BEHAVIORAL FACTORS AND INVESTMENT DECISIONS AMONG RETAIL INVESTORS IN REAL ESTATE IN NAIROBI CITY COUNTY: KENYA

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International Academic Journal of Economics and Finance (IAJEF) | ISSN 2518-2366

Received: 30th April 2023

Published: 9th May 2023

Full Length Research

Available Online at: https://iajournals.org/articles/iajef_v3_i9_121_153.pdf

Citation: Njeru, D. K., Matanda, J. W. (2023). Behavioral factors and investment decisions among retail investors in real estate in Nairobi City County: Kenya. *International Academic Journal of Economics and Finance, 3(9), 121-153.*

ABSTRACT

The study sought to find out the role of behavioral factors on investment decision among retail investors in real estate in Nairobi City County: Kenya. The specific objectives of the study are; to establish the role of overconfidence on investment decision among retail investors in real estate in Nairobi City County, to assess the role of herding on investment decision among retail investors in real estate in Nairobi City County, to analyze the role of anchoring on investment decision among retail investors in real estate in Nairobi City County, to evaluate the role of representativeness on investment decision among retail investors in real estate in Nairobi City County. The theories studied are regret theory, herding theory, prospect theory, theory of overconfidence and heuristic theory. The study adopted a descriptive research design with a sampling frame of a list of 26,723 of investors with mortgage accounts from 32 banks offering mortgage loans based on the Central Bank of Kenya 2021 Bank supervision annual report as at December 2021. A pilot study was undertaken on 10% of the sample size, who were investors not enlisted to take part in the study. Primary data was collected using questionnaires and analyzed using Statistical Packages for Social Scientists (SPSS). The finding of the study indicated that there exist a positive and significant relationship between anchoring an aspect behavioral characteristic and investment decision. It was also revealed that representativeness has a positive and significant effect on investment decisions. It was further noted that herding an aspect of behavioral characteristic has a positive and significant effect on investment decisions. Finally, the study established that overconfidence an aspect of behavioral characteristic has a negative and significant effect on investment decisions. It was concluded that overconfidence has a negative and significant effect on investment decision making. The study concluded that anchoring affects the investment decisions. Study conclude that herding affects investment decision making among retail investors in real estate. Finally, the study concluded that representativeness is strong predictor of investment decisions. The study recommend that investors should avoid too much overestimation whenever doing projections on how the markets are likely to behave in the future. Large groups of should be empowered with information that are requisite for decision making. The study recommends strengthening of anchoring through archiving and availing of initial information that will help investors make a rational decision. The study recommends the adoption of probability rule in making decisions among investors unlike the application of similarity rule where investors find it convenient in adopting it. Sensitization of investors especially the debutant who may not have adequate information and might end up misled by the large group when they are about to make decision. Future studies should focus on studying all the identifiable behavioral factors and legal framework when attempting to investigate investment decisions in real estate sector.

INTRODUCTION

Traditional finance depends on the understanding of financial markets by use of models of financial markets. Traditional theories of finance assume that investors act rationally and that prices are correct and equal to intrinsic value; resources are allocated efficiently and are consistent with the efficient market hypothesis. These theories assume that all investors are identical, are utility maximizers and that their predictions are accurate. Faris (2019).

However, this is not always the case as investors are not fully rational and exhibit biases and use simple rules of the thumb to make decisions as demonstrated by the emergence of bubbles and financial crisis plaguing the markets. Faris (2019). It is for this reason that there has been research and studies to try and explain the gap between traditional finance and psychology. Individual behavior systemically shows psychological patterns.

In their study, Obong'o, Nyakundi and Vitalis (2016), looked at behavioral finance as the attempt to explain and widen the understanding of the thought patterns of investors including looking at the emotional process of involved and the extent to which they affect the investment decision making process. Behavioral finance tries to explain the what, why and how of finance and investment from a human point of view and studies the psychological and sociological factors that affect the financial decision-making process of people. Shefrin (2002) Explains behavioral finance as the effect of psychology on the financial decisions of investors. He examines the different behavioral biases investors have that they hope give them better financial results.

According to Odhiambo and Ondigo (2018), many factors are involved in influencing investor decisions on buying, selling, participating in buy outs and mergers. These several factors are classified into either financial or behavioral and argued that owners of shares are assumed to be intelligent and behave the same by giving thought to all factors available when making investment choices. They however said that proponents of behavioral finance insist on integrating human judgement in making a choice between different options and that a lot of focus ought to be put on an investor interpretation and application of decision-making information. Failure to which leads to several market anomalies. They also found that Bernstein in their paper argued that investment decisions are made with a level of irrationality inconsistency and incompetency and that Statman et al. in his paper also argued that investors lack rationality when making investment decisions but rather make decisions based on emotions, feelings, mood and sentiments.

Odhiambo and Ondigo (2018) argued that in Nairobi, the real estate sector has grown tremendously which has led to investor interest in the sector. However, many investors have gotten low returns on their investments majorly because of wrong decisions they have made while investing in the sector. And that according to Winchester's paper, investors have had challenges in decision making about their property because of inconsistency of information available in the market.

Statement of the problem

When making an investment decision an investor is expected to consider different factors in order to make the right investment choice for them. The factors may include checking the degree of risk compared to the return expected, the risk tolerance of the investor, the amount of investment capital the investor has and the factor that investments unlike trading take longer to give returns (Kannadhasan, 2015). In their report for the fourth quarter of 2019, Hassconsult Limited (2019) indicate that land prices in Nairobi suburbs rose marginally over the in the year 2019 at 1.69% with Spring valley recording the highest annual growth at 2.6% and Riverside recording the lowest growth rate with price decline at 9.2%. In 2022, the real estate property price indices in Nairobi for showed a 4.8 percent price rise (Hassconsult Limited (2022) a sharp increase in 2021 where real estate property recorded only 1.1% price increase (Hassconsult Limited, 2021).

Despite the apparent advantages of making rational investment decisions, Kenyans still disregard market fundamentals and make decisions on a whim. The Kenyan property market has had a huge property prices appreciations over the years. According to the Hass property Land price Index of Quarter four report 2020 land prices has grown in 2.60-fold in the Nairobi suburbs and 3.20-fold in the Nairobi satellite towns since 2011, Hass Consult Real Estate (2020). In the same period, the Hass property house price index quarter four report 2020 indicated that the house prices had increased 1.48-fold in Nairobi suburbs and rental price has grown 1.68-fold in Nairobi suburbs and Nairobi satellite towns since 2011. Hass Consult real estate (2020). The average rent however has been about Ksh. 158,980 per month while the average house price was Ksh. 31.5 million, which is approximately 6% return on investment per annum. The current rental yield is lower than the mortgage interest rate but surprisingly, investors are still rushing to acquire properties.

Studies have shown that there is need to consider behavioral factors rather than rely on the standard financial models in the analysis of investments to invest in. Deshmukh (2016) observed that the investment in mutual fund for them was based upon limited criteria chosen by them like, past performance, return and dividend, analyst reports based on heuristics, framing, emotion and market impacts suggested by their reference group and was further found that the investors depended on the advice given by their respective agents or personal advisers to choose a scheme. Mydhili and Dadhabai (2019) remarked that individual investor decisions were subjected to behavioral factors, hence the importance of understanding the behavior of the individual buyer so as to manage their perception and control the volatility in the capital market. Odhiambo and Ondigo (2018) noted that kenyan real estate sector experienced boom in 2017.

Notwithstanding, from the aforementioned global, regional and local studies, the studies did not adequately address the role of behavioural factors on the individual investors' investment decision in the property market. This is due to the fact that most of the studies on investor behavior that have been reported were carried out on agents and firms who are players in the property market and not so much the individual investor. The study therefore tends to fill the gap from the aforementioned studies by investigating the behavioral factors (overconfidence, herding, anchoring and representativeness) and their effect on investment decisions of the individual investors in the property market in Nairobi City County. This study sought to address the question: What is the

effect of behavioral factors on investment decisions among retail investors in real estate in Nairobi City County: Kenya?

Objectives of the study

i. To establish the role of overconfidence on investment decision among retail investors in real estate in Nairobi City County, Kenya.
ii. To assess the role of herding on investment decision among retail investors in real estate in Nairobi City County, Kenya.
iii. To analyze the role of anchoring on investment decision among retail investors in real estate in Nairobi City County, Kenya.
iv. To evaluate the role of representativeness on investment decision among retail investors in real estate in Nairobi City County, Kenya.

Theoretical Review

Theoretical framework includes explanations of diverse theories and ways in which they relate to variables being investigated (Babbie, 2017). Theoretical framework refers to a structure that holds or supports a research0study's theory. Theoretical explanations and introductions are provided for the study subject under examination. Regret Theory and Herding behavior theory served as the study's pillars.

Regret Theory

Regret theory was developed by Loomes and Sugden in 1982. Regret theory is developed from the generalization of the minimax regret criterion. The minimax criterion is the option from a set of choices that minimizes the risk of a worst-case scenario. Regret theory is a model that states that human beings anticipate regret if they make bad choices and they will usually put into consideration this anticipation when they are making decisions. The fear of regret plays a role in motivating a person from taking an action or not taking an action. An investor's rational behavior can be affected by regret theory by weakening the ability for the investor to make decisions on investment that would be beneficial to them as opposed to doing them harm.

Regret theory is based on the intuition that a decision maker deciding between two contingent payoffs, will be concerned about the outcome they receive and will also be concerned about the outcome they could have received had they chosen the other choice. When the outcome of their choice is less desirable than the choice foregone, a decision maker will usually experience negative emotions of regret. Bourgeois-Gironde (2010) proposed a general understanding of how regret and making decisions are connected in terms of the regret being regulated by rational precedents of choice. Regret and modification of behavior will usually depend on the rationality criteria involved when making a decision.

In as much as other scholars like Bourgeois-Gironde (2010) have agreed with the argument that feelings of regret are a fact of life and it is irrational to ignore them, Bleichrodt and Wakker (2015) is more intolerant and paternalistic about these feelings. The emotion of regret in its common

meaning is a signal that possible improvements of future actions in situations of incomplete information. However, the formal decision theoretic meaning is different. They believe that voluntary self-harming when making decisions is irrational.

According to Gelberg (2002) regret theory makes the assumption that human beings will either experience regret or will rejoice after they have made a decision and that people can forecast and anticipate the said feelings. He explains that studies show that regret comes to light more than rejoicing hence serving to reduce the expected utility of a particular decision. That people tend to regret something they have done than something they failed to do and if they thought of feedback raises the level of regret anticipated. He also found that human beings will likely have more regret they mad themselves. In this study, regret theory supports the representativeness variable.

The theory has some weaknesses in that it addresses the feeling of regret, where there are two scenarios say A and B where a person choosing A may regret not choosing B, it does not address what would happen if there were more than two choices, say if there were for example ten choices.

Herding behavior theory

Herding behavior theory as advanced by Shiller (2003), states that people have an inherent desire to belong to a group, which then means that human beings will always want to be seen together with others. He also added that moving with the herd magnifies the psychological biases. Investors will often spend less time to analyze the different investment options they have but will focus on buying whatever is the center of attention of other market players. Herding can be very irrational when stock market investors sell their stocks to avoid losses when there is a large decline in the stock market just because other investors are doing so, which leads them to ignore all rational analysis and react in panic leading to market distortions.

Raafat, Chater and Frith (2009), described herding as a social behavior that involves alignment of a group of individuals' behaviors and thoughts through local interaction but without a centralized coordination. They proposed an integrated approach to herding, describing two key issues, which include the mechanisms of transmission of thoughts and behavior between individuals and the patterns of connection between them. Their suggestion was that bringing together different theoretical approaches of herding behavior brings to light the applicability of the theory to many areas including cognitive neuroscience to economics and business fields.

When investors are making decision whether to buy a property, they will usually consider many properties and may not find a good property after consideration the listed ones. They will usually then buy a property that caught their attention based on past performance whether good or bad. According to Barberis and Thaler (2002) individual investors seem to be less impacted by attention grasping property for their selling decisions because selling decisions and buying decisions are differently run. Due to short sale restraints, when choosing a property to sell, they can only focus on the properties belonging to them. While when making a buying decision, people have a wide range to choose from. This then explains why factors of attention impact more on the property buying decision than selling decision. This theory laid the foundation for the herding bias in the

study. The theory addresses the human social behavior of wanting to belong to a group but fails to address the behavior of lone rangers who prefer to make different decisions from the crowds.

Prospect theory

Prospect theory was developed in 1979 as a critique to the Utility theory and aims to describe how people make decisions in an uncertain world given different options. It suggests that people tend to value outcomes that are viewed as more certain, have a tendency towards loss aversion, focus on relative positioning, and under react to low probability events. However, the theory fails to consider the role of human emotions in decision making. In a recent study by Millroth, Nilsson and Juslin (2019), they found that the psychological phenomena in Hahnemann and Tversky's seminal study on prospect theory were motivated by psychological assumptions in populations with large numeracy variations. They also found that people with high numeracy were more likely to replicate the psychological phenomena, while those with low numeracy tended to focus on minimizing the risk of obtaining the worst outcome. The study highlights some important limiting conditions for the psychological assumptions made in prospect theory.

Theory of overconfidence

The overconfidence theory, proposed in 2005 by Daniel, Hirshleifer and Subrahmanyam, explains anomalous securities returns patterns from the perspective of investor overconfidence and self-attribution bias. The theory suggests that individuals tend to overestimate their knowledge and abilities and may believe they can time the market consistently, resulting in bad bets and excessive trading volumes. Gervais and Odean (2001) developed a market model that describes how overconfidence and biases in learning can lead to higher trading volumes and differences of opinions between traders. Shefrin (2000) also found that overconfidence and anchoring contribute to post earnings announcement drift and excessive trading volume. However, the theory operates on the assumptions that people are overconfident in their private information and that their confidence changes as they gain experience in trading, which may not always hold true in all scenarios and for all individuals.

Heuristic theory

The heuristic theory proposed by Tversky and Kahneman in 1974 identified three heuristics that people use to make decisions under uncertainty: representativeness, availability, and adjustment and anchoring. These heuristics can lead to biases and affect decision-making. Later, two more heuristics were identified: overconfidence and gambler's fallacy. Overconfidence refers to the belief that one has more accurate information than they actually do, which can lead to errors in financial investment decision-making. However, while heuristics provide quick solutions, they may also lead to errors as compared to algorithmic processing.

Conceptual Framework

A conceptual framework is a network or a plane of concepts that are interlinked to provide an in-depth understanding of a phenomenon. Conceptual framework does have assumptions of epistemological, ontological and methodological nature with each of the concepts that make up a conceptual framework showing the relationships between the concepts and the origin, nature and the knowledge scope of concepts Jabareen (2009).

The study sought to examine the relationship between the independent variables, overconfidence, herding, anchoring and representativeness, and the dependent variable, investment decision in the property market. Each one of the independent variables may affect investment decision making either on its own or together with another one. The indicator of each of each variable illustrates the measurement of the effect towards investment decision making. The figure below shows the relationship between these variables.

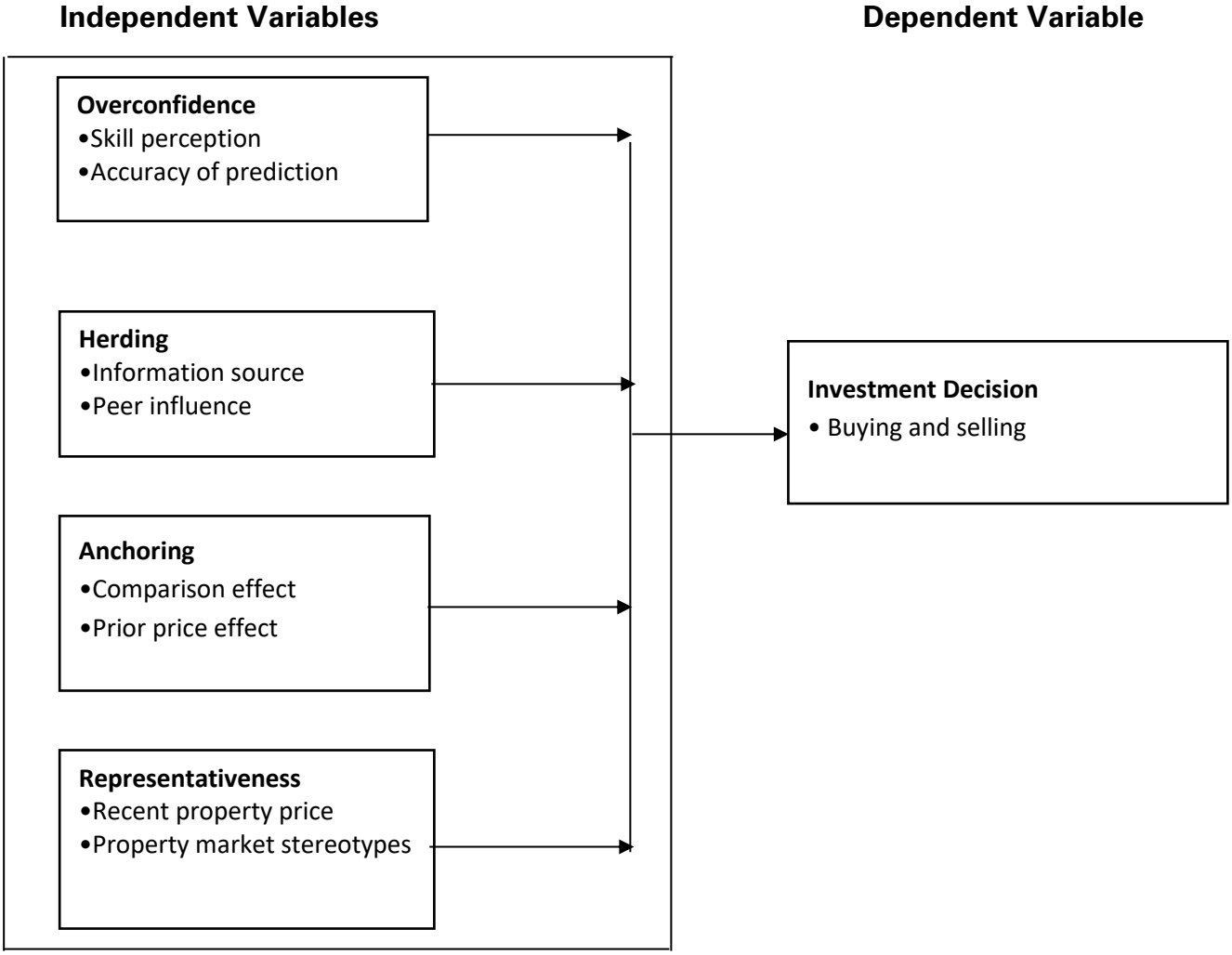

Figure 2.1 Conceptual framework
Source: Researcher (2023)

RESEARCH METHODOLOGY

Research Design

This is a plan that guides the research process from formulating research questions and hypothesis to reporting the study findings (Sekaran & Bougie, 2013). It describes a plan for collecting data, measuring variables, and analyzing data in a study. Cooper and Schindler (2014) describe research design as the blueprint for achieving goals and getting answers to questions. The availability of different techniques, protocols and sampling plans make selection of a research design a little complicated.

This study adopted a descriptive research design of individual investors working in Nairobi. According to Cooper and Schindler (2014) descriptive study is more commonly used in research due to the fact that it is multifaceted in management disciplines. Descriptive study tries to describe a subject by attempting to find out the where, when, how, who and what.

Target Population

Neuman (2014) describes a target population as a specifically designed large collection of elements from which a sample is drawn by a researcher for a study and the sample results are then generalized. For the purposes of this study, the population were all mortgage account holders in the banks offering mortgage loans in Nairobi City County in Kenya.

Sample Size and Sampling Technique

The study used a probability sampling technique. The technique is simple random sampling to reach the target sample size. The reason for choosing this technique is due to the large size of the population and with limited resources. The risk in simple random sampling was addressed through pretesting of the data collection tool to ensure validity and reliability.

In order to work out the sample size for the large population, the study used the Cochran's formula due to the large population. The Cochran's formula is as follows:

$$\boldsymbol{n = \frac{Z^2 pq}{e^2}}$$

Where:

n – Sample size

Z – Standard deviation at the desired confidence level (1.96)

p – The estimated proportion of an attribute that is present in the population (0.5)

q – 1- p (1- 0.5)

e – Margin of error (0.05)

Therefore, the sample size, **n** was 384.

Data Analysis and Presentation

The questionnaires generated quantitative data and qualitative data. The analysis of qualitative data was done via thematic analysis and the results were presented in a narrative form. Inferential and

descriptive statistics were used in analyzing quantitative data with the aid of SPSS version 29. A multiple linear regression model was then used to determine the relationship between the independent variables and the dependent variables and was as follow:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y – Investment decision which is the dependent variable

α – the constant (intercept). It's the value of Y when the independent variables (X_1, X_2, X_3, X_4) are equal to zero.

$\beta_1, \beta_2, \beta_3, \beta_4$ – beta coefficients

X_1 – Overconfidence

X_2 – Herding

X_3 – Anchoring

X_4 – Representativeness

ε – Error term of the model

RESULTS AND DISCUSSIONS

The study distributed 384 questionnaires to the respondents out of which 273 were completed filled and returned. This represented a response rate of 71.1% and this was adequate for analysis. According to Mugenda and Mugenda (2003) a response rate of above 50% is considered adequate for analysis and the study response rate was above this threshold and therefore adequate for analysis.

Pilot Results

The study distributed 38 questionnaires for pilot exercise through drop and pick method. A total of 28 questionnaires were returned for analysis representing 77.8% of the pilot sample. The researcher sought establish internal inconsistencies among the research tools. There are several reliability estimates that are employed to test inconsistencies of data. Cronbach alpha α is the most preferred measure of internal reliability coefficient. The results of reliability is presented in table

Table: Cronbach results

Variables	Items	Cronbach Alpha	Remark
Overconfidence	7	.749	Reliable
Over herding	7	.838	Reliable
Anchoring	7	.924	Reliable
Representativeness	7	.729	Reliable
Investment decision	7	.719	Reliable

The cronbach's alpha results for all the variables of this study were all above 0.7. This is an indication that the instrument used in the study is adequately reliable and acceptable.

Validity Test

Factor analysis was used to test for validity test of the instrument. A factor loading of 0.5 and above is acceptable (Kilic et al., 2020). The factor loadings for each of the individual variable statements are shown.

Table: Summary of validity test

Variables	Items	Average Factor Loading	KMO	Bartlett's Test	Sig.	Remark
Overconfidence	7	0.639	.659	45.456	.002	Valid
Over herding	7	0.671	.733	67.200	.000	Valid
Anchoring	7	0.692	.712	132.637	.000	Valid
Representativeness	7	0.631	.678	48.740	.001	Valid
Investment decision	7	0.661	.650	61.485	.000	Valid

The statements for all the variables attracted average factor loadings<0.05 hence were retained for further analysis. KMO and Bartlett's test is the most appropriate tools to determine validity.

Descriptive Statistics

Overconfidence

The study sought the level of response in the aspect of the behavioral factor on overconfidence using a five-point Likert scale. The respondents expressed their opinion in the form of Strongly Disagree (SD), Disagree (D), Neither Agree nor Disagree (U), Agree (A), strongly Agree (SA)

Table: Overconfidence

Statement	SD	Disagree	Neutral	Agree	SA	Mean	Standard Deviation
I am generally very good at reading market trends	2.0%	6.0%	13.3%	60.7%	18.0%	3.87	0.85
I use my own predictive ability to make investment decisions	11.3%	5.3%	5.3%	48.0%	30.0%	3.80	1.25
I generally do not need the services of a financial advisor when making investment decisions	6.7%	13.3%	4.0%	50.0%	26.0%	3.75	1.18
I generally have enough knowledge to predict the risk involved in the investment	8.0%	14.0%	6.0%	55.3%	16.7%	3.59	1.16
When I make market prediction, it is usually accurate.	6.7%	14.0%	10.0%	41.3%	28.0%	3.70	1.21
If my market prediction is accurate, even the next prediction will be accurate	2.7%	17.4%	10.1%	60.4%	9.4%	3.56	0.97
I understand my own abilities and limits of knowledge in the real estate	4.0%	6.0%	17.3%	45.3%	27.3%	3.86	1.02

From the finding in table, majority of the respondents agreed that most of them are generally good in reading market trends as shown by the mean of 3.87 and standard deviation of 0.85. On the other hand, when the respondents were asked the need to sought financial advisor, most of the respondents agreed that they do not need help from financial advisor on making investment decision as shown by the mean of 3.75 and standard deviation of 1.18. On the other hand, majority of the respondents unanimously agreed that they use their own predictive ability to make investment decision as depicted by 3.8 and standard deviation of 1.25.

Knowledge is very important before making any decision, it's through adequate knowledge that informs a viable decision especially investment. When the respondents were asked about the importance of having sufficient knowledge, most of the respondents were in consensus that all of them have a general knowledge that is helpful in predicting risk that can hamper investment as depicted by the mean of 3.59 and a standard deviation of 1.16. The study noted that majority of the respondents agreed that whenever asked about market prediction, they do it accurately as indicated by the mean of 3.70 and standard deviation of 1.21. Concerning subsequent prediction, many of the respondents were unanimous that their subsequent prediction is as accurate as the prior prediction as depicted by the mean of 3.56 and a standard deviation of 0.97. On the other hand, most of the respondents agreed that they understand their own abilities and limitations of knowledge in real estate as depicted by the mean of 3.86 and standard deviation 1.02.

Herding

Herding is a vital practice in making investment choices especially in stock markets where investors rely on available information from the local interaction with other players. One challenge of this behavior is following a wrong decision that may be costly. The descriptive finding of the study is presented in Table

Table Herding

Statement	SD	Disagree	Neutral	Agree	SA	Mean	Standard Deviation
When making investment decision, I use the same information as everyone else	8.0%	10.0%	6.0%	52.7%	23.3%	3.7	1.2
I am likely to copy investment decisions that are similar to that of people I know	4.0%	6.0%	3.3%	56.7%	30.0%	4.0	1.0
If many people invest in a certain area, then it is likely that it is a good investment area.	9.3%	10.7%	3.3%	50.0%	26.7%	3.7	1.2
In times of uncertainty, I will most likely do what other people are doing	4.7%	9.3%	6.0%	57.3%	22.7%	3.8	1.0

When purchasing property, I use the same strategy as most people	5.3%	10.0%	6.7%	60.0%	18.0%	3.89	1.1
If I notice that another person's investment strategy is working, I am likely to copy it	2.0%	8.7%	3.3%	70.0%	16.0%	3.9	0.8
When considering a property to invest in, I will most likely look at what others have invested in.	1.3%	18.7%	15.3%	58.7%	6.0%	3.5	0.9

The study established that majority of the respondent uses similar information others have used before making investment decision as shown by the mean of 3.7 and standard deviation of 1.2. Upon enquire on the idea of copying investment decisions, many of the respondents agreed that they are likely to copy investment decisions that are similar to other people ideas as shown by the mean of 4.0 and a standard deviation of 1.0. On the other hand, several respondents agreed that were convinced that areas where several people have invested are likely to be right areas of investment as depicted by the mean of 3.7 and standard deviation of 1.2.

Uncertainty in stock market bring volatility and risk that is associated with cost. When respondents were asked about how they react to uncertainty that may be witnessed in the market, most of the respondents agreed that they will most likely do what other people have done during the uncertainty period as indicated by the mean of 3.8 and standard deviation of 1.0. There was a consensus among the respondents that purchasing of property followed similar strategy where most of the people have adopted as signified by the mean of 3.89 and standard deviation of 1.1. Again, majority of the respondents agreed that they are likely to adopt an individual strategy that is working from the prior one that was being adopted by almost everybody as depicted by the mean of 3.9 and standard deviation of 0.8. Likewise, of the respondents agreed that before investing in property, they normally get to know from others on the investment implication it has as shown by the mean of 3.5 and standard deviation of 0.9.

This implied that more herding improves the investment decision making. It was evident from the study that herding significantly affected the investment decisions. Investors tend to follow behavior of other investors when making decision. Herding is very common in stock market where investors are likely to be drifted in other group positions. The finding agreed with Javed, et al. (2017) who concluded that herding effect, overconfidence, availability bias and representativeness all had significant and positive impact on the perceived investment performance. According to Sayyed, Muhammad, Natanya, Daniel and Judit (2019) herding process steers firm value where managers and investors are both involved. Jiang, Ho, Yan and Tan (2018) pointed out that herding behavior in investors is accentuated by the market share and cumulative amount funded but attenuated by their time in operation.

Anchoring

Investment decision making is always informed by the past experiences especially on areas that need improvements. Information that is irrelevant may have adverse effect on the users and investors have to be very careful when using the initial information. New entrants tend to rely on previous information unlike the veterans who already know the market trends and can make decision on their own without relying on the past. The descriptive finding of anchoring is presented in table below.

Anchoring

Statement	SD	Disagree	Neutral	Agree	SA	Mean	Standard Deviation
I regard as true that value of a property is set based on the recent selling price	5.3%	11.3%	2.0%	53.3%	28.0%	3.9	1.1
I am convinced that property prices today are determined by past prices	6.7%	11.3%	2.7%	48.0%	31.3%	3.9	1.2
The more the number of past prices considered previous in predicating a price, the more likely it is that the predicted price is reliable	2.0%	9.3%	5.3%	54.7%	28.7%	4.0	0.9
The past reputation of property seller affects my buying decision	1.3%	2.0%	3.3%	70.0%	23.3%	4.1	0.7
I am likely to wait for the property price to reach a reference point before trading.	2.0%	4.0%	5.3%	72.0%	16.7%	4.0	0.8
I am likely to use a reference point to compare the current property price	0.0%	0.7%	3.3%	80.0%	16.0%	4.1	0.5
The highest price of a property that I perceive also becomes a reference point	0.0%	4.0%	5.3%	72.0%	18.7%	4.1	0.6

From the result in table, majority of the respondents agreed that they regard the recent selling price of a property as the true value as shown by the mean of 3.9 and standard deviation of 1.1. When the respondent was asked about what determine the price of properties, most of them agreed that price of properties is determined by the previous prices as shown by the mean of 3.9 and standard deviation of 1.2. On the other hand, the study established that many of the respondents agreed that

the consistency of using previous prices to predict future prices is likely to be accurate as shown by the mean of 4.0 and standard deviation of 0.9.

Initial price of a property creates a perception among consumers concerning the actual valuation of a property and their judgement cannot be far from the truth. Upon asking the respondents on their view regarding past reputation of a property, majority of the respondents agreed that past reputation of property seller affects their decision on buying as indicated by the mean of 4.1 and standard deviation of 0.9. The study revealed that most of the respondents agreed that they to wait for the property price to reach a reference point before trading as indicated by the mean of 4.0 and standard deviation of 0.8. On the other hand, the study established that most of the respondents agreed that they will use a reference point to compare the current property price as depicted by the mean of 4.1 and standard deviation of 0.5. Additionally, the study deduced that many of the respondents agreed that the highest price of a property that they perceive also becomes a reference point as depicted by the mean of 4.1 and standard deviation of 0.6.

Relying on initial information before making judgement helps to inform areas of improvement through evaluating information that are valuable and discard information that is not required. In some instance irrelevant anchoring may lead to irrational decision making which can amount to losses on the investors' side. Experienced investors may not engage so much on anchoring while the lesser experienced investors put more emphasize on anchoring but in the end both are united by the initial value of the stock. In some instance investor may use unrelated information by synthesizing it to fit what is required out of them before making a rational decision. Bouteska and Regaieg (2019) found out that investors are anchored on past benefits. It also concurred with Shin and Park (2018) who remarked that anchoring heavily relied on the previous iformation for sound decision making.

Representativeness

Investors have a natural tendency to evaluate all matters based on how they look like, first and quick look, rather than based on true statistical probabilities. Investors often overestimate the likelihood of the irrelevant information or underestimate the likelihood of common attributes related to the investment. This is because investors assume that it is an easy and alternative approach to evaluation of investment. The descriptive finding of representativeness is presented in table.

Table: Descriptive results of Representativeness

Statement	SD	Disagree	Neutral	Agree	SA	Mean	Standard Deviation
The past performance of a property is likely to influence my future decision making	3.2%	1.3%	1.3%	69.0%	25.3%	4.2	0.5
I tend to over rely on stereotypes in the property market.	7.3%	14.7%	2.0%	46.0%	30.0%	3.8	1.2
If a property is highly priced in a certain year, it is likely to be highly	3.3%	10.0%	4.0%	54.0%	28.7%		

priced the following year						3.9	1.0
If a property price drops over the last year, it is likely to drop the following year	4.0%	17.3%	3.3%	40.0%	35.3%	3.9	1.2
If a financial advisor gives me accurate prediction about a property today, they are likely to do the same in the future	2.0%	10.7%	4.0%	61.1%	22.1%	3.9	0.9
I consider recent returns to be representative of what to expect in the future	1.3%	6.0%	3.4%	70.5%	18.8%	4.0	0.8
I attribute good characteristic of a company directly to good characteristics of the property they sell.	2.0%	4.0%	4.0%	69.1%	20.8%	4.0	0.8

The study established that majority of the respondents agreed that past performance of a property is likely to influence my future decision making as shown by the mean of 4.2 and standard deviation of 0.5. On the other hand, the study deduced that majority of the respondents agreed that many of the investors over rely on stereotypes in the property market as indicated by the mean of 3.8 and standard deviation of 1.2. The study also established that most of the respondents unanimously agreed that a property that is highly priced in a certain year then it is likely to be highly priced in the subsequent years.

Decline of price of a property is always synonymous with depreciation of property value regardless of the market shocks that might have tilted the scale. When respondents were asked about the implication of price decline of properties, majority of the respondents agreed that a drop in price of a property in the previous year will be associated with decline in price of property in the subsequent years as indicated by the mean of 3.9 and standard deviation of 1.0. On the other hand, most of the respondents agreed that financial advisers who give correct prediction about property valuation then tomorrow their predictions will still remain correct as shown by the mean of 3.9 and standard deviation of 0.9. The study revealed that many of the respondents agreed that they consider recent returns to be representative of what to expect in the future as depicted by the mean of 4.0 and standard deviation of 0.9. Additionally, the study revealed that most of the respondents agreed that they attribute good characteristic of a company directly to good characteristics of the property they sell as shown by the mean of 4.0 and standard deviation of 0.9.

Representativeness is very critical component of investment decision making. Circumstantially, investors prefer using similarities rather than using probability rule in decision making. However, this approach is faced with a failure of investors to carefully evaluate a situation before rendering a decision which at times is associated with erroneous extrapolation of data to suit a certain course which is costly and may amount to huge losses. This concurred with the finding of Irshad, et al. (2016) that concluded that use of past performance as representative of future performance. Further, Ahmed and Safdar (2016) noted that representativeness bias affects investor interpretation of consistency in sales growth patterns which differed with finding of this study.

Investment Decision

The study assessed respondent views on investment decision within the real estate sectors using a five-point likert scale. The respondents expressed their opinion in the form of Strongly Disagree (SD), Disagree (D), Neither Agree nor Disagree (U), Agree (A), strongly Agree (SA). The descriptive finding of investment decision is presented in table.

Table: Descriptive results of investment decision

Statement	SD	Disagree	Neutral	Agree	SA	Mean	Standard Deviation
The increase in property sales is likely to influence my investment decision	4.7%	4.7%	1.3%	69.8%	19.5%	3.9	0.9
The decrease in property sales is likely to influence my investment decision	4.7%	5.4%	1.3%	71.8%	16.8%	3.9	0.9
The past trends of a property are likely to influence my investment decision	2.7%	0.7%	0.0%	83.2%	13.4%	4.0	0.6
I am more likely to consider the possibility of loss, more than profit, when making an investment decision	2.7%	7.4%	3.4%	53.7%	32.9%	4.1	0.9
Seasonal price cycles will influence my investment decision.	3.4%	4.7%	6.0%	65.8%	20.1%	3.9	0.9
My preferences will influence my investment decision.	2.0%	2.0%	0.7%	71.8%	23.5%	4.1	0.7
My perception of 'hot' property will tend to influence my investment decision	3.4%	4.1%	4.7%	62.8%	25.0%	4.0	0.9

From the finding in table, the study established that majority of the respondents agreed that the increase in property sales is likely to influence individual investment decision as shown by the mean of 3.9 and standard deviation of 0.9. When the respondents were asked about effect of decline in sales of property, majority of the respondents agreed that decrease in property sales is likely to influence investment decision as indicated by the mean of 3.9 and a standard deviation of 0.9. On

the other hand, the study revealed that past trends of a property are likely to influence my investment decision as depicted by the mean of 4.0 and standard deviation of 0.6.

Investments are driven by the urge of making profits and when the respondents were asked about venturing into a business that is prone to profit/loss fluctuations, most of the respondents agreed that they are likely to consider possibility of loss making more than profit making when making an investment decision as shown by the mean of 4.1 and standard deviation of 0.9. The study established that seasonal price cycles affected investment decision as indicated by the mean of 3.9 and standard deviation of 0.9. It was also revealed that individual preference affected investment decision as depicted by the mean of 4.1 and standard deviation of 0.7. Additionally, the study noted that perception of 'hot' property tends to influence individual investment decision as depicted by the mean of 4.0 and standard deviation of 0.9.

Decisions are made based on facts and patterns devoid of emotions that are ordinarily associated with over confidence. Overconfidence on investment decision making remains debatable since its merits and demerits are glaring. Overconfidence association with over estimation, over precision and over placement ordinarily is prone to errors. In financial aspect overconfidence is known as the main cause of speculative bubbles occasioned by market anomalies which can create market volatility. The finding agreed with Bao and Li (2016) who argued that overconfidence has both opportunites and challenges on nvestment decision making. It differed with Trehan (2016) who remarked that investors are overconfident about their investment decisions, skills, knowledge, and ability to choose stocks, control of portfolio, future investment plans and views about the stock market. On the other hand, Meikle, et al. (2016) observed that consequences of overconfidence in an organization could be substantial especially when coming from the leaders in the organization.

Correlation of Behavioral Factors and Investment Decision

In the market some of the investors are not fully rational and exhibits biasness and use thumb rules to make decisions. Behavioral finance of investors has affected investor way of making decision. The study employed Pearson correlation coefficient to determine the relationship between the independent variables and dependent variable. The Pearson correlation coefficient was employed to determine association between behavioral factors and investment decision. The correlation finding is presented in table.

Table: Correlation of Behavioral Factors and Investment Decision Making

Variable		Investment decision	Herding	Anchoring	Overconfidence	Representativeness
Investment decision	Pearson Correlation	1	.330**	.352**	.286**	.480**
	Sig. (2-tailed)		0	0	0	0
	N	149	149	149	149	149
Herding	Pearson Correlation	.330**	1	.436**	.294**	.470**
	Sig. (2-tailed)	0		0	0	0
	N	149	150	150	150	150

Anchoring	Pearson Correlation	.352**	.436**	1	.365**	.650**
	Sig. (2-tailed)	0	0		0	0
	N	149	150	150	150	150
Overconfidence	Pearson Correlation	.286**	.294**	.365**	1	.433**
	Sig. (2-tailed)	0	0	0		0
	N	149	150	150	150	150
Representativeness	Pearson Correlation	.480**	.470**	.650**	.433**	1
	Sig. (2-tailed)	0	0	0	0	
	N	149	150	150	150	150

** Correlation is significant at the 0.01 level (2-tailed).

From the finding of the study, it revealed that herding feature of behavioral characteristic had a positive and significant association with investment decision making (r=.330, 0000<0.05). This implied that the association between herding and investment decision is moderate and positive. Cherono, Olweny and Nasieku (2019) noted that prices of stocks could be driven by herd instinct, which they describe as the tendency for investor to copy the actions of a larger group. For instance, as many investors purchased a particular stock, leading to an increase in price of the stock, other investors jumped on board as if the other investors were right or they had knowledge of something that not every investor knew about.

Study findings on the anchoring a feature of behavioral characteristic has a positive and significant association with investment decision (r=.352, 0000<0.05). This implied that the association between anchoring an aspect of behavioral characteristic and investment decision is moderate and positive. Chang, Chao and Yeh (2016) observed that investors who received highest level of anchoring are those that are faced with high systemic uncertainity and other transactional costs.

It was revealed that there exist a positive and significant association between overconfidence an aspect of behavioral characteristic and investment decision (r=.286, 0000<0.05). This signified that the association between overconfidence an aspect of behavioral characteristic is weak and positive. According Meikle, et al. (2016) argued that overconfidence in an organization could be substantial especially when coming from the leaders in the organization.

The study established that the association of representativeness an aspect of behavioral characteristic and investment decision making is positive and significant (r=.480, 0000<0.05). The study signified that the association between representativeness an aspect of behavioral characteristic and investment decision making is moderate and positive. The finding agreed with Salman, Khan and Javed (2020) who concluded that risk tolerance mediates the association between the representativeness bias and the investment decision making.

The correlations of overconfidence, herding, anchoring and representativeness against investment decision among retail investors in real estate in Nairobi City County Kenya revealed weak correlation. This is an indication of the presence of other factors that influence investment decision among retail investors in real estate but were not include in the study. The factors include market demand and supply forces, cost of constructions, location of the property, mode of financing and customer behavioral factors.

Inferential Statistics

This section discusses the inferential statistics that were used to demonstrate the effect of behavioral factors and investment decisions among retail investors in real estate in Nairobi City County: Kenya. These techniques include correlation analysis and multivariate regression analysis.

Normality Test

Models require normality test to be conducted to establish whether data is normally distributed. When data is not normally distributed it may distort the results of any further analysis. Preliminary analysis to assess if the data fits a normal distribution was performed. To assess the normality of the distribution of scores, Kolmogorov-Smirnov test was used. The normality test results are illustrated in Table below

Table: **Kolmogorov–Smirnov Test** ***for Normality***

Variable	Kolmogorov-Smirnov[a]		
	Statistic	**Df**	**Sig.**
Investment decisions	.931	150	.151
Overconfidence	.835	150	.226
Herding	.835	150	.261
Anchoring	.814	150	.266
Representativeness	.796	150	.261

From the finding in table, the significant results indicated that (>0.05) are obtained for a score it implies the data fits a normal distribution (Tabachnik & Fidell, 2007). The data in Table highlighted the results of the Kolmogorov-Smirnov test. The normality test results in the table above indicate that the data in relation to each variable is normally distributed as the significance value in all cases is greater than 0.05. This implies the data is suitable for analysis using correlation and regression analysis.

Linearity Test

Compare means were used to test for linearity and to visually show whether there was a linear or curvilinear relationship between two continuous variables before carrying out regression analysis. Regression models can only accurately estimate the relationship between dependent and independent variables if the relationship is linear (Osborne & Waters, 2002). The linearity results of the relationship between the dependent and independent variables are presented in Table

Table: Tests of Linearity

Investment decisions			Sig.
Overconfidence* Investment Decisions	Between Groups	(Combined)	0.001
		Linearity	0.000
		Deviation from Linearity	0.517
Herding * Investment Decisions	Between Groups	(Combined)	0.000
		Linearity	0.000
		Deviation from Linearity	0.089
Anchoring* Investment Decisions	Between Groups	(Combined)	0.000
		Linearity	0.000
		Deviation from Linearity	0.61
Representativeness* Investment Decisions	Between Groups	(Combined)	0.000
		Linearity	0.000
		Deviation from Linearity	0.67

Based on the Anova results in Table value sig deviation from linearity is 0.517> 0.05 for overconfidence variable against investment decisions. The results imply that there is linear relationship between overconfidence variable investment decisions among retail investors in real estate. There was a linear relationship between herding variable against investment decisions since sig value deviation from linearity is 0.089> 0.05. The linearity test indicates the relationship between dependent and independent variables. For linear regression to be conducted, the relationship between the independent and dependent variables needs to be linear. The linearity test results indicate that the data set was exhibiting linear pattern hence linear regression modeling could be conducted.

Test for Multicollinearity

Multicollinearity exists when two or more of the predictors in a regression model are moderately or highly correlated thereby limiting the research conclusions to be drawn. According to Zainodin, Noraini, and Yap (2011), multicollinearity refers to the presence of correlations between the predictor variables. Multicollinearity inflates the standard errors and confidence intervals leading to unstable estimates of the coefficients for individual predictors. Multicollinearity was assessed in this study using the Variance Inflation Factor (VIF) as shown in Table

Table: Variance inflation factor

Variable	VIF	1/VIF
Overconfidence	1.072	0.442598
Herding	1.308	0.485644
Anchoring	1.863	0.498040
Representativeness	1.994	0.533539
Mean	1.5593	

Results were presented in Table. A variance inflation factor test was conducted to test for multicolinearity of the predictors and a value less than 10 is acceptable. Overconfidence had V.I.F value of 1.072 which is less than 10 implying there is no multicolineerty. Under herding a V.I.F value of 1.308 means that there is no multicollinearity in since VIF is less than 10. The results indicated that anchoring had a V.I.F value of 1.863 implying there is no multicolinearity in anchoring since VIF is less than 10. Finally, representativeness had a V.I.F value of 1.994 implying no multicolinearity since VIF is less than 10.

Autocorrelation Test

To establish whether or not the residuals are serially correlated over time, Durbin-Watson test for autocorrelation was conducted. The null hypothesis is that no first order serial or auto correlation exists when the p-value is less than 2.0.

Table Autocorrelation results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.690[a]	.476	.462	.35029	2.08

a. Predictors: (Constant), representativeness, overconfidence, herding, anchoring
b. Dependent Variable: investment decision

From the Table 4.13 the null hypothesis of no serial correlation was not rejected given that the Durbin-Watson was less than 2.5 (DW = 2.08) implying that there is no autocorrelation thus residuals are serially correlated.

Heteroscedasticity Test

Heteroscedasticity refers to circumstance in which the variability of a variable is unequal across the range of values of a second variable that predicts it. In this case, the variability of the dependent variable widens or narrows as the independent variable increases thus the inverse is Homoscedastic within cross-sectional units. However, its variance may differ across units: a condition known as group wise Heteroscedasticity. The Breuch-Pagan test tests for the variability of the model residuals. The null hypothesis was that data has constant variance while the alternative hypothesis was that data has non-constant variance.

Table: Heteroscedasticity Results

Test Statistic	P-Value
7.87	0.0510
H_o : Constant Variance	

The results in Table above indicate that the null hypothesis of Heteroscedastic error terms is not rejected as supported by a p-value of 0.0510 which is greater than 0.05 implying there is no Heteroscedasticity. This test suggests that the data is homoscedastic.

Relationship between Behavioral Characteristic and Investment Decisions

The sought to establish the relationship between behavioral characteristic and investment decisions. The finding on the coefficient of determination is presented in table below.

Table: Model Summary

Model	R	R Square	Adjusted R Square	Sig	Std. Error of the Estimate
1	.690a	0.476	0.462	0.000	0.35029

a Predictors: (Constant), representativeness, overconfidence, herding, anchoring

From the finding in table above, regression summary model of behavioral characteristic and investment decision resulted to a coefficient of determination of $r^2 = 0.476$ ($p=0.000<0.05$). This signified that 47.6% of investment decision is affected by behavioral characteristic that was significant. The adjusted R^2 implied that 46.2% of the investment decision variation is explained by representativeness, overconfidence, herding and anchoring and the rest is explained by other factors that are not included in the model. The analysis of variance finding is presented in table b below

Table: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.184	4	4.046	32.973	.000b
	Residual	17.792	145	0.123		
	Total	33.976	149			

a Dependent Variable: investment decision

b Predictors: (Constant), representativeness, overconfidence, herding, anchoring

From the results in table above, regression ANOVA model of behavioral characteristic and investment decisions ($F= 32.973$, $p = .000<0.05$) predictor in the model of behavioral characteristic on investment decisions. The table 4.11 presents the findings of the coefficients of regression of behavioral characteristic in investment decisions.

Table: Coefficient Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.105	0.273		7.705	0.000
	Overconfidence	-0.145	0.035	-0.257	-4.129	0.000
	Herding	0.111	0.051	0.149	2.171	0.032
	Anchoring	0.273	0.073	0.308	3.757	0.000
	Representativeness	0.182	0.067	0.231	2.727	0.007

a Dependent variable: investment decision

The finding of the study established that there exist a positive and significant relationship between anchoring an aspect behavioral characteristic and investment decision ($\beta=0.273$, $p=0.000<0.05$). This signified that a unit increase of anchoring resulted to 0.273 units' rise of investment decision. The study established that anchoring an aspect of behavioral characteristic affect investment decisions. Relying on initial information before making judgement helps to inform areas of

improvement through evaluating information that are valuable and discard information that is not required. In some instance irrelevant anchoring may lead to irrational decision making which can amount to losses on the investors' side.

Experienced investors may not engage so much on anchoring while the lesser experienced investors put more emphasize on anchoring but in the end, both are united by the initial value of the stock. In some instance investor may use unrelated information by synthesizing it to fit what is required out of them before making a rational decision. Bouteska and Regaieg (2019) found out that investors are anchored on past benefits. It also concurred with Shin and Park (2018) who remarked that anchoring heavily relied on the previous iformation for sound decision making. Ma, Wang and Zhang (2017) observed that investors are more likely to buy stock when the price is far below its 52- week high, which would in turn lead to overpricing and lower returns in the future and vice versa. Chang, Chao and Yeh (2016) noted that buyers who exhibited the highest levels of anchoring were those faced with higher systematic uncertainty and out of state housing transactions.

The results of the study revealed that representativeness has a positive and significant effect on investment decisions ($\beta=0.182$, $p=0.007<0.05$). This signified that representativeness enhances investment decisions whenever improvement is accelerated. Representativeness is very critical component of investment decision making. Circumstantially, investors prefer using similarities rather than using probability rule in decision making.

Making decision using similarity rule is seen by many of the investors as the easier way of achieving a desired decision. This approach is faced with a failure of investors to carefully evaluate a situation before rendering a decision which at times is associated with erroneous extrapolation of data to suit a certain course which is costly and may amount to huge losses. This concurred with the finding of Irshad, et al. (2016) that concluded that use of past performance as representative of future performance. Further, Ahmed and Safdar (2016) noted that representativeness bias affects investor interpretation of consistency in sales growth patterns which differed with finding of this study. On the other hand, Salman, Khan and Javed (2020) observed that external locus of control reinforces the effect of heuristic representativeness bias on investors risk taking proclivity enabling them make investment decisions.

The study deduced that herding an aspect of behavioral characteristic has a positive and significant effect on investment decisions ($\beta=0.111$, $p=0.032<0.05$). This implied that more herding improves the investment decision making. It was evident from the study that herding significantly affected the investment decisions. Investors tend to follow behavior of other investors when making decision. The pressure to follow a group is normally driven by the perception that large group of investors could be in a better position of accessing information which an individual may not be able and thus a better investment decision is likely to be made. Herding is very common in stock market where investors are likely to be drifted in other group positions.

The prices of stocks could be driven by herd instinct, which they describe as the tendency for investor to copy the actions of a larger group. For instance, as many investors purchased a particular stock, leading to an increase in price of the stock, other investors jumped on board as if the other

investors were right or they had knowledge of something that not every investor knew about. The finding agreed with Javed, et al. (2017) who concluded that herding effect, overconfidence, availability bias and representativeness all had significant and positive impact on the perceived investment performance. According to Sayyed, Muhammad, Natanya, Daniel and Judit (2019) herding process steers firm value where managers and investors are both involved. Jiang, Ho, Yan and Tan (2018) pointed out that herding behavior in investors is accentuated by the market share and cumulative amount funded but attenuated by their time in operation.

It was revealed that overconfidence an aspect of behavioral characteristic has a negative and significant effect on investment decisions. This implied that too much confidence may erode the ability to make rational decisions among investors whenever need be. Decisions are made based on facts and patterns devoid of emotions that are ordinarily associated with over confidence.

Overconfidence on investment decision making remains debatable since its merits and demerits are glaring. Overconfidence association with over estimation, over precision and over placement ordinarily is prone to errors. In financial aspect overconfidence is known as the main cause of speculative bubbles occasioned by market anomalies which can create market volatility. In some instance over confidence of investors might cause overreaction over future speculative risks. For instance, commitment of resources to success of a project as result of overestimation which later turn out to be a wrong advice and thus become a bad decision.

The finding agreed with Bao and Li (2016) who argued that overconfidence has both opportunites and challenges on nvestment decision making. It differed with Trehan (2016) who remarked that investors are overconfident about their investment decisions, skills, knowledge, and ability to choose stocks, control of portfolio, future investment plans and views about the stock market. On the other hand, Meikle, et al. (2016) observed that consequences of overconfidence in an organization could be substantial especially when coming from the leaders in the organization. Bernoster, Rietveld and Thurik (2018) noted that overconfidence was related to market entry intent but was not related to entrepreneurial orientation of the business.

CONCLUSIONS AND RECOMMENDATIONS

Summary

From the descriptive findings of the study, majority of the respondents agreed that overconfidence affected investment decisions among retail investors in real estate. This implies that overconfidence affected investment decision making. The overconfidence statement with the highest mean included the reading the market trends, financial advisory and real estate knowledge. Regression finding established that overconfidence negatively affected investment decision making among real estate retail investors. In some instance over confidence of investors might cause overreaction over future speculative risks. For instance, commitment of resources to success of a project as result of overestimation which later.

Descriptive findings showed that overconfidence, herding, anchoring, and representativeness all had significant effects on investment decision-making. However, regression analysis showed that overconfidence had a negative effect, while herding, anchoring, and representativeness had positive effects on investment decision-making. The study also found that irrelevant anchoring and overconfidence in future speculative risks could lead to irrational decision-making and potential losses for investors. Overall, the study suggested that understanding these biases could improve decision-making under uncertainty in the real estate sector.

Conclusion

The study concludes that overconfidence has a negative and significant effect on decision making. Overconfidence is much related with overestimation which may not give a correct projection of an outcome and in the end, it may turn out to be a wrong decision. Investors should be sober and rational when they are projecting an outcome informed by the available information devoid of emotions.

In view of the study results, the study concludes that herding affects investment decision making among retail investors in real estate. There has been a common practice by investors of following decision made by larger group. Decisions made by large group is seen as consultative and accurate. The study concluded that anchoring affects the investment decisions. Anchoring improves investment decision. Previous information is an enabler to investors in knowing the previous shortcomings and areas that require improvement. This is achievable whenever information that is regarded inappropriate is discarded.

Finally, the study concluded that representativeness is strong predictor of investment decisions. The representativeness bias further supports the notion that people fail to properly calculate and utilize probability in their decisions. Investors can fail to notice trends or extrapolate data erroneously because they interpret it as fitting their preconceived notions. Investors have a natural tendency to evaluate all matters based on how they look like, first and quick look, rather than based on true statistical probabilities.

Recommendations Policy and Implications

The study established that 0verconfidence affects investment decision among retail investors in real estate sector. The study recommend that investors should avoid too much overestimation whenever doing projections on how the markets are likely to behave in the future. Overestimation is prone to error making and investors should use the acceptable scientific parameters when forecasting what is likely to happen in the future in the market. Application of documented evidence can be helpful in reducing the overestimation. The study recommends that investment firms ought to project their investment activities guided by expertise skill perception and accuracy of prediction.

Large groups are perceived by many investors as the critical organ in decision making. Empowering large groups with adequate information is important in shaping a rational decision making among less experienced retail investors. Large groups should be empowered with information that are

requisite for decision making. Rendering a good decision require a consultative and candid discussion that can only be achieved through empowering large groups. In making investment decisions, the investment firms should embrace group consultative approaches to make more informed and viable investment decisions.

Recommendation for Further Research

Overconfidence, herding, anchoring and representativeness are the behavioral factors which the study adopted in explaining investment decisions among retail investors in the real estate sector. There are other behavioral factors that were left out that would have improved the model in explaining investment decisions. Legal framework ordinarily guides the operations of investors in the market and therefore the study did not focus on the role it plays. Future studies should focus on studying all the identifiable behavioral factors and legal framework when attempting to investigate investment decisions in real estate sector.

The correlations of overconfidence, herding, anchoring and representativeness against investment decision among retail investors in real estate in Nairobi City County Kenya revealed weak correlation. This is an indication of the presence of other factors that influence investment decision among retail investors in real estate but were not include in the study. The factors include market demand and supply forces, cost of constructions, location of the property, mode of financing and customer behavioral factors. Further research should focus at determining the influence of market demand and supply forces, cost of constructions, location of the property, mode of financing and customer behavioural factors on investment decision among retail investors in real estate in Kenya.

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