The Controlling Effect Of Investment Decisions On The Behavioral Factors Influencing Investment Performance Of Individual Investors In Nairobi Security Exchange

Jackson Oyaro Ong'eta

Department of Accounting and Finance, University of Eastern Africa, Baraton, Kenya

Abstract: Investment performances are usually influenced by various investors behavioural factor including public and private information factors. The major goal of this research was to analyze the controlling influence of investment decision on the behavioral factors that influence individual investors' investment performance in the Nairobi Securities Exchange. The investigators hypothesized that H_{01}: Investment decision does not significantly control the relationship between the following behavioural factors-herding, prospect (loss aversion, regret aversion, and escalating the commitment), heuristic (availability bias and overconfidence) and investment performance of the individual investors in Nairobi Securities Exchange. The investigator used a survey study design to reach the aim of 1,196,995 individual investors on the Nairobi Securities Exchange. The Slovin's method was used to estimate the 400 sample size of a population, while the researcher used the Nairobi Securities Exchange's top limit of 500 individual investors. To acquire primary data, a structured questionnaire was used. The study established that investment decision did not significantly control the relationship between the following behavioural factors-herding, prospect (loss aversion, regret aversion, and escalating the commitment), heuristic (availability bias and overconfidence) and investment performance of the individual investors in Nairobi Securities Exchange. The researcher recommends that the capital market authority create awareness through investors education on the importance of investment in stock market. The authority should further organize investment sensitization for the individual investors through the media such as the radio and television to promote availability of public information to individual investors in NSE.

Keywords: Performance of Investment, Investors' Behaviour, Market Factors, Investment Information, Public Information, Expert Information.

I. INTRODUCTION

The behavioural factors determine the investment decision making by the individual investors. Studies have established that the individual investors are poised to make errors and biases due to the individual behaviour which leads them to incur losses on their investments (Jagongo & Mutswenje, 2014; Nyamute, Lishenga). Individual investors have been found to have negative performance (Aduda et al., 2012) as a result of the behavioural factors influencing their decision making. The negative performance could be reduced if the behavioural factors influencing individual investment decisions are determined and eventually, determine the degree of the market efficiencies impact on their investment performance. One of the behavioural factors is herding, herding behaviour is displayed by the individual investors when they make decisions by following the decisions of fellow investors. In addition, they are influenced when to buy or when to sell their stocks, speed of selling or buying, and the volume of the stock to buy or sell. Therefore, the individual investors' are influenced by herding while making investment decisions (Jagongo & Mutswenje, 2014; Kengatharan & Kengatharan, 2014; Vijaya, 2014).

The other factor that influences individual investors is prospects related factors which the investors exhibit through loss aversion, regrets aversion and estimating the commitment. Loss aversion is the tendency of the individual investors to make decisions aimed at avoiding losses from their investments. Also, the individual investors will "strongly prefer avoiding losses to acquiring gains" (Sahi, Arora, & Dhameja, 2013, p. 100). Loss aversion has been found to exist among individual investors (Kengatharan & Kengatharan, 2014; Rekik & Boujelbene, 2013; Vijaya, 2014). Therefore, the individual investors are influenced by loss aversion when making investment decisions.

Again the individual investors make investment decisions to avoid regret. Moreover, regret aversion has been identified as influencing investment decisions (Kengatharan & Kengatharan, 2014; Vijaya, 2014). Therefore, the individual investors are influenced by regret aversion while making decisions. The individual investors also experience disposition effect which is the inclination to possess losing securities too long and to sell gainers too quickly because of loathing to loose. A study (Chandra & Kumar, 2012) looked at disposition effect from the selling side but limited studies have researched from the buying side (Lin, Fan, & Chih, 2014) which is referred to as escalation of the commitment. Individual investments decisions are also influenced by the investors own heuristic information analysis based on their experience leading to overconfidence. Overconfidence is exhibited by the individual investors when they consider themselves to be more experienced in the trading of stocks and, hence, will outperform the other investors. Furthermore, the individual investors will trade excessively believing that they will beat the market (Kengatharan & Kengatharan, 2014; Rekik & Boujelbene, 2013; Vijaya, 2014).

A. STATEMENT OF THE PROBLEM

The individual investors have often been found to be influenced by the behavioural factors in their investment decisions (Aduda et al., 2012). Furthermore, anomalies have been reported in the securities market which efficient market hypothesis could not explain (Latif, Arshad, Fatima, & Farooq, 2011). This influence of behavioural factors on investors has resulted in anomalies in the securities market leading to major losses on investments made. The underperformance of individual investors to a large extent may be due to factors related to the individual investors' behaviour and not performance of the securities market. The extent to which investment decisions controls investment performance based on the individual investors exhibited behavioural factors in the Nairobi Securities Exchange is not adequately researched which motivated the empirical investigation conducted in this study. The study answered the investigation objective by testing the following hypothesis; H_{01}: Investment decision does not significantly control the relationship between the following behavioural factors- herding, prospect (loss aversion, regret aversion, and escalating the commitment), heuristic (availability bias and overconfidence) and investment performance of the individual investors in Nairobi Securities Exchange.

II. LITERATURE REVIEW

A. THEORETICAL REVIEW

Theory of Herding Behaviour. A theory is "a set of interrelated concepts, which structure a systematic view of phenomenon for the purpose of explaining or predicting" (Imenda, 2014). Also, a theory has been defined as " a set of interrelated constructs (variables), definitions, and propositions that presents a systematic of phenomena by specifying relations among variables, with the purpose of explaining natural phenomena" (Kerlinger, 1079, as cited in Creswell, 2009). Therefore, theories forms the basis of a study from which concepts that explains the phenomenon can be established. The independent and dependent variables are formulated to establish the relationships. This study used 5 theories which was explained under each concept starting with the herding theory.

Theories of Prospect Behaviour. This theory explains how the state of the mind of the investors affects their decision making. This theory was postulated by Tversky and Kahneman (1979) providing an alternative to expected utility theory. Prospect theory notes that "people underweight outcomes that are merely probable in comparison with outcomes that are obtained with certainty" (Kahneman & Tversky, 1979, p. 263). This was called certainty effect which makes people to be risk averse when it comes to certain gains and to seek risk for sure losses. The dimensions of prospect include loss aversion, regret aversion, and mental accounting.

Theories of Heuristic Behaviour. The heuristic theory is when the individuals simplify tasks so that decisions can be made quickly (Tversky & Kahneman, 1974). There are four heuristics that individuals can utilize. They include: representativeness, availability, anchoring, and overconfidence. Availability bias theory postulates that people will make decisions by taking into account the instances of easy retrieval of information on the occurrences of the event (Tversky & Kahneman, 1974). The individual investors will relate with the information they can easily and quickly recall. Therefore, the people will use excessively the easily available information (Luong et al., 2011). For example, investors may be influenced in decision making by the local companies which they can easily recall. The theory on overconfidence notes that investors consider themselves to be more skillful trading in stocks than other investors and hence, eventually earn above the market return (Ngoc, 2013). This heuristic makes the individual investors to trade more in stocks than the others. Miscalibration, too tight volatility estimates and better than average effect.

Theories of Decision Making. Rationality is the "compatibility between choice and value" (Oliveira, 2007, p. 13). In addition, rational decision making is "maximization of expected value or expected utility" (Gigerenzer, 2001, p. 1). Rational decision making requires the decision makers to analyze alternative choices available and then selecting the one that has the highest value to the decision maker (Oliveira, 2007). Therefore, individuals with a problem and are required to make a decision will rank the possible actions according to their outcomes. They will then choose the actions that give the best outcomes since it will maximize their value, which is

known as optimization. The individuals will use alternatives available to solve their problem. This has been explained by the expected utility theory arguing that individuals will be influenced in decision making by the expected outcomes of various actions. The alternative that has the highest possible outcome will be chosen (Gigerenzer, 2001; Oliveira, 2007).

The subjected expected utility theory postulated that individuals will make choices among alternatives while faced with risk (Ahmed, Bwisa, Otieno, & Karanja, 2014). This was on the premise that the decision maker will tend to seek pleasure and work toward avoiding pain. However, the decision maker may not evaluate all possible alternatives. This non-evaluation of all possible alternatives to aid decision making may lead individuals to be irrational. Kahneman and Tversky developed heuristic and prospect theories to remedy the limitations of the expected utility theory (Kahneman, 2003). Individual decision makers may not always follow the models that guide rational decision making. They may use simplified mechanisms to make decisions as elucidated by the heuristics and prospect theories. This gave rise to the individual differences in the decision making (Oliveira, 2007). This has led to the interest in cognitive psychology explaining that decision makers may deviate from the rational decision making models. The deviation from rationality was referred to as heuristics and biases (Polič, 2009).

Bounded rationality pioneered by Herbert Simon reinforced the growth of cognitive psychology and hence, led to the development of irrational decision making (Polič, 2009). Bounded rationality is the concept that outlines that individuals can only be rational to the extent of the information that is available for decisions making, time available for the evaluation of the alternatives and the capacity of the individuals to evaluate the information.

Kahneman and Tversky (1979) developed prospect theory which showed how attitude toward risk (gains or losses) influences decision making. Therefore, prospect theory borrowed from expected utility theory to explain the attitude toward risk. The individual investors will make decisions on the basis of how the outcome is likely to be. For example, if the individual investors expect losses to occur, then they will refrain from investing in the stocks. However, the prospects theory may lead individuals to exhibit biases and heuristics leading them to make investment decisions that are sub-optimal.

B. EMPIRICAL REVIEW

Herding behaviour influences the investment decisions of the individual investors thereby affecting the investment performance. Also, herding has influence on investment performance although the performance is lower than the market return (Goel, 2014). Ranjbar et al. (2014) did a study on 148 respondents of Tehran stock exhange and got that herding had a significant effect on investment performance (β = 0.21, p ≤ .05). Likewise, the effect of herding on investment performance was found to be significant by Nyamute et al., (2015) where β = 0.182, p ≤ .05, in a study on 385 respondents of NSE in Kenya. Khan (2014) also conducted a study on 150 respondents of Karachi stock exchange and found the effect of herding on investment performance to be significant where β

= 0.49, p ≤ .05. Likewise, Luong, Thu Ha, and Owe (2011) found that there was significant positive relationship between herding and investment performance.

In another study (Javed, Bagh, & Razzaq, 2017) conducted in Pakistani stock exchange with 220 individual investors, herding was found to have significant positive relationship with investment performance (β = .283, *p* < .05). In addition, findings from a study of 200 individual investors in Malaysian stock exchange, showed a negative relationship with investment performance (β = -.067, *p* < .05).The results from the studies show that herding may have significant but at different levels of impact on investment performance. This study conceptualizes the relationship between herding and investment performance to be positive. Table 2 shows the summary of the relationship between herding and investment performance. Loss aversion and mental accounting has been found to have a negative effect on investment performance (Ranjbar et al., 2014), in a study done with 148 stock investors in Tehran stock exchange. Kengatharan and Kengatharan (2014) conducted a research among 128 investors in the Colombo stock exchange and found loss aversion to have a negative but not significant effect on investment performance (β = -0.031, *p* > .05). From the literature review, it was conceptualized the relationship between loss aversion and investment performance to be negative.

Existing empirical studies have a mix results on the escalation of the commitment dimension. A study (Lin et al., 2014), confirmed that escalating the commitment has a negative influence (β = -.89, p ≤ .10) on the investment performance of 250 mutual fund managers in Taiwan stock exchange. Turino and Soetjipto (2012), conducted a study with 229 individual investors of the Indonesia stock exchange. The findings showed that escalating the commitment and performance of the individual investors had a negative relationship (t = -.49) during the bearish period, but had a positive relationship (t = .70) that were not significant, *p* > .01. This study postulated a negative relationship between the escalation of the commitment and investment performance. There is need to study the effect of escalating the commitment on investment decisions by the individual investors and ultimately, its effect on the investment performance. This is because this dimension of prospect is understudied.

A study by Javed et al. (2017) found that availability bias had a significant positive relationship with investment performance (β = 0.285, p ≤ .05). Javed et al. (2017) conducted their study among 220 individual investors of Pakistani stock exchange. In another study (Bakar & Yi, 2016), that was done among 200 individual investors of Malaysian stock exchange, found the relationship between availability bias and investment performance to be significantly positive (β = 0.466, p ≤ .05).Therefore, the findings of these studies confirm that availability bias on investment decisions and ultimately, investment decisions will affect the investment performance. As such, there is need to study availability bias further to understand its impact on investment decisions. This study postulated a positive relationship between availability bias and investment performance.

Investment decisions by overconfidence investors will affect the outcome of the investment performance. This is

because overconfidence investors will trade excessively leading them to incur higher costs that may offset the returns earned. Studies have mixed findings on the influence of overconfidence on investment performance. Ranjbar et al. (2014) found that overconfidence and anchoring combined had a positive impact on investment performance ($\beta = 0.59$, $p \le .05$). Ranjbar et al. (2014) conducted their study among 148 individual investors of Tehran stock exchange. Further, a study by Luong et al. (2011) done with 300 individual investors of Ho Chi Minh stock exchange showed that overconfidence and gamblers fallacy combined had a high positive impact on investment performance ($\beta = .68$, $p \le 0.05$). In another study (Javed et al., 2017), conducted with 220 individual investors of Pakistani stock exchange, found that overconfidence and investment performance had a significant positive relationship ($\beta = .274$, $p \le 0.05$). Also, Bakar and Yi (2016) determined the relationship between overconfidence nd investment performance to be significantly positive ($\beta = .466$, $p \le 0.05$). This study by Bakar and Yi (2016) was done among 200 individual investors of Malaysian stock exchange. Previous studies have studied investment decisions as a dependent variable. In other words, the studies studied the effect of the behavioural factors on investment decisions. This study employed investment decisions as a control factor. The purpose was to establish the influence that behavioural and market factors have on the investment performance after controlling for investment decisions.

Making decisions using the fundamental values of assets is not an easy task (Ariely, Loewenstein, & Prelec, 2006). Therefore, the individual investors may use the past prices to make investment decisions; a situation known as anchoring. Likewise, Barber, Odean, and Zhu, (2009) noted that individual investors are likely to purchase those stocks that attracts their attention because they are in the news. This is because the individual investors can easily remember them. According to Khan et al. (2017), investors who are biased about anchored may be influenced to purchase stocks that will not meet their expectations. This is confirmed by Odean (1998) when he noted that individual investors may continue to hold stocks that have decreased in prices for too long. Individual investors may also be anchored to past good performing companies that are now performing poorly. In addition, the individual investors may also buy a wrong stock for relying on insufficient past information. Further, individual investors may deal with stocks of companies that have a market presence due to advertising.

The stock market investment decisions are postulated to affect the investment performance. Generally, the individual investors will buy and sell different stocks that have different levels of performance. Therefore, the performance of the stocks of the individual investors will not be the same. Specifically, the individual investors will make different investment decisions which influence their investment performance at different levels. This investment decisions will be conceptualized as the control variable of the study to establish the influence they have on the investment performance. The following section provided the conceptual framework that emanated from the literature review.
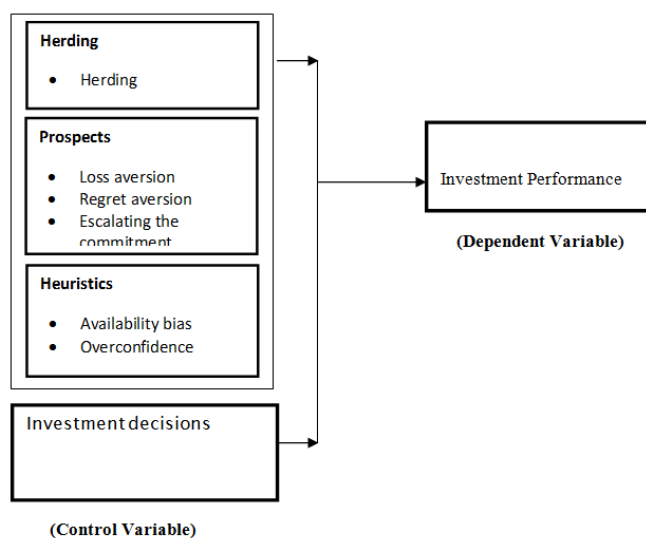
C. CONCEPTUAL FRAMEWORK

Figure 1: Conceptual Framework

The relationships between the variables are depicted in Figure 1. The behavioural factors were the independent variables. The performance of individual investors was the dependent variable and investment decision was the control variable.

III. METHODOLOGY

The study used a survey research design to reach out to 1,196, 995 individual investors on the Nairobi Securities Exchange. The Slovin's formula was used to calculate the sample size for a representative population (Kalima, Shukla, & Mbabazize, 2016). The formula is given as follows:

$$n = \frac{N}{1 + Ne^2}$$

Where: n = Sample size
N = Total population
e = Error margin (0.05)

$$n = \frac{1,196,995}{1 + 1,196,995(0.05)^2}$$

$$n = \frac{1,196,995}{2993.4875}$$

n = 399.87

As a result, the sample size was 400, while the researcher had hoped for 500. The brokerage businesses were identified using a stratified sampling procedure. The brokerage firms that were listed on the NSE were used to stratify the data. This sample size was evenly divided across the chosen brokerage firms. The 500 respondents from the designated brokerage firms were chosen using convenient sampling. The investigator collected primary data from individual stock exchange investors using a standardized questionnaire with closed-ended questions.

Pearson Correlation, Simple Linear Regression, and Hierarchical Linear Regression Analysis were used to examine the data. To test the hypotheses, the following model was utilized.

$$IP = \alpha + \beta_1 MF + \varepsilon$$

Where:

IP = Investment Performance
α = Intercept
β = Regression coefficients
MF= Market Factor
ε = Error term
β_1 Represents coefficients

IV. RESULTS

A. THE CONTROLLING INFLUENCE OF INVESTMENT DECISION ON INVESTIRS' BEHAVIOR AND INVESTMENT PERFORMANCE

a. BEFORE INTRODUCTION OF INVESTMENT DECISION

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.936	.219		13.404	.000
	Herding	-.602	.059	-.765	-10.151	.000
	Prospect	.424	.052	.545	8.163	.000
	Heuristic	.536	.049	.676	10.915	.000

a. Dependent Variable: Investment performance

Table 1: Coefficients

The study established that before the introduction of investment decision, the R^2 was 0.755 indicating that data collected on herding, prospect and hurestic behavioural factors contributed to the relationship between these behavioural factors and investment performance by 75.5% whereas 24.5% of the relationship was contributed by other factors outside this investigation. Secondly all the three behaviours had significant relationship with investment performance (β=-0.602, β=0.424, β=0.536, p=0.000<0.05). This finding indicated that when individual investors behavior is increased by 1 unit, it will lead to a decrease of investment performance by 0.602 multiple units. When prospect behavior is increased by 1 unit it will lead to an increase of investment performance by 0.424 multiple units. Lastly, when heuristic behavior is increased by 1 unit, it will lead to an increase of investment performance by 0.536 units. The research therefore concludes that prospects and heuristic positively influenced investment performance of the individual investors in Nairobi Securities Exchange.

b. AFTER THE INTRODUCTION OF INVESTMENT DECISIONS

The findings (Table 1) show that investments decisions as a control variable does not have a significant effect on the model. The model remain the same even after including investment decisions in the model. Therefore, the variable has no significant effect on the investment performance. The findings also indicate that investment decisions beta coefficient is insignificant with p-vale of .920 (see Table 146).

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.920	.275		10.601	.000
	Herding	-.599	.066	-.761	-9.104	.000
	Prospect	.422	.053	.543	7.914	.000
	Heuristic	.531	.065	.670	8.176	.000
	Investment decisions	.007	.066	.007	.100	.920

Table 2: Regression Coefficients

The study established that after the introduction of investment decision, the R^2 was 0.778 indicating that data collected on herding, prospect and hurestic behavioural factors contributed to the relationship between these behavioural factors and investment performance by 77.8% whereas 22.2% of the relationship was contributed by other factors outside this investigation. Secondly all the three behaviours had significant relationship with investment performance (β=-0.599, β=0.422, β=0.531, p=0.000<0.05). This finding indicated that when individual investors behavior is increased by 1 unit, it will lead to a decrease of investment performance by 0.599 multiple units. When prospect behavior is increased by 1 unit it will lead to an increase of investment performance by 0.422 multiple units. Lastly, when heuristic behavior is increased by 1 unit, it will lead to an increase of investment performance by 0.531 units. The research therefore concludes that prospects and heuristic positively influenced investment performance of the individual investors in Nairobi Securities Exchange. Secondly, the findings revealed that individual investors personal decision did control at the individual investors behaviours leading to the same level of investment performance in Nairobi Security Excahnge.

V. CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

A. CONCLUSIONS

The investigation established that there is no significant influence of investment decisions as a control variable on the influence of behavioural on the investment performance. The kind of decisions the individual investors make do not change the influence of the behavioural. Therefore, behavioural (herding, prospect and heuristic) factors have greater influence on investment performance among the individual investors in Nairobi Securities Exchange.

B. RECOMMENDATIONS

✓ It is recommended that, the NSE management, investment advisors, and the capital market authority organize trainings and workshops for the NSE investors. These trainings and workshops should focus on the influence of behavioural factors on the decision making and its effect on the investment performance. The intention will be to reduce the noise in the stock market and hence, improve the investment performance of the individual investors.

✓ The capital market authority and the NSE should come up with sensitization, which can be done through the brokerage firms. The brokerage firms can be encouraged to organize seminars from time to time for their registered members so as they are trained on investment analysis and making investment decisions that are less affected by behavioural factors. The training for the individual investors may be organized through the media such as the radio and television.

✓ Programs to Promote Investor Education. The policy makers should introduce training programs for the individual investors of the stock market to enhance the culture of using market information that will reduce the influence of behavioural factors in decision making. The investment culture should be introduced in the early years of education programs so that the young people will grow appreciating the importance and mechanism of investing from an informed position. The training for the individual investors may be organized through the media such as the radio and television.

✓ The investment advisors (brokerage firms) may be reached by producing research reports. They will use this research report when advising the individual investors on the investment opportunities in the stock market.

C. IMPLICATION OF THE FINDINGS

The findings of this study imply that the investment performance of the individual investors is influenced more by the behavioural factors. The kind of decisions the individual investors make is not significant. This points that the behavioural factors influence the investment performance which should be a source of concern for the NSE management, investment advisors, and the Capital Market Authority.

REFERENCES

[1] Aduda, J., Oduor, O. E., & Onwonga, M. (2012). The Behaviour and Financial Performance of Individual Investors in the Trading Shares of Companies Listed At the Nairobi Stock Exchange, Kenya. Journal of Finance and Investment Analysis, 1(3), 33–60.

[2] Ahmed, A. H., Bwisa, H., Otieno, R., & Karanja, K. (2014). Strategic decision making: Process, models, and theories. Business Management and Strategy, 5(1), 78–104. http://doi.org/10.5296/bms.v5i1.5267.

[3] Ariely, D., Loewenstein, G., & Prelec, D. (2006). Tom Sawyer and the construction of value. Journal of Economic Behavior and Organization, 60(1), 1–10. http://doi.org/10.1016/j.jebo.2004.10.003

[4] Bakar, S., & Yi, A. N. C. (2016). The impact of psychological factors on investors' decision making in Malaysian stock market: A case of Klang Valley and Pahang. Procedia Economics and Finance, 35, 319–328. http://doi.org/10.1016/S2212-5671(16)00040-X/

[5] Barber, B. M., Odean, T., & Zhu, N. (2009). Do retail trades move markets? Review of Financial Studies, 22(1), 151–186. http://doi.org/10.1093/rfs/hhn035

[6] Chandra, A., & Kumar, R. (2012). Factors influencing Indian individual investor behaviour: Survey evidence. Decision (0304-0941), 39(3), 141–167. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=87340154&site=ehost-live&scope=site&authtype=shib&custid=s8000044.

[7] Gigerenzer, G. (2001). Decision making: Nonrational theories. International Encyclopedia of the Social & Behavioral Sciences, 5, 911–916. http://doi.org/10.1016/B978-0-08-097086-8.26017-0

[8] Goel, S. (2014). Investor's herding behavior and investment performance: An empirical evidence from Delhi. The International Journal of Business & Management, 2(12), 56–59.

[9] Jagongo A., Mutswenje, V. S. (2014). A Survey of the factors influencing investment decisions : The case of individual investors at the NSE. International Journal of Humanities and Social Science, 4(4), 92–102.

[10] Jagongo, A., & Mutswenje, V. S. (2014). A survey of the factors influencing investment decisions : The case of individual investors at the NSE. International Journal of Humanities and Social Science, 4(4), 92–102.

[11] Javed, H., Bagh, T., & Razzaq, S. (2017). Herding effects, overconfidence, availability bias and representativeness as behavioral determinants of perceived investment performance : An empirical evidence from Pakistan stock exchange (PSX). Journal of Global Economics, 6(1), 1–13. http://doi.org/10.4172/2375-4389.1000275

[12] Kahneman, D. (2003). Maps of bounded rationality: A perspective on intuititive judgement and choice. American Economic Review, (December), 449–489. http://doi.org/10.1037/0003-066X.58.9.697

[13] Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica, 47(2), 263–292. http://doi.org/10.1017/CBO9781107415324.004/

[14] Kalima, E., Shukla, J., & Mbabazize, M. (2016). Effect of credit management system on financial performance of development Bank in Rwanda: Case study of development Bank of Rwanda. The International Journal Of Business & Management, 4(5), 2321–8916. Retrieved from www.theijbm.com

[15] Kengatharan, L., & Kengatharan, N. (2014). The influence of behavioral 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://doi.org/10.5296/ajfa.v6i1.4893.

[16] Khan, H. H., Naz, I., Qureshi, F., & Ghafoor, A. (2017). Heuristics and stock buying decision: Evidence from Malaysian and Pakistani stock markets. Borsa Istanbul Review, 17(2), 97–110. http://doi.org/10.1016/j.bir.2016.12.002

[17] Khan, M. H. (2014). An empirical investigation on behavioral determinants of perceived investment performance; Evidence from Karachi stock exchange. Research Journal of Finance and Accounting, 5(21), 2222–2847.

[18] Latif, M., Arshad, S., Fatima, M., & Farooq, S. (2011). Market efficiency, market anomalies, causes, evidences, and some behavioral aspects of market anomalies. Research Journal of Finance and Accounting, 2(9), 1–14.

[19] Lin, Y.-E., Fan, W.-M., & Chih, H.-H. (2014). Throwing good money after bad? The impact of the escalation of commitment of mutual fund managers on fund performance. Journal of Behavioral Finance, 15(1), 1–15. http://doi.org/10.1080/15427560.2013.849706

[20] Luong, P. Le, Thu Ha, D. T., & Owe, H. R. (2011). Behavioral factors influencing individual investors' decision-making and performance.

[21] Ngoc, L. T. B. (2013). Behavior pattern of individual investors in stock market. International Journal of Business and Management, 9(1), 1–16. http://doi.org/10.5539/ijbm.v9n1p1

[22] Nyamute, W. I. (2016). Investor behaviour, investor demographic characteristics, investment style and individual investor portfolio performance at the Nairobi securities exchange. Jomo Kenyatta University of Agriculture and Technology.

[23] Nyamute, W., Lishenga, J., & Oloko, M. (2015). The relationship between investor behavior and portfolio performance at the Nairobi securities exchange. International Journal of Multidisciplinary Research and Development, 2(5), 548–551.

[24] Odean, T. (1998). Are investors reluctant to realize their losses ? The Journal of Finance, 53(5), 1775–1798. http://doi.org/http://www.jstor.org/stable/117424

[25] Oliveira, A. (2007). A Discussion of rational and psychological decision-making theories and models : The search for a cultural-ethical decision-making model. Electronic Journal of Business Ethics and Organization Studies, 12(2), 1478–82. http://doi.org/10.1111/j.1572-0241.1998.00467.

[26] Ranjbar, H. M., Abedini, B., & Jamali, M. (2014). Analyzing the effective behavioral factors on the investors' performance in Tehran stock exchange (Tse).

International Journal of Art & Humanity Science, 8(8), 80–86.

[27] Rekik, Y. M., & Boujelbene, Y. (2013). Determinants of individual investors' behaviors : Evidence from Tunisian stock market. Journal of Business and Management, 8(2), 109–119.

[28] Turino, H. K., & Soetjipto, B. W. (2012). The effect of image compatibility and escalation of commitment on decision performance. The South East Asian Journal of Management, 6(1), 23–32. Retrieved from http://search.proquest.com/docview/1348129132?accountid=10297%0Ahttp://sfx.cranfield.ac.uk/cranfield?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&genre=article&sid=ProQ:ProQ:abiglobal&atitle=The+Effect+of+Image+Compatibility+and+Escalation

[29] Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. Science, 185(4157), 1124–1131. http://doi.org/10.1097/00001888-199907000-00012

[30] Tversky, A., & Kahneman, D. (1986). Rational choice and the framing of decisions. The Journal of Business, 59(S4), S251. http://doi.org/10.1086/296365

[31] Vijaya, E. (2014). An empirical analysis of influential factors on investment behaviour of retail investors in Indian stock market: A behavioural perspective. International Journal in Management and Social Science, 2(12), 296–308.