

**THE EFFECT OF BEHAVIORAL BIASES ON INVESTMENT
DECISION MAKING BY UNIT TRUST INVESTORS IN KENYA**

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DECLARATION

I declare that this project is my original work and has not been presented for an award of a degree in any other University.

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This project has been submitted with my approval as University supervisor.



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ABSTRACT

Studies done in the field of behavioral finance have showcased how human beings use behavioral biases to aid in decision making when investing, resulting to market anomalies. Differing with traditional finance theorists, who suggested that investors are rational and make investment decisions after conducting fundamental analysis about the securities, behavioral finance literature has suggested that investors are affected by emotional predispositions. This leads to them making irrational investment decisions resulting to poor investment returns. Behavioral biases are categorized under two broad factors – Heuristic factors and Prospect theory. This research was taken to ascertain the effect of behavioral biases under prospect theory and heuristic influences on decision making in unit trusts by investors in Kenya. Descriptive research design was utilized and primary data collection tool was a questionnaire which was administered online using google forms to a convenient sample of 200 respondents. The response rate was at a 100% and the data was analyzed using Statistical Packages for Social Scientists (SPSS) software and descriptive statistics, regression analysis and correlation analysis were used to summarize the research findings. The research established that unit trust investors were affected by Overconfidence, loss aversion, regret aversion mental accounting and gambler's fallacy when making decisions about unit trusts. Availability bias was found to have an insignificant negative effect on investment choice by unit trust investors. The R square value (Coefficient of determination) from study was 0.161, which means that 16.1% of the discrepancy in Investment Decision making is elucidated by the fore mentioned independent variables. The study recommends that investors be made aware of behavioral biases that exist and how to avoid them through trainings offered by unit trust fund companies in order to get desired returns from their investments. The study also recommends financial literacy programs to be introduced to the school curriculum to ensure that people become aware of biases from a very early age, thereby creating better informed investors in the future.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

With increased financial stability, people tend to seek opportunities to increase their returns by investing excess funds. Investment is the current commitment of funds to reap benefits in the future (Bodie et al., 2014). Investors postpone current consumption of funds and acquiring an asset, either real or financial with an prospect that it might generate good returns in the future. Financial securities have gained popularity among many investors as a form on investment. Individual, groups and organizations invest their funds in equities, fixed income securities, Unit trust funds, pension funds, derivatives among other assets in order to gain returns.

In investment decision making, Investors are thought to be rational and take into account all information available in investment decision making, (Shiller, 2000). However, recent researches done on individual investors' behavior have shown that people tend to react to and interpret the same information differently, creating behavioral biases. (Huberman, 2001) stated that human psychological state affects their investment decisions. (Bailey et al., 2011) while working for a US discount brokerage firm intimated that behavioral bias exists in a mutual fund and determined that amongst the investors, trend chasing appeared to be linked to behavioral bias rather than logically deducing managerial skills from previous performance and factor analysis, signifying that investors adapt to labels which may be categorized as overconfident, gambler, mature, smart and narrow framer. According to (Kahneman & Tversky,1979), human beings make decisions based on mental illusions classified under Heuristic Factors where people use rules of thumbs referred to as mental shortcuts to make decisions and classified the behavioral biases that were categorized under Heuristic theory Prospect Theory which intended that shows how people choose between alternatives in related circumstances depending on how losses or gains are presented.

A common financial security investment is the stock market which has gotten increased attention from many investors as it generates high returns. Numerous investors however suffered major losses in the stock market causing some to commit suicide (Agrawal et al, 2017). With the high risk that comes with stock market investments, a lot of investors are now moving to the less risky options such as Unit Trusts which even though have lower returns, they are stable and preserve investors' capital. Unit trust funds, according to (Baiti & Shafee,

2018) are chosen by a lot of investors, especially salaried individuals since the risk involved in it is low and it still gives steady earnings. Therefore, with the peaked interest into Unit Trusts in Kenya as a form of a safe and rewarding investment vehicle, this study intends to establish effects of behavioral biases on investment decision making by unit trust investors in Kenya.

1.1.1: Behavioral Biases

Behavioral Finance cross-cuts finance and psychology, examining factors that affect decision making processes and investors' irrational nature. It is based on investors not always being rational and are predisposed by their own biases. Behavioral finance endeavors to show case human behaviors' in markets, especially in uncertain circumstances involving risk, which are widespread in finance (Lowenstein et al., 2001). It helps people comprehend how investors buy, sell or hold onto their investments without conducting any fundamental analysis on a security whose prices may vary from its fundamental value, thereby greatly faulting the Efficient Market Hypothesis. Behavioral biases are faulty cognitive reasoning influenced by emotions which leads to tendencies of making irrational financial decisions (Pompian, 2012).

Behavioral finance is grounded on mindset that the process of choosing/ selecting anything by humans is subject to several emotional illusions which according to (Kahneman & Tversky, 1979) and (Waweru et al., 2008), have been classified into two categories; those triggered by heuristic decision process namely Availability bias, Representativeness, Anchoring, Overconfidence and Gambler's fallacy and those under prospect theory namely Mental Accounting, Loss aversion, Regret aversion.

1.1.2: Investment Decision Making

Investment decisions entail choosing security/asset to invest in, amount of funds to put into the investment, at what time as well as rate and period of return. In Behavioral Finance, the focus on investment decisions is on an investors behavior and how they infer judgements to buy, hold or sell securities/assets. According to (Chang & Glover, 2009), the behavior of investors in the market depends on elements such as investment horizons, other market participants' behaviors, trends, performance of benchmarks, and presence of market volatility. According to (Oliver & Salas-Fumás, 2010), how investors assess, forecast, analyze and assess processes for decision making is the investment behavior. It is human nature to want to become rich instantly and

hence people would follow trends or performance of benchmarks without necessarily reviewing fundamental information about a company before investing in a security/asset. (Schmeling & Maik, 2007) referred individual investors as “noise traders” who depend on market noises, media and newspapers to make investment decisions, and institutional investors as “smart money” who depend on technical and fundamental analysis to guide on decision making. This study will therefore focus on individual investors who unlike institutional investors who are less likely to be affected by behavioral biases (Chou & Wang, 2011), individual investors interpret similar information differently leading to behavioral biases.

1.1.3: Behavioral Biases and Investment Decision Making

Investor’s response to usual emotional factors brought about the concept of Behavioral Finance. (Thaler, 2005) stated that behavioral finance complements traditional finance theories as it attempts to incorporate human behavior and establish emotional cognizance in the process of decision making. Heuristics are relatively beneficial as humans adopt simplified strategies or cognitive rules of thumb to process large amounts of information to make a decision, especially in situations of inadequate time (Waweru et al., 2008). At times however, heuristics lead to prejudices in decision making process resulting to poor investment decisions (Tversky & Kahneman, 1974) and how people make decisions when faced with uncertain situations has been found to show tendencies of irrationality, incompetence and inconsistency (Bernstein, 1998)

In decision making, emotions play an important role especially when there is an overflow of information with limited time to process the information, causing irrational behavior among investors. What aids investors during such times is heuristics which are mental shortcuts that aid in decision making. Individual investors are susceptible to making same mistakes over and over leading to a predictable pattern that in the end ruins their portfolios through herd trading, overconfidence which leads to under diversification, selling winning positions early and holding onto losing ones, (Elan & Goodrich, 2010). For investors to get better returns from their portfolios, there is need of them to practice emotional discipline and sound judgement (Sewell, 2007).

1.1.4: Unit Trust Investors

Unit Trust is a mutual investment vehicle formed under a trust charter, (Chang et al., 2012). It collects money from investors who share same financial goal into one large fund overseen by a fund manager. Investors' returns are usually dividends, interest revenue or capital gains depending on the instrument invested in. Investors are issued with "units" equivalent to the amount of money they have put into the unit trust. Investment vehicles/funds under unit trust include; fixed income, money market, balanced fund, equity fund. Unit trust investors in Kenya have grown in the recent years due to the popularity of this investment vehicle. According to Capital Markets Authority (CMA), this has led to growth in approved Unit trust funds from practically nothing in 2001 to 25 approved funds with 88 funds collectively by Q'2 2019. Even though rules and regulations exist to help protect investors, the responsibility to assess the fitness, lucrativeness and feasibility of an investment lies solely on the investor.

1.2: Research Problem

Traditional finance always intimated investors being reasonable, able to consume every available information. This assumption was greatly challenged by various researchers due to the fact that an investor may not always have the perfect conditions for decision making i.e. time, funds and mental processing capabilities. This brought about behavioral finance which links psychology and finance, examining the issues that affect the process of making decisions in risky and uncertain situations and the irrational nature of investors (Subash & Báb'a, 2012). Market anomalies were brought about by irrationality of investors and researchers sought to look more into people's mindset and how it explained their investing behavior (Trang & Tho, 2017).

Unit trusts as a form of an investment scheme in Kenya has seen a gradual growth throughout the years as people perceive it as low risk, less capital intensive, and a way of diversifying portfolio whilst minimizing risk. Despite this, investors still endure poor returns than expected due to poor choice of a unit trust, poor holding period and timing. According to (Ritter, Ritter, & Jay, 2003), how people make decisions i.e. the process is subject to various cognitive illusions which contributes to irrational investment decision making. A study done by (Lin & Zhang, 2013) determined that due to lack of technical knowledge and confidence in their abilities, investors rely on behavioral biases to make investment decisions.

(Elan & Goodrich, n.d.) argued that individual investors tended to fall into predictable patterns of vicious behavior and make same mistakes repeatedly, which end up frustrating their portfolios through committing herding behavior, disposition effect, frequent trading, overconfidence and under diversifying. For this reason, this study is pursuing answers to the subject - What are the effects of behavioral biases on investment decision making by Unit trust Investors in Kenya?

1.3: Research Objective

To determine the effect of behavioral biases on investment decision making by Unit Trusts investors in Kenya

1.3.1: Specific Objectives

- I. To establish the influence of overconfidence bias on decision making by Unit Trust investors in Kenya
- II. To ascertain the influence of Gambler's fallacy on decision making by Unit Trust investors in Kenya
- III. To establish the weight of availability bias on decision making by Unit Trust investors in Kenya
- IV. To ascertain the result of Loss Aversion on decision making by Unit Trust investors in Kenya
- V. To establish the effect of Regret Aversion on investment decision making by Unit Trust investors in Kenya
- VI. To ascertain the influence of Mental Accounting on investment decision making by Unit Trust investors in Kenya

1.4: The Value of Study

This study will shine light on the effect of behavioral biases in relation to unit trust investing and will attempt to predict the course of behavioral finance in the future as a field of research in the Kenyan scenario. The study findings will help individual investors comprehend the existence of behavioral biases and how they influence their investment decision making in a bid to make more informed investment decisions.

The study findings will also aid policy makers in coming up with viable financial literacy programs that can be introduced into the education system early in life to create better informed investors from a young age. The findings of this study will contribute to the extensive body of knowledge through elevating the prevailing finance literature. Researchers and future scholars will use the research as a future reference material when advancing their knowledge in behavioral finance.

CHAPTER TWO: LITERATURE REVIEW

2.1: Introduction

This chapter will synthesize the effects of behavioral biases on investment decision in unit trusts by investors in Kenya. The theories that underpin this study will be reviewed and empirical studies on and around the topic analyzed and key findings of the empirical studies highlighted. Finally, a summary of this chapter as well as the research gaps from the theories will be showcased.

2.2: Theoretical Review

Theoretical review will start by reviewing the theory that underpinned traditional finance and inception of behavioral finance and its theories. In this study the theories which will be looked at are Efficient Market Hypothesis and Heuristic Theory and Prospect Theory which will explain well the relationship between behavioral biases and process of making investment choices.

2.2.1: Efficient Markets Hypothesis

The idea of “efficient markets” has long dominated traditional finance. Developed by (Fama, 1970), this theory was built on the idea of efficient markets and stated that the price of any security or asset being traded at a particular moment in time is always correct and reflects all the available information. The ideas of efficient markets and correct prices are quite convenient. However, the big question is whether the law of one price holds ground. If markets are efficient, how come there have been serious stock market bubbles that have wiped away stock market capitalizations and severely affected the economy? As the EMH theory posits, can people really be assumed to be one hundred percent rational decision makers? A novice investor or a casual investor can’t invest with the similar level of rationality and expertise as a proficient investor. Traditional finance suggested that the noise and confusion of “irrational” investors will be wiped out by expert investors with many years of trading experience through arbitrage. There has been a growing body of evidence in the last few decades suggesting that the concept of complete arbitrage doesn’t make sense.

The arbitrage theory which underlies traditional finance has been greatly criticized by behavioral finance theorists. (Shleifer & Vishny, 1997) point out that the biggest problem with arbitrage is revealed when the arbitrageur is responsible for overseeing other people’s funds as

is in case with unit trusts. Because the arbitrageur can suffer a loss if investors request their money back, they are forced to take highly leveraged positions. There is sufficient evidence against the EMH theory that led to the developments in behavioral finance. The biggest difference between traditional financial theory and behavioral finance is cognitive dissonance, (Olsen, 2008). Cognitive dissonance refers to the resistance that comes about from holding two conflicting ideas. This describes the problem that results from trusting the demonstrated and tested factors in behavioral finance theory while also ascribing to traditional finance theory. Olsen suggests that some ideas behind traditional finance create the biggest cognitive dissonance. Some of those ideas include, “the human brain can solve problems like a computer,” and “emotions negatively affect decision making.”

2.2.2: Heuristic Theory

Behavioral finance was developed in the 1980s to illuminate the litany of inefficiencies, heuristics and biases that are existent in financial markets. Beginning in the early 1980s, financial scholars began questioning the efficiency of markets, complete arbitrage, and the concept of correct prices that had been developed by earlier financial theorists. The history of behavioral finance can be tracked to (Kahneman & Tversky',1979), two psychologists who had no training in traditional finance and advanced the ideology of prospect theory. They showcased how human beings make decisions based on mental illusions. They classified the illusions into two groups - those triggered by heuristic decision process namely Overconfidence, Representativeness, Availability bias, Anchoring and Gambler's fallacy (Waweru et al., 2008) and those grouped under prospect theory namely Loss aversion, Mental accounting and Regret aversion.

Heuristics are mental shortcuts from experiences that aid people in decision making in uncertain complicated situations. (Gigerenzer & Gaissmaier, 2011) inferred that heuristics are tactics that disregard fragments of the information, with the aim of arriving at decisions faster, prudently and precisely than more complex methods. (Waweru et al., 2008) indicated that heuristics are beneficial, especially in situations of limited time. However, such heuristics could lead to biases in decision making process resulting to poor investment decisions (Tversky & Kahneman, 1974).

2.2.2.1: Representativeness Bias

According to Tversky & Kahneman, representativeness is a behavioral characteristic that affects people's decisions when reasoning and building opinions where they incline towards classifying occurrences as typical illustrative of a familiar class. For instance, investors may classify some securities as growth stocks due to a history of growth, constant earnings of a company while overlooking the probability few companies will keep on growing (Johnsson et al., 2002). Investors tend to imagine they have already processed information correctly right before making the decision, deriving sense past occurrences and catalog thoughts and objects into personalized sets. When confronted with new information, they use the sets created to make a decision even if the new information may not fit.

2.2.2.2: Availability Bias

This bias has been referred by (Marx & Weber, 2012) as propensity of people to assess an occurrence by the simplicity with which scenarios of the occurrence can recalled or created afresh. This bias manifest when investors estimate the prospects of something happening because a related event happened recently or because they feel very passionate about a previous related event. According to (Barber & Odean, 2001), investors considered those securities which have caught their attention recently when making buying decisions. These shares could have shown irregular trade volumes or excessive yields recently or have appeared regularly in the news. (Bighiu, 2012) states that the more recent and important an occurrence is, the higher the probability of it swaying people's decision. An individual investor would therefore select an asset/security based on a recent advert on a newspaper instead of doing an in-depth analysis of the choices available.

2.2.2.3: Anchoring Bias

Anchoring leads to people making judgements about uncertain situation based on relevant values or recent observations, first impressions or events known to them referred to as "anchors" that might not have any course on situation at hand (Epley & Gilovich, 2010); (Mussweiler et al., 2000). This bias manifest itself when people tend to ascribe or "anchor" their judgements to a point of refence, often certain information that may not have any reasonable importance to the current decision. When offered new information, they would either disregard the new information or be very slow to consider the information in their

decisions. Anchoring can cause investors to believe an investment will continue trading in a particular pace or to expect the earnings of a company will be in accordance with past tendencies, resulting to the possibility of reacting poorly to changes in trend (Masomi & Ghayekhloo, n.d.)

2.2.2.4: Overconfidence Bias

Overconfidence causes people to overestimate their predictive skills. According to (Daniel, Hirshleifer, & Subrahmanyam, 2005), overconfidence is when investors give a lot of importance the information they amass on their own, owing to excessive assurance in self.

(Moore & Healy, 2008) summed up overconfidence as; overestimation where individuals over estimate their ability/opportunity to succeed; over placement where people think they are better than others; over precision where people believe their estimations are certain than they actually are. Overconfidence showcases itself in portfolios with limited variation because the investor has invested too much in a security/asset he is conversant with. Overconfidence raises the estimated trading volume, causing an increased market depth and a decreased expected utility by overconfident traders, (Shefrin & Statman, 2000).

2.2.2.5: Gambler's fallacy

According to assumptions of (Tversky & Kahneman, 1971), (Rabin, n.d.), gambler's fallacy denotes an unfounded conviction in "law of small numbers" where one believes that probabilistic elements of large trials applies to small trials. It is an illogical belief that outcomes experienced earlier in some series of events has an effect on probability of future outcome of another event similar to or independent of current event (Bar-Hillel & Wagenaar, 1991). This illusion could encourage an investor to buy/sell a security on the grounds that recent good/bad luck streaks of firm/market might change. Due to the fact that unit trusts are viewed as safer investment options as compared to higher risk options like stocks, investors influenced by behavioral biases might tend to be laid-back in decision making not assess a trust's fees, performance among other underlying features leading to poor choice of a unit trust, poor holding period and timing resulting to poor returns than expected from a trust.

2.2.3: Prospect Theory

This theory attempts to model how people make decisions. According to (Kahneman & Tversky, 1979), Prospect Theory is a behavioral ideology that depicts how people pick among options in similar situations based on how gains or losses are showcased. Investors make choices built on expected worth of rewards or losses instead of the final result. (Heukelom, 2012) stated that decision making in humans is driven by the probable value of rewards and losses instead of the decision's value. This explains why individual investors give more significance to avoiding losses rather than achieving a gain making them risk lovers for losses. The Prospect Theory according to (Waweru et al., 2008) portrayed several mental situations that affect a person's decision-making processes including Mental accounting, Loss aversion and Regret aversion.

2.2.3.1: Loss Aversion

According to this bias, individuals become greatly disturbed at the possibility of losses than they would be at ease or delighted by equivalent gains (Barberis et al., 2002). Furthermore, an investor experiences less pain when a loss happens after a gain and more pain after incurring a loss after a previous loss (Barberis & Huang, 2001). This bias may lead to an investor becoming fearful of risks, opting to invest in low interest security and be guaranteed the principal amount back rather than invest in a security with high returns but with probability of losing everything.

2.2.3.2: Regret Aversion

Regret is an emotional response of sadness, disappointment or repentance over action or inaction. (Shefrin, 2002) states that regret is more than the pain of loss but rather feeling, responsible for the loss. This can lead to cautious investors who would rather invest in a conservative security/asset that has never failed them i.e. they have never lost their money even though returns are minimal. This bias expounds why some investors decide keep on retaining securities decreasing in price and selling the ones that are increasing in price. According to (Fogel & Berry, 2010), investors would regret more if they held losing stocks too long that if they sold winning ones too fast.

2.2.3.3: Mental Accounting

According to (Thaler, 1985) individuals refer value in terms of its relativeness rather than its absoluteness. They are delighted not only on an object's worth but its quality i.e. transaction utility. This bias manifest itself through mental budgeting where individuals classify funds differently based on what they intend to spend on and this can lead to making irrational investment decisions. In mental accounting, people consider assets as being fungible i.e. cannot be changed and this is usually not the case. Veteran shareholders are predisposed to mental accounting when they see latest profits as throwaway "house money" which can be used in risky investments, (Thaler & Johnson 1990). They therefore mental accounts and make decisions separately in them, and this can destroy their portfolio.

2.3: Empirical Studies

Previous studies locally and internationally on behavioral biases and investment decisions mainly focused on institutional investors investing in stocks, mutual funds and real estate. Not so many studies on individual investors have been done especially in choice of Unit trusts. Humans have emotions that can lead to irrational and inefficient decisions, which can cause stock market disasters. (Mackay, 2001) documents in his memoir the first-ever stock disaster caused by behavioral bias: The Tulip bubble of 1637. This is often the most cited account of behavioral bias in investment. This bubble was caused when the contract prices of the tulip flower reached extraordinarily high levels and then collapsed dramatically. The exotic tulip flower had become popular among Dutch elites and it was considered a status symbol. Eventually, it was traded in the Dutch stock exchange. Soon, there was tulip frenzy all over the Netherlands and people started investing in tulip stocks. Consequently, the price of the flower increased to the point where one bulb was worth 10 times more than the yearly wages of a skilled artisan. With time, investors realized that they were paying a very high sum for a commodity with a low utility such as tulip flower, and that led to the first crash in history of stock markets.

A study by (Bailey et al., 2011) on behavioral prejudices among mutual fund investors in the US employed the use of proxies in testing various dimensions of investor behavior labelling them as "gambler", "smart", "overconfident" and "narrow framer". The tests sought the viewpoints of the investor and the mutual fund industry that designs the products offered to its

clients. The study found that investors who had strong behavioral biases were prone to picking mutual funds for wrong intentions. They would also trade the funds frequently after purchase, with preference to active and high expense funds as opposed to indexed funds. They also concluded that investors who are biased are prone to chasing performance of a fund inferring that trend chasing reflects irrational behavior.

(Kumar & Goyal, 2015) made a systematic review literature on behavioral biases and decision making by investors, with the aim of highlighting serious cracks in prevailing studies done on behavioral biases and raising particular questions. The study utilized systematic literature review, assessing 117 journals published between 1980 to 2013. The study concluded that there was limited research in subject topic in emerging economies

(Lowies, Hall, & Cloete, 2016) carried out the study of heuristic bias on decision in property investment in South Africa. The study targeted all listed property fund managers in Johannesburg securities exchange and it employed survey-based design. The findings of research concluded that anchoring and modification existed in decision making by the property fund managers. They also found out that fund managers appeared not to react to new information and this was not due lack of understanding the new information, but rather due to the social political environment in the country at the time of study

An experimental study was done by researchers (Annamalah., et al 2019) to find out what determines investors' selection of unit trusts in Malaysia. The study utilized descriptive statistics and obtained responses from 250 individual investors and examining four factors namely; risk taking behavior, investment revenue, information and financial status. The conclusions from the study were that information availability had the strongest relationship on an investor's behavior followed by risk taking behavior and finally financial status. They also concluded that there was no statistical relationship between investment return and revenue to investment behaviors of investors.

An investigation of biases affecting Investors' decision making in India's National Stock exchange by (Madaan & Singh, 2019) sought to review how herding, anchoring, overconfidence and disposition effect affect investors' decision making. The study employed inferential and descriptive statistics, obtaining responses from 243 investors who trade at the stock exchange. The findings of study revealed that overconfidence and herding behavior had

tremendous influence on decision making by an investor and they concluded that investors with limited information are prone to making psychological errors in investment decision making.

(Ngode, 2013) carried out a study on behavioral predispositions and their effect on choice of Mutual fund among Kenyan investors. The research utilized a case study and collected data from 80 investors from 16 licensed mutual funds at the time. According to the study conclusions, it depicted that respondents showed influences of disposition effect behavior as they relied on past experiences to make investment decisions and chose investment from past performance of other similar investments.

(Achieng, 2015) completed a study on the effect of heuristic biases on investment returns of unit trusts funds. Investment returns was determined by the performance of several funds in unit trust companies over a period of 5 years. The study utilized a descriptive design and targeted 56-unit trust funds and collected the data from 56 fund managers working for each of the trust funds was collected using questionnaires. The data was analyzed using descriptive and inferential statistics. From the study, the researcher concluded that heuristic biases had an effect in the decisions of unit trust companies which in turn affected their investment returns. Representativeness and overconfidence bias were found to have a high correlation with investment returns while anchoring had a weak correlation with investment returns

(Karanja, 2017) did a study on effect of behavioral finance factors on investment decision making of individual investors trading at the NSE (Nairobi Securities Exchange). The study collected data from 385 respondents working in Nairobi using questionnaires. From the study, the researcher deduced that that herd factors, prospect factors, market factors and heuristic factors had a moderate effect on decision making by investors at the Nairobi Securities Exchange and all combined had a 16.1% effect on decision of individual investors.

(Odhiambo & Ondigo, 2018) did a study on the effect of behavioral factors on decisions to invest in real estate in Nairobi. The research utilized a descriptive research design and collected data from 165 real estate agents. The outcomes of study showed that 53.71% of respondents used intuitions when making investment decisions. Herd behavior, representativeness, overconfidence and anchoring had a positive correlation with investment decisions in real estate. The study concluded that investors ought to take into account both the behavioral and

financial elements when making decisions to invest in the real estate as they yearn to maximize on investment returns.

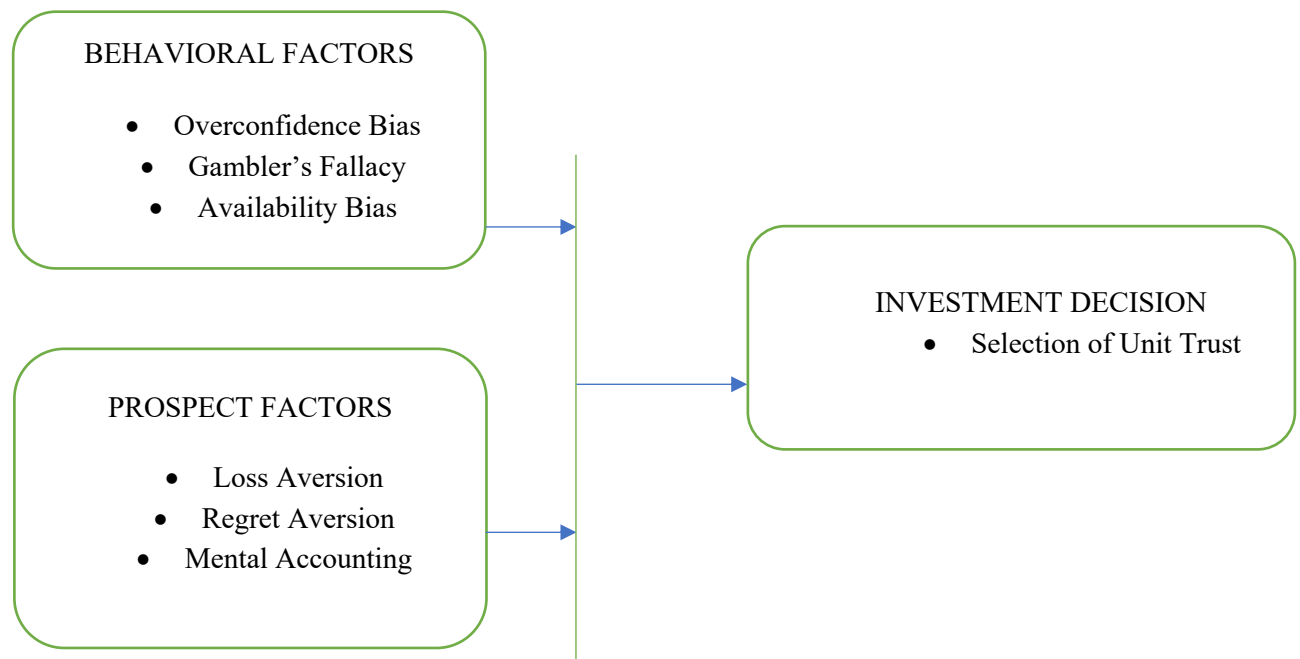
A study carried out by (Wanjiru & Mwita, 2019) on the effect of behavioral factors on choice of investment banks stocks and stock brokerage companies at the Nairobi securities exchange. The study used a descriptive research design with a sample of 384 active investors and concluded that herding behavior, overconfidence, anchoring, loss aversion had a tremendous influence on investors' decision to purchase, dump or retain stock as well as affecting the trading volumes at the NSE.

2.5: Conceptual Framework

This study is considering two main behavioral biases; Heuristic and Prospect factors which are the independent variables and an investors decision in choice of a unit trust which is the dependent variable as showcased on below diagram;

INDEPENDENT VARIABLES ————— **DEPENDENT VARIABLE**

BEHAVIORAL BIASES



Conceptual Model: Researcher

2.6: Summary of the Literature Review

Behavioral finance is concerned with the role that an investor's psychology/behavioral biases play in the investment process. This field of study counters the assumption of rationality espoused by classical finance theories. According to behavioral finance theories, real investors are predisposed to behavioral biases. They rely on mental shortcuts to arrive at investment decisions especially when time is limited and information to be processed is large. During such times, investors utilize the rules of thumb, causing them to respond differently to same situations hence that's where the biases arise.

These biases cause them to make suboptimal decisions during the investment process. On a large scale, these biases can cause serious market anomalies that can have a devastating effect on the financial health of an investor as well as the health of the entire economy. It is therefore necessary to prevent these behavioral biases. However, this can only be possible if investors become more aware of the effects of their behavioral and psychological limitations on the investment process.

Detailed exploration in Behavioral Finance area is essential to gain better insights of behavioral biases and their influence on selection of a Unit Trust. Despite decades of research in this field, the effect of behavioral finance in developing countries such as Kenya has remained poorly studied. This research sought to fill that gap by studying the effect of behavioral biases on investment decision making by unit trust investors in Kenya. It seeks to provide a basis for exploring the outcomes of psychological/behavioral factors on shareholders' decisions on investments in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1: Introduction

This chapter describes the methodology that will be used in the study. It forms a framework for specifying the relationships among the study variables, covering various aspects of the research design, target population, data collection techniques and data analysis.

3.2: Research design

Research study design is a strategy or a scheme to answer the research question. According to (Ghuri & Gronhaug, 2010) a research study design gives a basis for collection and analysis of data. This research utilized a descriptive research design which is defined as the procedure of gathering data to answer questions regarding the position of subjects of a research (Mugenda, 1999). This design was non-experimental and attempted to describe relationships existing between variables in a natural setting, in this case, assessing the association amid behavioral biases and investment decisions in choice of Unit Trusts. Descriptive design was deemed appropriate as it will ensure comprehensive analysis and description of the various factors being investigated.

3.3: Population

Population of study is that which researchers would want to use to generalize results (Mugenda, 1999). There were no confirmed/documented reports of total Unit Trust Investors in Kenya. This research therefore targeted a population of investors between the ages of 20 – 60 years who invest actively in unit trusts or have previously invested in Unit Trusts in Kenya.

3.4: Sample

Since there were no confirmed/documented reports of total Unit Trust Investors in Kenya, for this research, a convenient sample of 200 participants was utilized. According to (Churchill 1991), a sample size of 200 – 500 respondents is preferred as a reliable sample in convenience sampling. This sampling technique was selected as it was uncomplicated, prompt, economical and respondents were readily approachable to be part of the sample. Due to limited resources i.e., time, financial and human effort needed, the snowball technique of data sampling was also

utilized to collect responses from investors, where the first respondents were asked to recommend a colleague or friend who was an investor in a Unit Trust and so on, until the desired sample was reached.

3.5: Data Collection

This study utilized Primary data, and a questionnaire employed to collect the data. This questionnaire was suitable as it collected information that was not directly observable i.e. opinions, inspirations, attitudes, achievements as well as individual experiences. The questions were adopted from previous studies consisting of close ended questions that permitted the investigator to transform collected data to numerical figures hence allowing for statistical techniques to be used to for the data analysis, (Dodge 1985)

The form had two parts; first section consisted of the demographic profile that assessed the individual background of respondent, and sought information about the gender, age, revenue, profession among other aspects; Second section examined the influence of behavioral biases on an investors' choice of a unit trust. Respondents were requested to specify the degree of influence by each of the behavioral bias in decision making on a 5-point Likert Scale (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree). The reason why the Likert measurement scale was been used is due to the fact that it easily manages the adoption of close ended questions and allows for conversion of choices to numerical figures.

Due to the Covid-19 pandemic, the questionnaires were administered online via email as well as through web surveys on multiple online investment forums on social media platforms like LinkedIn and Facebook. According to (Carbonaro & Bainbridge, 2000) the world wide web provides researchers a bigger and diverse population with a likelihood of large amounts of data, safeguards against data losses and eases the transmission of data into database for analysis. A reliability and validity test were conducted through pre-testing the data collection tool on a selected sample. A Reliability Test was done to ascertain the level at which the evaluating tool gives similar results over repeated examinations. A Cronbach's Alpha test was be used to determine this and a result above 0.7 i.e., moving towards 1, will indicate that data is reliable. A constructive validity test was also performed on the data to determine if the data collection tool represented what the researcher was interested in measuring.

3.6: Data Analysis

Data analysis was done using multi-linear regression employing use of Statistical Packages for Social Scientists (SPSS) version 20.0 and descriptive statistics. The multi-linear regression equation model tested the relationship between the independent and dependent variable. The data collected was first cleaned, then since the response was in qualitative form, they were coded using the numerical scales and converted into numerical values using the SPSS software. Descriptive Statistics (frequency and percentile) was used to explain participants' demographic profile (gender, age, income, education, occupation, type of investor, etc.)

3.6.1 Analytical Model

To investigate the association between dependent and independent variables, the data was taken through a multi-linear regression equation which tested the relationship between the independent variables - Overconfidence, Availability bias, gamblers fallacy, Loss Aversion, Mental Accounting and the dependent variable - investment decision in selection of a unit trust. The multi-linear regression equation assumed the following expression:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon. \text{ Where;}$$

- a. Y = Dependent variable - Investment Decision in selection of Unit Trust,
- b. β_0 = Constant; that is, the value of Y when $X=0$
- c. X_1 = Overconfidence
- d. X_2 = Availability bias
- e. X_3 = gamblers fallacy
- f. X_4 = Loss aversion
- g. X_5 = Regret Aversion
- h. X_6 = Mental Accounting
- i. $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 will be the coefficient of determination and
- j. ε will be the error term.

The 5-point Likert scale was used to determine the degree to which the independent variables in the study influence decision making in selection of unit trust. The questionnaire was used to assess the level of influence the variables $X_1 - X_6$ had on investment decision in selection of Unit Trusts.

3.6.2 Test of Significance

An analysis of variance (ANOVA) was used to test the power of the model. F-statistic was calculated at 95% confidence level to assess if there existed any noteworthy correlation among the variables. The calculation was done using SPSS software.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The main objective of the research to Determine the Effect of Behavioral Biases on Investment choice by Unit Trust Investors in Kenya. In this section, the research findings were analyzed and the data analysis was done by SPSS. The results were summarized using descriptive statistics and regression analysis.

4.2 Response rate

A pilot study was done with 20 investors selected using snowball technique. The respondents later then recommended other people who had invested in unit trusts.

The research sample size was 200 respondents and all questionnaires were filled in completeness using Google Forms. The response rate was 100%

Response Rate	Distribution	
	Frequency	Percent
Responded	200	100
No Response	0	
Total	200	100

Table 4.1: Response rate

4.2.1 Reliability Test

Cronbach's Alpha test that was be used to determine the degree to which the measuring tool gives similar results over repeated trials. The result was 0.757 indicating that the data is dependable.

Reliability Statistics	
Cronbach's Alpha	N of Items
0.757	14

Table 4.2: Reliability test

4.3 Background Information

The background information from the respondents included their age, gender, level of education, years in unit trust investments and type of unit trust invested in.

4.3.1: Gender of Respondents

Table 4.3 below shows the gender distribution of the respondents. Male respondents accounted for 54% while 46% of the respondents were female.

Gender	Frequency	Percentage
Male	108	54
Female	92	46
Total	200	100

Table4.3: Gender of Respondents

4.3.2 Age of Respondents

The participants were classified into four age groups as depicted in table 4.4. 51% of the respondents were aged between 20-30 years, 39% aged between 31-40, 8% were between 41-50 whereas 4% were between 51-60 years.

Age	Frequency	Percent
20-30	101	51
31-40	77	39
41-50	15	8
51-60	7	4

Table4.4: Distribution of Respondents' Age

4.3.3 Level of Education

The research also looked the respondents' level of education. The table below shows that 39% of the respondents were undergraduates, 20% were postgraduates, 35% were tertiary/college/diploma while those who had only a secondary school education were 5% whereas those who had other levels of education were 2%

Level	Frequency	Percent
Undergraduates	78	39%
Postgraduates	39	20%
Tertiary/college/diploma	69	35%
Secondary	10	5%
Others	4	2%
Total	200	1

Table 4.5: Respondents' Level of Education

4.3.4 Unit Trust Investments

The research sought to find out whether respondents were active or inactive unit trust investors. The table below shows that 76.5% of the respondents were Active unit trust investors while 23.5% of the respondents were Inactive unit trust investors

Responses	Frequency	Percent
Active	153	76.5
Inactive	47	23.5
Total	200	100

Table 4.6: Unit Trust Investments

4.3.5: Type of Unit Trust Investment

The research also found out that 59% of investors sampled had invested in the Money Market Fund while those who invested in the Equity Fund were 22%. Table 4.7 below also shows that Fixed Income fund investors were 17% whereas those who had invested in a Balanced Fund were only 3%

Type of Investments	Frequency	Percent
Money Market Fund	117	59%
Equity fund	44	22%
Fixed Income Fund	33	17%
Balanced Fund	6	3%
	200	100%

Table 4.7: Unit Trust Investments

4.3.6 Duration of Investment

The study found out that 47% of the investors had invested in a unit trust fund less than 1 year while 42% of the investors had invested between 1 – 4 years. Only 7% of the investors had invested between 5 – 9 years whereas 5% of the investors sampled had invested for more than 10 years.

Duration of Investment	Frequency	Percent
Less than 1 year	93	47%
1 to 4 years	83	42%
5 to 9 years	14	7%
Above 10 years	10	5%
	200	100%

Table 4.8: Duration of Investments

4.4 Descriptive Statistics

Descriptive indicators are figures that summarize & explain qualities of the data in research. They offer simple explanations about the sample and the statistics. This study analyzed the data collected and tabulated the mean, frequency, percentage and standard deviation of the independent factors.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Investment Decision	200	0	1	0.77	0.425
Overconfidence	200	1.0000	5.0	3.578	0.7138
Availability Bias	200	2.0	5.0	3.775	0.5710
Gamblers Fallacy	200	1	5.0	3.87	0.781
Loss Aversion	200	2.0	5.0	3.888	0.6826
Regret Aversion	200	1.5	5.0	3.468	0.7178
Mental Accounting	200	1	5.0	3.81	0.819
Valid N (listwise)	200				

Table 4.9: Descriptive Statistics

4.4.1 Mean Values Range of Factor Variable Acceptance

Using the 5- point Likert scale, the effect of behavioral biases on the investment decision making by Unit Trust investors was identified by calculating the mean value range of all the variables under heuristic and prospect factors and determining the frequency of the respondents in order to determine the influence it had on choice of an investment based on the following range;

MEAN RANGE	EXPLANATION
Mean<2	Very low variable effect
2< Mean<3	Low variable effect
3< Mean<4	Moderate variable effect

4 < Mean < 5	High variable effect
Mean > 5	Very high variable effect

Table 4.10: Mean Value Range for Variables

4.4.2 Mean Value Range for Overconfidence

According to table 4.9, Overconfidence had a standard deviation of 0.7138 and a mean of 3.578, indicating that it had a moderate effect on investment decision in choice of unit trust

4.4.3 Mean Value Range for Availability Bias

As per table 4.9, Availability bias had a mean of 3.775, signifying a moderate effect on investors decision in choice of unit trust

4.4.4 Mean Value Range for Gambler's fallacy

From table 4.9, Gamblers Fallacy had a standard deviation of 0.781 and a mean of 3.87 indicating a moderate effect on the sampled investors decision in choice of unit trust

4.4.5 Mean Value Range for Loss Aversion

Loss aversion according to table 4.9 had a moderate effect on the investor's decision making with a mean of 3.888 and standard deviation of 0.6826.

4.4.6 Mean Value Range for Regret Aversion

Regret aversion was found to also moderately affect Unit Trust Investors investment decision making with a mean of 3.468 and standard deviation of 0.7178 as depicted on table 4.9.

4.4.7 Mean Value Range for Mental Accounting

Investors were moderately affected by mental accounting while making their decisions, with the mean being 3.81 and Standard deviation of 0.819 as per table 4.9.

4.5 Correlation analysis

The researcher set to establish the association of the variables of this study. For this to be determined, a correlation analysis was conducted. The relationships were determined using the Pearson's correlation coefficient (r) and with the results aimed at showcasing the strength and direction of linear relationships among the variables.

The association between two variables can be positive indicating higher levels of one variable being associated with higher levels of the other variable. The results can also be negative, indicating higher levels of one variable being associated with lower levels of the other. The sign (+ or -) of the correlation coefficient indicates the direction of the association. The magnitude of the correlation coefficient indicates the strength of the association.

A correlation of $r = 0.9$ indicates a strong, positive relationship among two variables, whereas a correlation of $r = -0.2$ insinuates a weak, negative relationship. A correlation close to zero suggests no linear association between two continuous variables.

		IDM	Overconfid ence	Availab ility Bias	Gamb lers Fallac y	Loss Avers ion	Regre t Avers ion	Mental Accoun ting
Investment Decision Making (IDM)	Pearson Correlati on	1	.380**	-0.002	.161*	0.082	0.000	0.070
	Sig. (1- tailed)		0.000	0.491	0.011	0.125	0.497	0.163
	N	200	200	200	200	200	200	200
Overconfid ence	Pearson Correlati on	.380**	1	-0.065	0.099	.141*	0.030	.134*
	Sig. (1- tailed)	0.000		0.182	0.081	0.023	0.334	0.029

	N	200	200	200	200	200	200	200
Availability Bias	Pearson Correlation	-0.002	-0.065	1	.388**	.347**	.295**	0.035
	Sig. (1-tailed)	0.491	0.182		0.000	0.000	0.000	0.313
	N	200	200	200	200	200	200	200
Gamblers Fallacy	Pearson Correlation	.161*	0.099	.388**	1	.287**	.118*	.124*
	Sig. (1-tailed)	0.011	0.081	0.000		0.000	0.049	0.041
	N	200	200	200	200	200	200	200
Loss Aversion	Pearson Correlation	0.082	.141*	.347**	.287**	1	.313**	.208**
	Sig. (1-tailed)	0.125	0.023	0.000	0.000		0.000	0.002
	N	200	200	200	200	200	200	200
Regret Aversion	Pearson Correlation	0.000	0.030	.295**	.118*	.313**	1	0.045
	Sig. (1-tailed)	0.497	0.334	0.000	0.049	0.000		0.265
	N	200	200	200	200	200	200	200
Mental Accounting	Pearson Correlation	0.070	.134*	0.035	.124*	.208**	0.045	1
	Sig. (1-tailed)	0.163	0.029	0.313	0.041	0.002	0.265	
	N	200	200	200	200	200	200	200

Table 4.11: Relationship between variables

** . Correlation is substantial at the 0.01 level (1-tailed).

*. Correlation is substantial at the 0.05 level (1-tailed).

The results from table 4.11 above show that Availability bias had a negative correlation with Investment Decision Making with $r=-0.002$. Investment decision making however had a significant positive correlation with; overconfidence $r=0.38$, gamblers fallacy $r = 0.161$, mental accounting $r=0.07$ and loss aversion $r=0.082$. There was an insignificant positive correlation with regret aversion with $r=0.00$. Since all the correlation values are below 0.75, there is no multicollinearity among the research variables.

Table 4.12 Model summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.401 ^a	0.161	0.135	0.395	1.889

From table 4.12 above, The R square value (Coefficient of determination) is 0.161 which means that 16.1% of the discrepancy in Investment Decision making is expounded by the independent variables. The results also show that the standard error of estimate is almost at zero hence showing that there is little variation and thus the correlation will be almost perfect.

The Durbin-Watson measures autocorrelation and a value towards 0 indicates a positive autocorrelation. The results display the value as 1.889 hence representing a positive autocorrelation.

Table 4.13: Significance

	Sum of Squares	DF	Mean Square	F	Sig.
Regression	5.785	6	0.964	6.168	.000 ^b
Residual	30.170	193	0.156		
Total	35.955	199			

- a. Dependent Variable: Y
- b. Predictors: (Constant), Mental Accounting, Availability Bias, Overconfidence, Regret Aversion, Gamblers Fallacy, Loss Aversion

The table above shows that independent variables can significantly predict Investment Decision (dependent variable) as the p value is less than 0.005.

4.6 Fitting the Regression Co-efficient Model

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-0.201	0.279		-0.720	0.472
Overconfidence	0.217	0.040	0.364	5.362	0.000
Availability Bias	-0.020	0.057	-0.027	-0.347	0.729
Gamblers Fallacy	0.074	0.040	0.136	1.851	0.066
Loss Aversion	0.004	0.047	0.006	0.083	0.934
Regret Aversion	-0.013	0.042	-0.022	-0.307	0.759
Mental Accounting	0.002	0.035	0.005	0.070	0.944

Table 4.14: Regression coefficients

From the Table the following regression equation was derived

$$Y = - 0.201 + 0.217 \text{ overconfidence} - 0.020 \text{ availability bias} + 0.074 \text{ gamblers fallacy} + 0.04 \text{ loss aversion} - 0.013 \text{ regret aversion} + 0.002 \text{ mental accounting} + \varepsilon$$

Fitting the regression model to our study, when factors – overconfidence, gambler’s fallacy, mental accounting, loss aversion, availability bias and regret aversion are at zero, investment decision making will be at -0.201. Overconfidence affected investment decision making in unit trust by 0.217, availability bias by -0.020, gambler’s fallacy by 0.074, loss aversion by 0.04, regret aversion by -0.013 and mental accounting by 0.002.

4.7 Test for Multicollinearity

The study carried out multi-collinearity test to check to see whether two or more variables were correlated. The results are showcased in below table.

Variable	Tolerance	VIF
Overconfidence	0.9451	1.0581
Availability Bias	0.7352	1.3602
Gamblers Fallacy	0.8076	1.2382
Loss Aversion	0.7623	1.3118
Regret Aversion	0.8610	1.1614
Mental Accounting	0.9393	1.0646

Table 4.15: Collinearity Diagnostics

The collinearity tests /show that Variance inflation factors (VIF) were between 1 and 10. This indicates that there is no multicollinearity among the variables.

4.8 Interpretation of the findings

The objective of the study was to determine the effect of behavioral biases on choices of investment by Unit Trust investors in Kenya. Questionnaires were given out to 200 respondents who were a representative of the unit trust investors in Kenya. The respondents were asked questions to establish how availability, overconfidence, gambler's fallacy, mental accounting, loss and regret aversion influenced their investment decisions in Unit trusts.

The findings showed that investment decisions in unit trusts were significantly positively correlated to overconfidence with $r=0.38$ gambler's fallacy $r= 0.161$, loss aversion $r=0.082$ and mental accounting $r=0.07$. There was an insignificant positive correlation between investment decision making and regret aversion with $r=0.00$ while availability bias had a negative correlation with investment decision making with $r= -0.002$, meaning that availability bias did not influence investment decision making among unit trust investors. The statistically significant correlations

suggest that the biases; overconfidence, gambler's fallacy, loss aversion and mental accounting influence investment decisions in unit trusts.

A multi-linear regression equation was derived as below and it indicated how each independent variable affected the dependent variable

$$Y = - 0.201 + 0.217 \text{ overconfidence} - 0.020 \text{ availability bias} + 0.074 \text{ gamblers fallacy} + 0.04 \text{ loss aversion} - 0.013 \text{ regret aversion} + 0.002 \text{ mental accounting}$$

Holding other factors constant, a unit increase in overconfidence increases influence on investment decision making by 0.217 while a unit increase in availability bias influences decision making by -0.020. Holding other factors constant, a unit increase in gamblers Fallacy increases influences on investment decision making by 0.074, while a unit increase of loss aversion with other factors held constant leads to increased influence on decision making by 0.04. Other factors remaining constant; a unit increase in regret aversion leads to -0.013 influence on decision making while a unit increase in mental accounting increases influence in decision making by 0.002.

The R square value ($r=0.161$) which is the coefficient of determination showed that 16.1% disparity in Investment Decision making is explained by the independent variables. The standard error of estimate was 0.395 which is almost at zero indicating that there was little variation hence correlation will be nearly perfect

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter looks at the findings of the study, the conclusions as a result of the findings and the recommendations made to the study. The chapter will also showcase the limitation of the research and makes suggestions of areas that may require further study.

5.2 Summary of Findings

The purpose of this study was to look at the effect of behavioral biases on investment decision making by unit trust investors in Kenya. The study had Investment decision as the dependent variable and availability bias, overconfidence, gambler's fallacy, loss aversion, regret aversion and mental accounting as the independent variables. The study used a descriptive research design and questioned 200 respondents. Descriptive and inferential measures were the mode of statistics.

The study showed male respondents accounted for 54% while 46% of the respondents were female. The research also showed that 51% of the respondents were between 20-30 years, 39% between 31-40, 8% were between 41-50 whereas 4% were between 51-60 years. Also, the research showed that 39% of the respondents were undergraduates, 20% were postgraduates, 35% were tertiary/college/diploma while those who had only a secondary school education been 5% whereas those who had other levels of education were only 2%

The study showed that 76.5% of the respondents said were active investors of unit trusts while 23.5% of the respondents said were not. The research found out that 59% of investors sampled had invested in the money market fund while those who invested in the equity fund were 22%. The study also showed that fixed income funds were 17% whereas those who had invested in a balanced fund were only 3%

The study found out that 47% of the investors had invested in unit for less than 1 year while 42% of the investors had invested between 1 – 4 years. Only 7% of the investors had invested between 5 – 9 years whereas 5% of the investors sampled had invested for more than 10 years.

The data showed that 77% of the investors sampled were unit trust investors. Overconfidence had a mean of 3.578 indicating that it had a moderate effect on investors decision making while availability bias had a mean of 3.775 also indicating a moderate effect on investors decision making. Gamblers Fallacy had a mean of 3.87 indicating a moderate effect on the sampled investors decision making whereas loss aversion also had a moderate effect on the investor's decision making as its mean was 3.888. Finally, investors were moderately affected by regret aversion while they made their investment decisions as its mean was 3.468.

The study showed that Investment Decision had a negative correlation with Availability Bias but showed a positive correlation with overconfidence, gamblers fallacy, Regret Aversion, Loss aversion and mental accounting. As all the correlation values are below 0.75, there was no multicollinearity among the research variables.

The regression found a minor negative connection between Investment Decision and overconfidence whereas there is an insignificant positive connection between Investment Decision & Availability Bias. The findings also found out that Gamblers Fallacy had an insignificant positive association with Investment choice. Further the table shows that Loss Aversion had an insignificant positive relationship with Investment Decision. The findings further showed that Regret Aversion had a negative relationship with Investment Decision whereas Investment Decision had a positive relationship Mental Accounting.

From the study, the following regression equation was derived

$$Y = - 0.201 + 0.217 \text{ overconfidence} - 0.020 \text{ availability bias} + 0.074 \text{ gamblers fallacy} + 0.04 \text{ loss aversion} - 0.013 \text{ regret aversion} + 0.002 \text{ mental accounting} + \epsilon$$

5.3 Conclusions

From the data analyzed, the study concludes that Behavioral biases have an influence on Investment choices by unit trust investors in Kenya. (R value =16.1%). From this study, investors were showcased as being overconfident when making decisions on unit trusts to invest in. The study also showed that investors were also influenced by the ideology of gamblers fallacy, where they used past events to determine future events while investing in unit trusts which is erroneous. Investment Decisions were also influenced by mental accounting where investors treated each element of their portfolio separately and lastly, loss aversion was

also found to influence an investors decision in Unit trusts. However, investment decisions were not influenced by availability bias and regret aversion

5.4 Recommendations for Policy and Practice

The study recommends investor education to make investors aware of behavioral biases that influence their investment decisions and how to avoid them. The program should be offered before onboarding any new client as well as to existing unit trust investors.

The study recommends that investment decisions should be made after seeking advice from fund managers/brokers who have more experience and expertise and could help the unit trust investor make an informed, rational decision.

Since fund managers are also human beings, they can also be influenced by behavioral biases. To minimize chances of behavioral biases among fund managers when helping their clients select a desired fund, Unit Trust fund companies should create a framework to guide fund managers on their interactions with clients and to ensure their conduct is monitored closely to protect investors' interests.

5.5 Limitations of the study

There was no publicly available material showcasing the exact number of unit trust investors in Kenya and the study on a convenient sample of 200 respondents was not a substantial representation of the whole population. A bigger sample would make the statistical estimates more reliable.

The study relied on quantitative data and hence no analysis of qualitative data was done.

5.6 Suggestion for Further Research

Due to limited time and resources, researcher only focused on a convenient sample. Therefore, future studies should focus on a bigger sample in order to improve results of study.

Further studies should also use a mix of both quantitative and qualitative data to improve and strengthen the findings. Researcher used quantitative data

Similar studies have utilized almost same research methodology. A suggestion for future research to explore different research methodology to see if results will be more precise.

Finally, more research should be done on other predispositions that affect individual investors when making investment decisions other than behavioral biases.

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APPENDIX/APPENDICES

I: QUESTIONNAIRE

This questionnaire seeks to get your views on **The Effect of behavioral Biases on Investment Decision making by Unit Trust Investors in Kenya**. Responses to these questions will be handled with discretion and utilized for academic purposes and for this study only. You are kindly requested to answer each question as genuinely and correctly as possible. Thank you!

THE EFFECT OF BEHAVIORAL BIASES ON INVESTMENT DECISION MAKING BY UNIT TRUST INVESTORS IN KENYA

PART 1: BACKGROUND INFORMATION

1. Gender

Male []

Female []

2. Age

20 - 30 years []

31-40 years []

41-50 years []

51 - 60 years []

3. Highest Level of Education

Secondary School []

Tertiary College []

University Graduate []

Post Graduate Degree []

Other (please specify).....

3. Are you an active investor in Unit Trusts? Yes [] No []

3.1. If Yes to above question, which type of Unit Trust Fund have you invested in?

Money Market Fund []

Equity Fund []

Fixed Income Fund []

Balanced Fund []

m4. How long have you invested in a Unit Trust Fund?

1 year of less [] 1- 4 years [] 5 -9 years [] Above 10 years []

PART 2: BEHAVIORAL BIASES

Please evaluate and indicate the degree of your agreement with the following behavioral biases in relation to your investment decisions in selecting a Unit Trust fund by using below five-point Likert scale: (*1=Strongly Agree 2=Agree; 3=Neutral; 4= Disagree and 5= Strongly Disagree*). Select Appropriate option

HEURISTIC FACTORS

1. You are generally able to predict the end of good or poor market returns.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

2. You are able to predict the change in security prices in the future based on the recent prices in the market.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

3. You trust that your skills and knowledge of the securities

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

4. You trust that your skills and knowledge of the securities market can help you outperform the market.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

5. You rely on your previous experiences in the market for your next investment

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

6. You tend to give more attention to securities that are advertised regularly and make your judgement based on the information easily recalled.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

7. You believe that recent good streaks of a firm will have influence on current performance of a unit trust fund and you choose to invest in the fund

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

8. You believe that recent bad streaks of a firm will have influence on current performance of a unit trust fund and you choose not to invest in the fund

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

PROSPECT FACTORS

1. You become more cautious in taking risks after a loss than before.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

2. You become more of a risk taker than usual after a gain.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

3. You regret more about holding a losing security for too long than about selling winning securities too soon.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

4. You avoid selling investments that have decreased in value and readily sell those that have increased in value

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

5. You tend to mentally treat each element of your investment portfolio separately.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

INVESTMENT DECISION – CHOICE OF UNIT TRUST FUND

1. You rely on information gathered from friends, family and colleagues in selection of a Unit trust fund.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

2. You make fundamental analysis on all available information about a unit trust fund before selection.

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

3. Based on your previous investment selection, you frequently trade i.e. buy and sell your Unit trust fund

Strongly Agree [] *Agree* [] *Neutral* [] *Disagree* [] *Strongly Disagree* []

Thank you for your Participation!