta. Similarly, Sattar, Toseef, and Sattar (2020) argue that hindsight, anchoring, herding style, representativeness, overconfidence, home bias, moods, heuristics, feelings, prospects, and personality traits influence individual investors' investment decisions. Komba (2020) investigates the occurrence of herding in the Dar-es-Salaam Stock Exchange through the use of a cross-sectional distribution of stock returns. The results of the research lend credence to the idea that highly capitalised stocks lead to herd habits. Edeh (2020) uses questionnaires to investigate the role of private investors in Nigeria's stock exchange (NSE). The multiple regression analysis result demonstrates the insignificance of the herding effect on financial investments. Ogunlusi and Obademi (2019) use the multiple regression technique to research the impact of BFFs on investment bank decisions. By sending out, collecting, and analysing questionnaires, the researchers confirm the significant impact of BFFs on investment decision-making.

### **3.0 Methodology**

In this study, we employ a cross-sectional survey as our research design. This is because it provides us with a snapshot of the population at a given point in time (Levin, 2006), as well as individual associations in terms of potential outcomes. Due to the study's inability to capture all individual investors in Nigeria's maritime sector, only 475 investors who reside and conduct business in Lagos State are considered the accessible population.

The study employs the purposive sampling method because the respondents are drawn exclusively from individual investors in Nigeria's maritime sector. Thus, the sample size was calculated using the Yamane formula (1968). Therefore, 217 individual investors represent the study's sample. The Yamane's equation is:

$$n = \frac{N}{1 + N(e)^2}$$

Where, n = Sample size, N = Population size, and e = The error of sample. To cater for wrongly filled/incomplete questionnaires, the study adds 10% to the sample size; making it 238.



We obtained the data used in this study from secondary and primary sources. The primary data was collected using a well-structured close/open-ended and multiple-choice questionnaire, while the secondary data was collected using textbooks, periodicals, and scholarly journals. For consistency and ease of response, questionnaires were used to collect study variables, and the Likert scale with the labels Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1) was employed.

To validate the instrument, field experts and lecturers reviewed the questionnaires and their suggestions and corrections were incorporated. On the subject of reliability, the Cronbach Alpha was utilised, and the results indicated that the questionnaire items were above 0.75, indicating

that the instrument is reliable. This study employs the Spearman's rank order correlation coefficient (SROCC) to examine the connection between BFFs and the investment decisions of individual investors in the maritime sector of the Nigerian economy. The SROCC is computed in this manner:

$$rho = 1 - \frac{6 \sum di^2}{n(n^2 - 1)}$$

Where; d = Changes in ranks for any two corresponding items, n = Number of cases or items sampled,  $\sum di^2$  = Aggregate of total value

#### 4.0 Results and Discussion

##### 4.1 Data Presentation.

**Table 4.1 Distribution and Retrieval Frequency of Questionnaire**

|                                     | Frequency | Percentage |
|-------------------------------------|-----------|------------|
| Copies of Distributed Questionnaire | 238       | 100%       |
| Retrieved Questionnaires            | 230       | 97%        |
| Incomplete/Wrongly Filled           | 13        | 5%         |
| Valid Questionnaire                 | 217       | 91%        |

Source: Field Survey (2023)

Table 4.1 demonstrates that 217 of the 238 copies distributed were valid, accounting for 91% validity with only 5% (13) of incorrectly filled/incomplete questionnaires.

#### 4.2 Data Analysis

##### 4.2.1 Demographic Analysis

**Table 4.2: Gender Distribution**

Gender

|              | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------|-----------|---------|---------------|--------------------|
| Valid Female | 50        | 23.0    | 23.0          | 23.0               |
| Valid Male   | 167       | 77.0    | 77.0          | 100.0              |
| Total        | 217       | 100.0   | 100.0         |                    |

Source: SPSS Output

Table 4.2 shows the male (167, 77%) outnumbering female (50, 23%) individual investors who agreed to participate in this study. The dominance of male individual investors in the Nigerian maritime sector is attributed to this result.

**Table 4.3: Age Distribution**

Age

|                      | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Valid Below 30 years | 18        | 14.2    | 14.2          | 14.2               |



|                        |     |       |       |       |
|------------------------|-----|-------|-------|-------|
| 30-39 years            | 26  | 20.5  | 20.5  | 34.7  |
| 40-49 years            | 55  | 43.3  | 43.3  | 78    |
| 50 years old and above | 28  | 22    | 22    | 100.0 |
| Total                  | 127 | 100.0 | 100.0 |       |

**Source: SPSS Output**

Table 4.3 shows that most of the individual investors in the Nigeria maritime sector are within the age bracket of below 30 to 49 years (i.e., 78%). This is due to the erratic nature of the maritime business environs.

**Table 4.4 Marital Status Distribution**

**Marital Status**

|               | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------|-----------|---------|---------------|--------------------|
| Valid Married | 69        | 54.3    | 54.3          | 54.3               |
| Single        | 30        | 23.6    | 23.6          | 77.9               |
| Divorced      | 17        | 13.4    | 13.4          | 91.3               |
| Widow/Widower | 11        | 8.7     | 8.7           | 100.0              |
| Total         | 127       | 100.0   | 100.0         |                    |

**Source: SPSS Output**

According to Table 4.4, the majority of individual investors are married (69.3%), while 30(23.6%) are single, 17(13.4%) are divorced, and 11(8.7%) are widow/widower. This implies that most individual

investors may be inclined toward a herding style, with a lower preference for risky adventures, because they have more dependents to care for and will be unwilling to take on much risk.

**Table 4.5 Educational Qualification Distribution**

**Educational Qualification**

|                                | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------------------------|-----------|---------|---------------|--------------------|
| Valid SSCE                     | 7         | 5.5     | 5.5           | 5.5                |
| OND/NCE                        | 29        | 22.8    | 22.8          | 28.3               |
| Bachelor/Higher Diploma Degree | 51        | 40.2    | 40.2          | 68.5               |
| Master's Degree                | 27        | 21.3    | 21.3          | 89.8               |
| Ph.D                           | 13        | 10.2    | 10.2          | 100.0              |
| Total                          | 127       | 100.0   | 100.0         |                    |

**Source: SPSS Output**

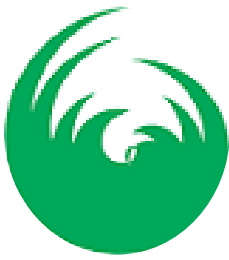
The result of table 4.5 depicts that most of the respondents are well educated. This is because most of the respondents fall within the educational attainment level of OND/NCE to PhD; thus, making up 94.4% of the respondents.

**4.2.2 Univariate Analysis**

**Table 4.6: Descriptive Statistic Result**

**Descriptive Statistics**

|  | N | Min | Max | Mean | Std. Dev | Skewness | Kurtosis |
|--|---|-----|-----|------|----------|----------|----------|
|--|---|-----|-----|------|----------|----------|----------|



|                            | Stat | Stat | Stat | Stat   | Stat    | Stat  | Std. Error | Stat  | Std. Error |
|----------------------------|------|------|------|--------|---------|-------|------------|-------|------------|
| Overconfidence             | 217  | 1.00 | 5.00 | 3.5392 | .80484  | -.639 | .165       | 1.024 | .329       |
| Regret Effect              | 217  | 2.00 | 5.00 | 3.5899 | .88845  | -.135 | .165       | -.692 | .329       |
| Herding Style              | 217  | 1.00 | 5.00 | 3.5945 | 1.01906 | -.391 | .165       | -.354 | .329       |
| Risk Perception            | 217  | 1.00 | 5.00 | 3.4654 | 1.03635 | -.247 | .165       | -.596 | .329       |
| Heuristic Effect           | 217  | 1.00 | 5.00 | 3.5438 | 1.01797 | -.372 | .165       | -.406 | .329       |
| Investment Decision Making | 217  | 2.00 | 5.00 | 3.6636 | .86185  | -.035 | .165       | -.706 | .329       |
| Valid N (listwise)         | 217  |      |      |        |         |       |            |       |            |

#### Source: SPSS Output

Table 4.6 reveals the mean value of overconfidence, regret effect, herding style, risk perception, heuristic effect, and investment decision making as 3.5392, 3.5899, 3.5945, 3.4654, 3.5438, and 3.6636; with smallest and largest values of 1 and 5, 2 and 5, 1 and 5, 1 and 5, 1 and 5, and 2 and 5 respectively. Their levels of disparity are 0.80484,

0.88845, 1.01906, 1.03635, 1.01797, and 0.86185 respectively. All the variables are negatively skewed; indicating that they skewed to the left. The Kurtosis values of below 3 for all the variables reveals that they are all platykurtic.

#### 4.2.3 Bivariate Analysis

**Table 4.7: Summarized Spearman's rho Result**

| Investment Decision Making |             |                 |
|----------------------------|-------------|-----------------|
| Variables                  | Coefficient | Sig. (2-tailed) |
| Overconfidence             | .968*       | .003            |
| Regret Effect              | .168*       | .013            |
| Herding Style              | .156*       | .021            |
| Risk Perception            | .137        | .045            |
| Heuristic Effect           | .376**      | .000            |

#### Source: SPSS Output

The Spearman's rho result of table 4.7 shows that overconfidence, regret effect, herding style, risk perception, and heuristic effect are positive (0.968, 0.168, 0.156, 0.137, and 0.376) and significant (0.03, 0.013, 0.21, 0.45, and 0.000) to investment decision making

respectively. This means that as the individual investors becomes overconfidence, engage in regret effect, follow herding style, becomes more risk averse, and engage in heuristic effect their inclinations to invest tend to increase.

#### 4.3 Discussion of Findings



Individual investors' overconfidence has a significant impact on their investment decisions. This is because as individual investors gain confidence in their trading, they tend to increase the amount of their investment in order to maximise their profits. Sattar, Toseef, and Sattar (2020), Kathiravan et al. (2021), and Kartini and Nahda (2021) discovered that BFFs influence investment decisions.

Individual investors' investment decisions are significantly influenced by the regret effect. This implies that as individual investors begin to have regrets, they tend to make more investments in order to compensate for previous poor performance. Sattar, Toseef, and Sattar (2020), Kathiravan et al. (2021), and Kartini and Nahda (2021) discovered that BFFs influence investment decisions.

Individual investors' herding behaviour is due fellow when making investment decisions. This is due to the cost and time implications of analysing various stocks of companies in the maritime sector of the economy. Furthermore, this could be compared to the inexperience of most maritime investors, who may be newcomers. Sattar, Toseef, and Sattar (2020), Kathiravan et al. (2021), and Kartini and Nahda (2021) discovered that BFFs influence investment decisions. This contradicts Ahmad and Wu (2022) and Edeh (2020), who claim that herding behaviour among PSX investors reduces investment performance and market efficiency.

Individual investors' risk perception moderately influences their investment decision. This means that individual investors are unconcerned about the risky nature of the maritime business because the return on their investment is sufficient to compensate them. As a result, they place a high value on the risk-return tradeoff rule when making investment decisions. Sattar, Toseef, and Sattar (2020), Kathiravan et al. (2021), and Kartini and Nahda (2021) discovered that BFFs influence investment decisions.

The heuristic effect has a positive and significant impact on individual investors' decisions in the Nigerian maritime sector. This means that individual investors rely on their intuitions rather than analysing their investments for a profitable return. This contradicts Ogunlusi and Obademi's (2021) claim that the PSX's heuristic effect retards investment performance and market efficiency.

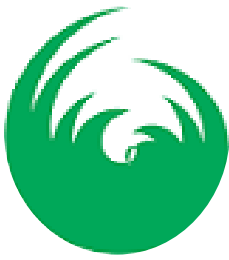
## 5.0 Conclusion and Recommendations

This study investigates how behavioural finance factors influence individual investors' investment decisions in Nigeria's maritime sector. The study's data were gathered through well-structured questionnaires distributed to 217 individual investors engaged in maritime business in Lagos State, Nigeria. Using the Spearman rho, the study confirms that overconfidence, regret effect, herding style, and heuristic effect all have a strong influence on individual investors' investment decisions. According to the study, as individual investors gain confidence in their trading, they tend to increase the amount of their investment in order to maximise their profits. Individual investors tend to make more investments as they begin to experience regrets from previous poorly performed investments. Furthermore, this could be compared to the inexperience of most maritime investors, who may be newcomers. This is consistent with Sattar, Toseef, and Sattar's (2020), Kathiravan et al. (2021), and Kartini and Nahda's (2021) findings that BFFs influence investment decisions.

Individual investors, according to the study, should analyse and monitor the market rather than making investment decisions based on their intuitions, as this may have an impact on their returns. Individual investors who are new to the market should be actively trained and closely monitored by the Nigeria exchange group. Individual investors should avoid making additional investment decisions when they are experiencing regret in order to avoid losing the majority of their investment.

## References

- Ahmad, M., & Wu, Q. (2022). Does herding behavior matter in investment management and perceived market efficiency? Evidence from an emerging market. *Management Decision*, 60(8), 2148-2173. <https://doi.org/10.1108/MD-07-2020-0867>
- Ahmed, W. M. (2014). The trading patterns and performance of individual vis-à-vis institutional investors in the Qatar Exchange. *Review of Accounting and Finance*, 13(1), 24-42. [https://econpapers.repec.org/scripts/redir.pf?u=http%3A%2F%2Fwww.emeraldinsight.com%2F10.1108%2FRAF-09-2012-0089%3Futm\\_campaign%3DRePEc%26WT.mc](https://econpapers.repec.org/scripts/redir.pf?u=http%3A%2F%2Fwww.emeraldinsight.com%2F10.1108%2FRAF-09-2012-0089%3Futm_campaign%3DRePEc%26WT.mc)



[id%3DRePEc;h=repec:eme:rafpps:v:13:y:2014:i:1:p:24-42](https://doi.org/10.1177%2F0972622517738833)

Andrikopoulos, P., Höfer, A., & Kallinterakis, V. (2014). On the impact of market mergers over herding: Evidence from Euronext. *Review of Behavioral Finance*, 6(2), 104-135. Available at SSRN: <https://ssrn.com/abstract=2518649>

Anthony, A., & Joseph, A. I. (2017). Influence of behavioural factors affecting investment decision—An AHP analysis. *Metamorphosis*, 16(2), 107-114. <https://doi.org/10.1177%2F0972622517738833>

Chung, C. Y., & Wang, K. (2016). Short-term trading by individual investors in the Korean stock market. *Journal of the Asia Pacific Economy*, 21(4), 599-611. <https://doi.org/10.1080/13547860.2016.1187798>

Edeh, M. B. (2020). Behavioral finance and investors' stock investments decisions in West Africa: Evidence from the Nigerian stock market. *Journal of Global Economics and Business*, 1(3), 41-58. <http://www.journalsglobal.com/index.php/jgeb/article/view/39>

Fama, E. F., & French, K. R. (1996). Multifactor Explanations of Asset Pricing Anomalies. *Journal of Finance*, 51(1), 55-84. <https://doi.org/10.1111/j.1540-6261.1996.tb05202.x>

Gu, W. (2023). Impact of Managers' overconfidence upon listed Firms' entrepreneurial behavior in an emerging market. *Journal of Business Research*, 155, 113453. <https://doi.org/10.1016/j.jbusres.2022.113453>

Huang, T. C., Lin, B. H., & Yang, T. H. (2015). Herd behavior and idiosyncratic volatility. *Journal of business research*, 68(4), 763-770. <https://doi.org/10.1016/j.jbusres.2014.11.025>

Kartini, K., & Nahda, K. (2021). Behavioral biases on investment decision: A case study in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(3), 1231-1240. <https://doi.org/10.13106/jafeb.2021.vol8.no3.1231>

Kathiravan, C., Selvam, M., Venkateswar, S., & Balakrishnan, S. (2021). Investor behavior and weather factors: evidences from Asian region. *Annals of Operations Research*, 299(1), 349-373. <https://doi.org/10.1007/s10479-019-03335-7>

Kishore, R. M. (2005). *Financial management* (6<sup>th</sup> eds.). Jhajjar: Tan Prints.

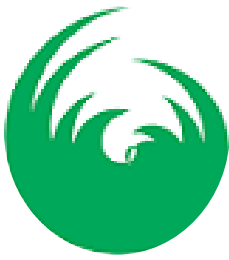
Komba, G. V. (2020). Do investors herd in frontier markets? Evidence from the Dar Es Salaam stock exchange. *Uongozi Journal of Management and Development Dynamics*, 30(1), 1-36. <http://ujmdd.mzumbe.ac.tz/index.php/uongozi/article/download/45/36/>

Markowitz, H. (1952). Portfolio selection. *The Journal of Finance*, 7(1), 77-91.

Ogunlusi, O. E., & Obademi, O. (2021). The Impact of behavioural finance on investment decision-making: A study of selected investment banks in Nigeria. *Global Business Review*, 22(6), 1345-1361.

Ogunlusi, O. E., & Obademi, O. (2021). The impact of behavioural finance on investment decision-making: A study of selected investment banks in Nigeria. *Global Business Review*, 22(6), 1345-1361. <https://doi.org/10.1177%2F0972150919851388>

Sattar, M. A., Toseef, M., & Sattar, M. F. (2020). Behavioral finance biases in investment decision making. *International Journal of Accounting, Finance and Risk Management*, 5(2), 69. <https://doi.org/10.11648/j.ijafm.20200502.11>



- Shafi, M. (2014). Determinants influencing individual investor behavior in stock market: a cross country research survey. *Arabian Journal of Business and Management Review*, 2(1), 60-71.  
<https://doi.org/10.12816/0003720>
- Shantha, K. V. A. (2019). Individual investors' learning behavior and its impact on their herd bias: an integrated analysis in the context of stock trading. *Sustainability*, 11(5), 1448.  
<https://doi.org/10.3390/su11051448>
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The journal of finance*, 19(3), 425-442.  
<https://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1964.tb02865.x>
- Shefrin, H. (2002). *Beyond greed and fear: Understanding behavioral finance and the psychology of investing*. Oxford University Press on Demand.
- Statman, M. (2014). Behavioral finance: Finance with normal people. *Borsa Istanbul Review*, 14(2), 65-73. <https://doi.org/10.1016/j.bir.2014.03.001>