EFFECT OF BEHAVIOURAL BIASES ON INVESTMENT DECISIONS OF INDIVIDUAL INVESTORS IN KENYA

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DECLARATION

I declare that this research project is my original work and has not been presented for a degree in any other university or institution.

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SUPERVISOR'S DECLARATION

This Research Project has been submitted for examination with my approval as university supervisor

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DEDICATION

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ABSTRACT

Major findings showed that results of individual investor decisions were significantly correlated to: representativeness bias (r=-.253, p<.01); Illusion of Control bias ((r=-.240, p<.01); Cognitive Dissonance bias (r=.200, p<.01); Herd Instinct bias (r=.200, p<.01); and Hindsight bias (r=.187, p<.01). These statistically significant correlations suggest that these dimensions of behavioural factors influence individual investor decisions. However, individual investor outcomes were not significantly related to loss aversion bias (r=.003, p<.01); Self attribution bias (r=-.020, p<.01); regret aversion bias (r=-.022, p<.01); over-optimism bias (r=-.023, p<.01).

Successful stock investing is more than choosing a particular stock; it is also how to go about doing it. This is achieved through staying rational, choosing a few stocks that are likely to outperform the market, having fortitude to hold on them during short-term market volatility, keeping track of them and controlling excess optimism and pessimism. However, this has not been observed in practice. The field of behavioural finance has developed in response to the increasing number of stock market anomalies (undervaluation or overvaluation) that could not be explained by traditional asset pricing models. However, an apparent lack of consensus among financial scholars concerning the validity of behavioural finance theory has been noted in literature. This lack of consensus suggests that behavioural finance as a concept is still open for debate.

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NSE – Nairobi Securities Exchange

NSSF – National Social Security Funds

RT – Regret Theory

SPSS – Statistical Package for the Social Sciences

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

For a long time everybody thought that traditional finance theory is accurate because it states that investors think rationally and make deliberate decisions, based on various estimations or using economic models. However after a number of investigations, it was noticed that human decisions often depend on their nature, intuitions, and habits, cognitive or emotional biases hidden deeply at the back of one's mind. The new discipline – behavioural finance have began to develop after gathering enough information that confirm particular human behaviour which is contrary to traditional finance theory. According to Shefrin (2011) behavior finance is the study of how psychology affects financial decision making process and financial markets. Since psychology explores human judgment, behavior and welfare, it can also provide important facts about how human actions differ from traditional economic assumptions.

Consequently, investment decision processes based on forecasts and the great knowledge of market participants are becoming more unrealistic in these days global financial markets. Foreign scientists Berber & Odean(1999), Huberman (2001), Pompian (2008) & Shefrin (2011) have found out that human psychological state affects their investment decisions making. Various changes of setting (including price volatility, variations of economic situation) have a gross impact on investors' thinking. Individuals constantly feel the fear of losing money, so impulsively react to market changes, changing off-the-cuff their long-term investment goals responds to every financial expert's opinion and begins to have doubts of their investments. The

irrational decision proliferate in such situations which determine inefficient investments or uprising losses, which per se reduces the ranks of people willing to invest. Consequently financial behavior is a science that analyzes behaviour subtlety of market participants as well as revealing their irrational decision-making motives can help to avoid the impact of financial behaviour for investment decisions and thereby attract more individuals willing to invest.

1.1.1 Behavioural Biases

Pompian (2012) found that in finance and economics, behavioural biases refer to the tendency of decision making that results in irrational financial decisions caused by faulty cognitive reasoning and /or reasoning influenced by emotions. The interest in biases caused by faulty cognitive reasoning or emotions that affect individual financial outcomes has seen the emergence of research on behavioural finance as a concept. Sewell (2005) construed behavioural finance as the study of the influence of psychology on the behaviour of financial practitioners and the subsequent effect on markets. Schinckus (2011) broadly define behavioural finance as to how psychology affects finance and more precisely how human behaviour (by taking into account human desires and motivations) influence asset prices. Singh (2010) assumed that the information structure and the characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes.

Belsky & Gilovich (1999) referred to behavioural finance as behavioural economics. The authors contend that behavioural economics combines the twin disciplines of psychology and economics to explain why and how people make seemingly irrational or illogical decisions when they spend, invest, save, and borrow money. Much of economic and financial theories presume that

individuals act rationally and consider all available information in the investment decision making process. However, Bernstein (1996) states that there is evidence to show repeated patterns of irrationality, inconsistency and incompetence in the way human beings arrive at decisions and choices when faced with uncertainty. Behavioural finance therefore looks at how the investor's behaviour impacts investment decisions (Rattner, 2009).

Rabin (1996) suggests that because psychology systematically explores human judgment, behaviour, and well-being; it can teach us important facts about how human beings differ from traditional economic assumptions. Standard economics assumes that each person has stable, well-defined preferences and that agents rationally maximize those preferences. Singh (2010) portends that the concept of behavioural finance is built upon limits to arbitrage and psychology. The author explains that arbitrage in economic and finance context, is the practice of taking advantage of a price differential between two or more markets. It is a transaction that involves no negative cash flow at any probabilistic or temporal state and a positive cash flow in at least one state; thus, risk free profit. Arbitrage is limited by the fact that whenever there is any deviation of the price from the fundamental price caused by the less rational traders, it will be corrected by the rational traders, consistent with the efficient market hypothesis.

Behavioural finance considers how various psychological traits affect how individuals or groups ac as an investors, analysts, and portfolio managers (Brown & Reilly, 2004). Heuristics can be defined as the use of experience and practical efforts to answer questions or to improve performance. Raines & Leathers (2011) argue that when faced with uncertainty, people rely on

heuristics or rules of thumb to subjectively assess risks of alternatives, which reduces the complex tasks of assessing probabilities and predicting values to simpler judgmental operations.

1.1.1.1 Herd instinct

Due to the fact that more and more information is spread faster and faster (Fromlet, 2001), life for decision makers in financial markets has become more completed. According to Johnson et al. (2002) the interpretation of new information may require heuristic decision making rules. Research suggests that a herd mentality play an instrumental role on both sides of the equation, impacting institutional decision making and investors behaviour alike (Gounaris & Prout, 2009). Keynes (1936) argues that professional investors are only concerned with what the market will value it at, under the influence of mass psychology in three months to a year. In the context of professional money managers, Hong et al. (2005) found that mutual fund managers are more likely to buy stocks that other managers in the same city are buying, suggesting that one factor impacting portfolio decisions is a word-of-mouth effect by way of social interaction between money managers. Gounaris & Prout (2009) contents that in financial planning; there are situations in which herd investment is completely appropriate. While it would be unwise to make investment decisions in a vacuum, Gounaris & Prout (2009) argue that it is equally important that financial professionals employ a healthy dose of skepticism when herd is clearly moving en mass in a certain direction. Investors with no access to inside information (Thaler, 1993) irrationally act on noise as if it were information that would give them an edge.

1.1.1.2 Overconfidence

Studies of the calibration of subjective probabilities find that people tend to overestimate the precision of their knowledge. Such overconfidence has been observed in many professional fields such as investment banking and management (Berber & Odean, 2001).Ross (1987) argues that much overconfidence is related to a broader difficulty in making adequate allowance for the uncertainty in one's own view point. Overconfidence may explain why investment professionals hold actively managed portfolios with the intention of being able to choose the winners (Johnson et al. 2002). Managers overestimate the probability of success in particular when they think of themselves as experts (March & Shapira, 1987).Overconfidence according to Ritter (2003) manifests itself when there is little diversification because of a tendency to invest too much in what one is familiar with. Selecting common stocks that will outperform the market is a difficult task. Predictability is low; feedback is noisy. Thus, stock selection is the type of task for which people are most overconfident (Berber & Odean, 2001).Overconfidence explains why portfolio managers trade so much, why pension funds hire active equity managers, and why even financial economists often hold actively managed portfolios-they all think they can pick winners (DeBondt & Thaler, 1994). Odean. (1998) develops models in which overconfident investors overestimate the precision of their knowledge about the value of a financial security. He observes that they overestimate the probability that their personal assessments of the security's value are more accurate than the assessments of others.

1.1.1.3 Anchoring

Tversky & Kahneman (1974) identified the systematic biases in judgment and their applied implications associated with three common biases: representativeness, availability and adjustment, and anchoring. Anchoring occurs as investors assume that current prices are about right, putting too much weight on recent experiences (Raines and Leathers, 2011). Gwily (2009) observed that heterogeneous agents make portfolio choice based on expectations that are not rational in conventional sense, but based on one or two simple heuristical rules. Agents keep switching between the rules depending on how profitable the rule was in the preceding period. This according to him suggests some form of status quo bias as suggested by Tversky & Kahneman (1974). Investors often fail to do enough research because there is simply too much data to collect and analyze. Instead, they take action based on a single factor figure that should have little or no bearing on their decision, while ignoring more important information (Chandran, 2008).

1.1.2 Investment Decision Making

Neuman & Morgensten (1947) expected utility theory is widely analyzed in traditional finances, which argues that decision maker faced with the alternative prefers a prospect which seems personally to him most useful. However people are unique creatures according behavior finance and in various situations make decisions in their own way, not only following traditional financial rules. This was confirmed by behaviour finance supporters Tversky & Kahneman (1979), who presented perspective theory, which states that at the risk and uncertainty people, will behave differently depending on how they perceive the “profit” or “losses”. Herbert S.

(1957) introduced a restricted rationality theory, which argues that people have informational, intellectual and calculating limitations. Researcher found out that people accumulate available information, use heuristics (for easier analysis of the process) and then stops when they reach satisfaction rather than an optimal solution. So instead of searching for alternatives, people narrow down with that, what meet their needs. Fischer & Gerhardt (2007) carried out scientific researches on individual investor's decision making subtleties and presented basic behavioural factors that affect the investor which include: Fear- most people display the fear of losing their money, Love-many people "fall in love with" some shares if they earned money and retain these shares for long time, despite various changes in markets, Greed- it manifests that greedy people can by heavy priced shares or buy large quantities of the same shares without proper calculations, Optimism- optimistic people often too much "go into" the market without a logical reason. This become a Market correction or even collapse of the market outcome, Herd instinct- if people think that they know less than others they can impulsively follow others' lead, the tendency to focus on the recent experience and finally the tendency of over confidence.

The theory of financial behaviour therefore shows that in complicated situations people are willing to admit standard decision-making strategies. For example, people are afraid to invest in the stock markets due to the recent unpleasant event occurred in this market. This shows that more decisions are made based on superficial characteristics instead of making the detail evaluation of reality. In other words, decisions are made according to stereotypes. For example, the events that occurred in the past that affects on future investment decisions, while it should not rely solely on past experiences.

Berber & Odean(1999) noted that the investment decision making also depends on gender: men choose more risky portfolios and trade more than women in the market. However, only this evidence cannot conclude that only gender is an important genetic component as there is a need to evaluate external factors such as: personal experience, general family or social experience, financial knowledge. The lack of financial knowledge is one of the biggest problems that prevent investment. However, rational investment does not only financial but also psychological knowledge requiring process. According to Shefrin (2011), investors should be aware not only of their personal investment mistakes, but also to mistakes of their colleagues, because one investor's mistake can become another investor's benefit. Other examples of irrational decisions give pause and encourage not repeating the same mistakes. So, the key for successful investing is not decision making based only on financial knowledge, but also identification and reduction of psychological errors.

1.1.3 Behavioural Biases and Investor Decisions

Brahmana et al. (2012) conceptually built a framework that linked the psychological biases such as attention bias, heuristic bias, regret bias and cognitive bias to individual investor decisions. Chandra & Sharma (2010) undertook a study within the geographical area of Delhi and National Capital Region to identify the major psychological biases that influence the individual investors' behaviour and that, in return, may drive a momentum effect in stock returns. Their study found that the individual investors' behaviour is driven by some psychological factors such as conservatism, under-confidence, opportunism, representativeness and informational inferiority complex. However, Alghalith et al. (2012) empirically tested dominant theories and assumptions in behavioural finance, using data from the standard and poor's 500 index. Their findings

suggested that differences in psychological biases did not determine their investment preferences.

Shafran et al. (2009) experimentally examined the behaviour of investors when buying and selling stocks. In a series of experiments, subjects were asked to allocate a given endowment among six assets. The results suggested no disposition effect. However, Fogel & Berry (2006) surveyed individual investors, and found that more respondents reported regret about holding onto a losing stock too long than about selling a winning stock too soon, confirming the disposition effect. Mittal & Vyas (2010) also investigated how salaried and business class investors differ in their investment decisions and their tendency to fall prey to some commonly exhibited behavioural biases. The research was based on a sample survey of 428 investors from the city of Indore. The study indicated that business class investors were more prone to cognitive biases while salaried class investors are more prone to biases which are outgrowth of framing effect and prospects theory.

The concept of behavioural finance is considered by numerous scholars as a new paradigm in the financial world. Agrawal (2012) noted that the field of behavioural finance has developed in response to the increasing number of stock market anomalies (undervaluation or overvaluation) that could not be explained by traditional asset pricing models. Schinckus (2011) considers behavioural finance as thus a new approach that studies the financial reality by taking into account the psychological dimension of investment.

Baker & Nofsinger (2010) observe that the sociological perspective suggests that behaviouralists will face significant challenges in getting the much larger traditionalist community to adopt their

perspective. Thaler. (2005), touted as the father of behavioural finance, presented works which according to Baker & Nofsinger (2010) provided hotly contested evidence of market inefficiency. Baker & Nofsinger (2010) argued that whether modelers will ever be able to address Fama's (1998) demand for a simple and refutable theory is doubtful because individual behaviour is inherently complex.

Proponents of behavioural finance Subrahmanyan (2007) argue that a "normative" theory based on rational utility maximizers cannot be construed as a superior alternative to behavioural approaches merely because it discusses how people should behave. In defense of behavioural finance theory, Razek (2011) posited that the methodology of behavioural finance does not require that a theory be simple, contrary to the demands made upon it by traditional financial scholars. Fama (1998) however disagrees by stating that the standard scientific rule requires that market efficiency can only be replaced by a better scientific model of price formation which is itself potentially rejectable by empirical tests. In this sense, Li (2004) note that testing whether documented anomalies can be explained by behavioural theory is very important. As the author contends, the success of behavioural model in explaining anomalies in a few cases is not enough to conclude the behavioural theories are better models of price formation than traditional financial models.

1.1.4 Individual Investors

According to Jing Chen (2011) individual investors are probable to face more issues trying to make rational decisions regarding their investments than larger entities. Large investors have more resources to gain crucial information regarding their investment objectives. Processing

financial information is difficult for small investors. Therefore, individual investors face more issues on making rational decisions than large organizations. Small investors may not have all the relevant data for rapid and logical decision-making. The amount of data concerning financial instruments is enormous (Lu, 2010:485). Finkelstein & Greenwald (2009:48) suggest it is not only the lack of crucial data that is effecting on investors. The impatience of uneducated investors has grown overtime. According to their research, the fund holding period of American citizens declined from 3.75 years to 2.4 years between 1992 and 2000. This phenomenon is called "chasing returns". Instead of following their original investment plan, investors make rushed decisions and tend to invest in trendy market areas.

It is essential to acknowledge experience as a crucial factor effecting on individual investor's decision-making processes. Experienced investors are probable to consider corporate governance as an important factor when evaluating a company's future development. Less-experienced investors rely on financial information (Chang,Wei, 2010:139). Polak (2012:55) suggests a minority financial theories acknowledge more experienced investor's ability to utilize the information more efficiently than beginners. He raises the issue of individual investors being misled by invalid information.

1.2 Statement of the problem

There is a huge psychology literature documenting that people make systematic errors in the way that they think; they are over confident, they put too much weight on recent experience etc. this preference may create distortion. The field of behavioural finance attempts to investigate the psychological and sociological issues that influence investment decisions making process of

individual and institutions (Subrahmanyan, 2007). In the recent years, the Kenyan market has witnessed tremendous rise in the number of companies applying to be listed on the Nairobi Securities Exchange. Investors on the other hand have responded positively as it is evidenced through repeated oversubscriptions for shares. However many investors have had to endure the pain of losses due to following the masses and being over confident as it was exemplified in the Safaricom and Eveready Initial Public Offers.

Baker & Nofsinger (2010), Fama (1998), Subrahmanyan (2007) and Razek (2011) noted an apparent lack of consensus among financial scholars concerning the validity of behavioural finance theory. This lack of consensus suggests that behavioural finance as a concept is still open for debate. However, while Fama (1997), Subrahmanyan (2007) and Thaler (2005) pointed out that a plethora of research has been conducted in the secondary markets, there is little evidence of studies on the impact of individual financial behaviour on investment decisions with reference to the Kenyan market.

Waweru et al. (2008) investigated the role of behavioural finance and investor psychology in investment decision making at the NSE with special reference to institutional investors. Using a sample of 23 institutional investors, their study showed that behavioural factors such as representativeness, overconfidence, anchoring, gambler's fallacy, availability bias, loss aversion, regret aversion and mental accounting affected the decisions of the institutional investors at the NSE.

Kimani (2011) carried out a survey of behavioural factors influencing individual investors' choices of securities at the NSE. The Finding showed that there were five behavioural factors

that were at play. These were: herding, market prospect, overconfidence and anchoring bias. A recent study related to IPOs conducted by Kipngetich et al. (2011) modeled investor sentiments in their equation of determinants of IPO pricing in Kenya using secondary data obtained from the NSE.

A study by Njuguna (2010) show that there has been an increase in the types of instruments available for investment and some relaxation of the regulatory investments guidelines with more of a focus on scheme based investment strategies. Mugweri (2011) in his study on National Social Security Fund (NSSF) recommended that investment department at NSSF should consist of professionals who adhere to proper investment policies and procedures.

Due to the fact that more and more information is spread faster and faster, (Fromlet, 2001), life for decision makers in financial markets has become more complicated. Individual investors have difficulties in making investment decisions due to lack of financial sophistication (Winchester et al., 2011). Consequently they employ a team of investment professionals under the direction of fund managers to undertake investment decisions on their behalf. Researchers have however proved that due to the market inefficiencies, the standard finance models employed by market practitioners have failed to account for the market anomalies. Intuitively one can presume that the unit trust managers are rational and therefore strictly observe and follow the standard finance models in decision making. It is emerging from the literature that individual and even institutional investors have embarrassed heuristics or rule of thumb in their investment decision making. How does heuristics (overconfident, anchoring and herd behaviour) affect investment decisions made by individual investors? To the researchers' knowledge, local

studies have not adequately addressed the effects of behavioural aspects on investment decisions by individuals. This research paper attempts to fill this gap by analyzing behavioural financial factors (cognitive or emotional biases) and their effects on investment decisions by individual investors.

1.3 Objective of the study

The objective of the study is to determine the effect of behavioural biases on investment decisions of individual investors in Kenya.

1.3.1 Specific objectives

I. To determine the cognitive biases that affect investor decisions

II. To determine the emotional biases that affect investor decisions

1.4 Value of the Study

The findings of this study will be of help to:

The research findings would help create awareness to the individual investors on the behavioural biases that they must take cognizance of when making investment decisions.

The findings of the study are expected to assist investment managers in understanding the contribution of psychological and emotional factors towards their investments. It will assist investment managers to formulate appropriate strategies that will help to minimize the negative impact of such influences.

Stockbrokers and mutual fund companies would be able to identify both the cognitive and emotional biases that mostly influence investor preferences and investment decisions so that they are able to properly educate investors on how to leverage on the biases.

The study will contribute to the general body of knowledge by enriching the existing literature in the field of finance. It will act as a reference material for future scholars and researchers who would like to advance their knowledge in behavioural finance. The researcher has highlighted areas that require further investigation at the end of the study. This will form the foundation for future scholars and researchers to formulate their research problems.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The purpose for this chapter is to review the work that other scholars and researchers have done on behavioural finance. Theoretical and empirical reviews are done leading to conceptual framework which is proposed to guide the study. The chapter begins with a review of theories that underpin the concept of behavioural finance. The chapter then presents an empirical review of both the cognitive and emotional biases that affect individual investor decisions. The review also covers the role of socio-demographic factors on individual investor decisions. Finally the research gap is identified and a conceptual framework that this study adopted is discussed.

2.2 Theoretical Review

Faulkner (2002) puts forward that three types of traits represent the most prominent characteristics of behavioural finance and these relate either to prospect theory, regret theory, mental accounting or cognitive dissonance

2.2.1 Regret Theory

Regret theory (RT) is a model of choice under uncertainty. Developed by Loomes & Sugden (1982), it generalizes the minimax regret approach used in decision theory for minimizing the possible losses while maximizing the potential gain. RT is a model as the minimizing of a function of the regret vector, defined as the difference between the outcome yielded by a given choice and the best outcome that could have been achieved in that state of nature. Bell (1982)

described regret as the emotion caused by comparing a given outcome or state of events with the state of a forgone choice. For instance when choosing from an unfamiliar brand and a familiar brand, a customer might consider the regret of finding that the unfamiliar brand performs more poorly than the familiar brand and thus be less likely to select the unfamiliar brand.

Shefrin & Statman (1985) note that; in conformance with RT, many investors consider the possibility that they will regret their investment decisions. It's a human tendency to feel the pain of regret at having made errors, even small errors, not putting such errors into a larger perspective. One "kicks oneself" at having done something foolish. The pain of regret at having made errors is in some sense embodied in the Kahneman (1979) notion of a kink in the value function at the reference point. Regret theory may apparently help explain the fact that investors defer selling stocks that have gone down in value and accelerate the selling of stocks that have gone up in value.

2.2.2 Prospect Theory

Prospect theory was developed by Daniel Kahneman, professor at Princeton University's Department of Psychology, and Amos Tversky in 1979 as a psychologically realistic alternative to expected utility theory. According to Kahneman (2003), the theory allows one to describe how people make choices in situations where they have to decide between alternatives that involve risk. Prospect theory used cognitive psychological techniques to explain a number of documented divergences of economic decision making from neo-classical theory. The theory describes how people frame and value a decision involving uncertainty and therefore they look at

choices in terms of potential gains or losses in relation to a specific reference point, which is often the purchase price.

In common with utility theory, Faulkner (2002) opined that the prospect theory adopts a consequentialist approach to choice, which is to say that in making decisions people are assumed to be concerned with the likely outcomes of their actions. In particular, they evaluate possible courses of action based on the desirability and the likelihood, of each of an action's possible outcomes. A key operation in decision making according to prospect theory – the coding of outcomes into gains and losses – represents one of the most important characteristics of the decision maker: that outcomes are perceived in terms of gains and losses relative to some reference point (which might be the status quo) or the framing of the problem; or the expectations or history of the decision maker. According to Kahneman (1979), an important implication of prospect theory is that the way economic agents subjectively frame an outcome or transaction in their mind affects the utility they expect or receive.

2.2.3 Mental Accounting

An economic concept established by Thaler (1980), the concept postulates that individuals divide their current and future assets into separate, non-transferable portions. The theory purports that individuals assign different levels of utility to each asset group, which affects their consumption decisions or other behaviours. One application of mental accounting is the behavioural life cycle hypothesis that people frame assets as belonging to either their current wealth or future income and has implications for their behaviour as the accounts are largely non fungible marginal propensity to consume.

Investors have a tendency to ride the losers as they are reluctant to realize losses. Investors often integrate the sale of losers so that the feeling of regret is confined to one time period. Also, investors tend to stagger the sale of winners over time to prolong the favourable experience and finally investors often have an irrational preference for stocks paying high dividends because they don't mind spending the dividend income, but are not inclined to sell a few shares and dip into the capital. People may tend to place their investments based on which compartment they are in. Shefrin & Statman (1994) argue that individual investors think naturally in terms of having a "safe" part of their portfolio that is protected from downside risk and a risky part that is designed for a chance of getting rich.

2.2.4 Cognitive Dissonance

Cognitive dissonance is the mental conflict that people experience when they are presented with evidence that their beliefs or assumptions are wrong; as such, cognitive dissonance might be classified as a sort of pain of regret, regret over mistaken beliefs. As with regret theory of cognitive dissonance, Ferstinger (1957) asserts that there is tendency for people to take actions to reduce cognitive dissonance that would not normally be considered fully rational: the person may avoid the new information or develop contorted arguments to maintain the beliefs or assumptions. Goetzmann & Peles (1993) have argued that the same theory of cognitive dissonance could explain the observed phenomenon that money flows in more rapidly to mutual funds that have performed extremely well than flows out from mutual funds that have performed extremely poorly: investors in losing funds are unwilling to confront the evidence that they made a bad investment by selling their investments.

2.3 Determinants of Investment Decisions by Individuals

Engin Demirel et al. (2011) studied the interaction between demographic and financial behavioural factors in investment decisions. The study was carried to find the impact of demographic factors influencing individual investors' behaviour. It showed that gender interacts with five financial behavioural factors i.e. overreaction, herding, cognitive bias, irrational thinking, and overconfidence and the level of individual savings interacts with only four of the financial behavioural factors viz; overreaction, herding, cognitive bias and irrational thinking.

Yosra Mefteh Rekik & Younes Boujelbene (2013): the study reveals that Tunisian Investors do not alwaysact rationally while making investment decisions. The study concluded that herding attitude, representativeness, anchoring, loss aversion and mental accounting all influence the Tunisian investors' perception of their decision making processes but there is an absence of overconfidence bias in the Tunisian Stock Market. Infact, Tunisian investors seem to be underconfident hesitant and very sensitive to others' reactions and opinions. The other finding related to the interaction between demographic variables and financial behavioural factors particularly provided that the variables like gender, age, socio-professional category, and experience all seem to have an influence on the behaviour of investors operating on the Tunisian Market. The study provides that people at certain age, are less subject to psychological biases as they become more experienced while as elder investors who are relatively less knowledgeable and have lower incomes are subject to behavioural biases.

Schmidt & Sevak, (2006) Women's investment has historically been lower than men's for several reasons, including social and various demographic concerns. However the differences

continue to be significant even after controlling for individual characteristics. Langer (1975) finds that self reported risk tolerance does the best job of explaining differences in both portfolio diversification and portfolio turnoveracross individual investors. Dunham (1984) admits that although personality factors can change over an extended period of time, the process is slow and tends to be stable from one situation to another. Therefore, these factors are expected to influence the decision making behaviour of an individual. Barnewall (1987) finds that an individual investor can be found by lifestyle characteristics, risk aversion, control orientation and occupation. Barnewall (1988) suggests the use of psychographics as the basis of determining an individual's financial services needs and takes one closer to the truth from the customer's perspective of need to build a marketing program. The following is a detailed discussion of these factors determining investment decisions and individual behaviours:

2.3.1 Representativeness Bias

According to Pompian (2012), representativeness bias is a belief perseverance bias in which people tend to classify new information based on past experiences and classifications. They believe their classifications are appropriate and place undue weight on them. Research shows that this bias occurs because people attempting to derive meaning from their experiences tend to classify objects and thoughts into personalized categories. When confronted with new information, they use those categories even if the new information does not necessarily fit. They rely on a best-fit approximation to determine which category should provide a frame of reference from which to understand the new information. Although this perceptual framework provides an expedient tool for processing new information, it may lead to statistical and information

processing errors. The new information superficially resembles or is representative of familiar elements already classified, but in reality it can be very different.

Agrawal (2012) explains that when people are under the influence of the representativeness bias, events are categorized by them as being representative of a well-known class. The result of such a tendency is that probability estimates are made in a way that overemphasizes the significance of the categorization without adequate attention to the evidence about the underlying probabilities. According to Qawi (2010), representativeness statistically shows that people tend to associate two events and deem them identical when in reality they may not be similar in any respect but appear to be superficial.

2.3.2 Illusion of Control Bias

According to Pompian (2012), illusion of control bias is which people tend to believe that they can control or influence outcomes when, in fact, they cannot. A review by the author indicated that choices, task familiarity, competition and active involvement can all inflate confidence and generate such illusions. This may lead investors to either trade more than is prudent or inadequately diversify portfolios, for instance, because of familiarity due to, for instance, having worked in the company. Subrahmanyan (2005) also presents evidence that individual investors prefer stocks with high brand recognition, supporting the familiarity hypothesis.

2.3.3 Hindsight Bias

According to Pompian (2012), hindsight bias occurs when people see past events as having been predictable and reasonable to expect. People tend to remember their own predictions of the future as more accurate than they actually were because they are biased by the knowledge of

what has actually happened. Thus people view things that have already happened as being relatively predictable. People thus may overestimate the degree to which they predicted an investment outcome, thus giving them a false sense of confidence. This may cause investors to take an excessive risk, leading to future investment mistakes. As Qawi (2010) agrees, investors have an easier time realizing that the markets were over or underpriced in the past but are encountering problems seeing the same for current events.

2.3.4 Cognitive Dissonance Bias

According to Pompian (2012), when newly acquired information conflicts with pre-existing understandings, people often experience mental discomfort – a psychological phenomenon known as cognitive dissonance cognitions, in psychology, represents attitudes, emotions, beliefs or values and cognitive dissonance is a state of imbalance that occurs when contradictory cognitions intersect. The term cognitive dissonance encompasses the responses that arise when people struggle to harmonize cognitions and thereby relieve their mental discomfort. As a result of cognitive dissonance bias, cognitive dissonance can cause investors to hold losing securities positions that they otherwise would sell because they want to avoid the mental pain associated with admitting that they made a bad decision. Razek (2011) contends that for investors, the issue is especially dangerous because it may cause them to hold on to a position long after disconfirming facts are available. In addition, the author notes that it makes investors vulnerable to sources of information that confirm our pre-existing ideas.

2.3.5 Availability Bias

According to Pompian (2012), this is a bias in which people take a heuristic (also known as a rule of thumb or a mental shortcut) approach to estimating the probability of an outcome based on how easily the outcomes come to mind. Easily recalled outcomes are often perceived as being more likely than those that are harder to recall or understand. Thus recent events are much more easily remembered and available. As a result, an individual investor may choose an investment based on advertising rather than on a thorough analysis of the options. As Qawi (2010) explains, the more current and significant an event is the higher the likelihood of it influencing decision making.

Agrawal (2012) maintains that many a times, individuals behave irrationally and their decisions are biased. They tend to use shortcuts in arriving at decisions due to time and capacity constraints in processing of information. When faced with complicated judgments or decisions, they simplify the task by relying on heuristics or general rules of thumb. Ritter (2003, p.3) illustrates the rule of thumb thus, when faced with N choices for how to invest retirement money, many people allocate using 1/N rule. If there are three funds, one-third goes into each. If two are stock funds, two-thirds goes into equities. If one of the three is a stock fund, one-third goes into equities". This has been documented in a study by Razek (2011) which established that people satisfies rather than optimize. Qawi (2010) notes that investment related decisions are often complex and the information associated with the various stocks, funds or other vehicles could be overwhelming for the average investor.

2.3.6 Self-attribution Bias

Pompian (2012) explained bias as the tendency of individuals to ascribe their successes to innate aspects such as talent or foresight, while more often blaming failures on outside influences such as bad luck. Therefore, self-attribution investors can, after a period of successful investing, believe that their success is due to their acumen as investors rather than to factors out of their control. This can lead to taking too much risk due to confidence.

Singh (2012) observed that most of the time human being is governed not by the rationality but by its emotions. According to Qawi (2010), the human genetic makes us to act emotionally faster than rationally, due to the biological response time within our brains in challenging situations. Pompian (2012) explains that an emotion may be thought of as a mental state that arises spontaneously rather than through conscious effort. Emotions have to do with how people feel rather than what and how they think. Emotional biases stem from impulse or intuition and may be considered to result from reasoning influenced by feelings. On the other hand, because emotional biases stem from impulse or intuition – especially personal, they are less easily corrected. Emotions are related to feelings, perceptions, or beliefs about elements, objects or relations between these things and they can be a function of reality or of the imagination. Emotions may be undesirable to those feeling them; they may wish to control the emotions but often cannot. Thus, it may only be possible to recognize an emotional bias and adapt to it. Seven emotional biases namely: loss aversion, overconfidence, self-control, status quo, endowment and regret aversion are discussed.

2.3.7 Loss Aversion Bias

Pompian (2012) illustrates that in prospect theory, loss aversion occurs when people tend to strongly prefer avoiding losses as opposed to achieving gains. Loss aversion leads people to hold their losers even if an investment has little or no chance of going back. Investors may as a result hold investments in a loss position longer than justified by fundamental analysis. This confirms the argument by Razek (2011) that, consistent with prospect theory, people do not always behave rationally. According to Schinckus (2011) prospect theory is a descriptive theory of choice under uncertainty based on the outcome of numerous experimental psychological studies. Ritter (2003) illustrated this phenomenon, relating it to the disposition effect. For example, if someone buys a stock at $30 that then drops to $33 before rising to $28, most people do not want to sell until the stock gets to above $30.

2.3.8 Regret-Aversion Bias

Pompian (2012) defined regret-aversion bias as an emotional bias in which people tend to avoid making decisions that will result in action out of fear that the decision will turn out poorly. That is, people tend to avoid the pain of regret associated with bad decisions. This bias can either make a person to be reluctant to sell because they fear that the position will increase in value and then they will regret having sold it, or, it can keep investors out of a market that has recently generated sharp losses or gains. Having experienced losses, our instincts tell us that to continue investing is not prudent. Yet periods of depressed prices may present great buying opportunities. Razek (2011) explains regret as the emotion by comparing a given outcome or state of events with the state of a forgone choice. Thus, investors may avoid selling stocks that have gone down

in order to avoid the regret of having made a bad investment and embarrassment of reporting the loss.

Thaler (2005) contends that investors might sell winners and hold losers because they expect their losers to outperform their winners in the future. An investor who buys a stock because of favourable information might sell that stock when it goes up because she believes her information is now reflected in the price. On the other hand, if the stock goes down she may continue to hold it, believing that the market has not yet come to appreciate her information. Investors could also choose to sell winners and hold losers simply because they believe prices may revert. Previous research offers some support for the hypothesis that investors sell winners more readily than losers, but this research is generally unable to distinguish among various motivations investors might have for doing so. For instance, Subrahmanyan (2007) noted that past winners have excess selling pressure and past losers are not shunned as quickly as they should be, causing under-reaction to public information.

2.3.9 Overconfidence Bias

Razek (2011) define overconfidence as an overestimation of the probabilities for a set of events. The author argues that the concept is operationally reflected by comparing whether the specific probability assigned is greater than the portion that is correct for all assessments assigned to the given probability. Agrawal (2012) noted that overconfidence causes people to overestimate their knowledge, undervalue risks and overestimate their ability to control events. The author claimed that overconfidence originates in people's biased evaluation of evidence. Many researchers find evidence for the presence of the overconfidence bias in different financial decisions. Studies

have shown that announcement returns are lower for overconfident bidders as compared to rational bidders.

According to Agrawal (2012), overconfidence affects not only the behaviour of secondary market traders but also investors in the primary market. In a recent study, Hsu & Shiu (2010) examined the investment returns of investors in discriminatory auctions taking place in the Taiwan stock market and found that frequent bidders under-perform infrequent bidders. Overconfidence led to aggressive bidding and higher payment for securing the auctioned shares. Frequent bidders also prove to be inferior in terms of stock selection performance. This implies their overestimation of the future cash flow of the initial public offer (IPO) firms, or underestimation of the risk of investment in these firms, or both. According to Subrahmanyan (2007), over confidence about private signals causes overreaction and hence phenomena like the book/market effect and long-run reversals, whereas self-attribution (attributing success to competence and failures to bad luck) maintains overconfidence and allows prices to continue to overreact, creating momentum.

Sewell (2005) caution that overconfidence is particularly seductive when people have special information or experience-no matter how insignificant-that persuades them to think that they have an investment edge. In reality, however, most of the so-called sophisticated and knowledgeable investors do not outperform the market consistently. Fama (1997) reported a study in which questionnaires were sent out to 2,000 wealthy individual investors and 1,000 institutional investors; there were 605 completed responses from individuals and 284 responses from institutions. One of the questions asked was: “Did you think at any point on October 19,

1987 that you had a pretty good idea when a rebound was to occur?" of individual investors, 29.2% said yes, of institutional investors, 28.0% said yes. These numbers seem to be surprisingly high: one wonders why people thought they knew what was going to happen in such an unusual situation. Among those who bought on that day, the numbers were even higher, 47.1% and 47.9% respectively. The next question on the questionnaire was "If yes, what made you think you knew when a rebound was to occur?" Here, there was a conspicuous absence of sensible answers; often the answers referred to "intuition" or "gut feeling." It would appear that the high volume of trade on the day of the stock market crash, as well as the occurrence, duration, and reversal of the crash was in part determined by overconfidence in such intuitive feelings.

2.3.10 Over-optimism Bias

According to Agrawal (2012), optimism is about expecting a favourable outcome irrespective of the actual effort or skills devoted by individual to bring about the outcome. Ramnath et al. (2008) explain over-optimism as the tendency to overvalue the possibility of desired outcomes and undervalue the occurrence of unfavourable events. The authors note that investors' earnings forecast errors are significantly optimistic for buy recommendations and significantly pessimistic for sell recommendations. An empirical study by Subrahmanyan (2007) find negative relations between returns and past volume and argues that this is driven by optimistic investors generating volume and their optimism getting reversed in subsequent periods.

2.4 Empirical Review

This empirical review highlights the various types of behavioural biases underpinning investor decisions based on previous research and literature. Existing literature classifies behavioural

biases into two major types. These are: cognitive biases and emotional biases. Razek (2011) portends that human beings are faced with limited cognitive abilities that constrain their problem-solving abilities. According to Pompian (2012), cognitive errors or biases stem from basic statistical, information processing, or memory errors and thus, may be considered the result of faulty reasoning. Cognitive errors do not result from emotional or other predisposions towards certain judgments, but rather from either subconscious mental procedures for processing information or irrational perseverance in one's own beliefs. The author argues that because cognitive errors stem from faulty reasoning, better information, education and advice can often correct for them.

Lindblom & Platan (2002) studied factors that influence the speculative bubble during the period 1998 to March 2000. A survey of 160 private investors drawn from Aktiespararna Association in Southern Sweden in Dec. 2001 and 47 institutional investors comprising of banks, mutual funds and investment banks was conducted through questionnaire. The study concluded that herd instincts, cognitive dissonance, anchoring and loss aversion contributed significantly to the speculative bubbles as well as overconfidence.

Huberman (2011) showed that investors have localized preferences for stock by documenting their preferences for holding stocks in a regional company in preference to other investments. Grinblatt & Keloharju (2001) note that Finish agents are more prone to hold stock in firms which are located close to the investor. Coval & Markowitz (1999) show that the above preference for local stocks extends to mutual fund managers in the sense that such managers tend to show a proclivity for stocks headquartered in the region that the managers are based. Hong et al. (2004)

observes that stock market participation is influenced by social interaction i.e. agents that are more social in the sense of interacting more with peers at collective gathering such as church are more likely to invest in the stock market.

Benartzi & Thaler (2001) show evidence of clearly irrational investor behaviour where investors follow "1/n" allocation rule across investment choices regardless of the stock-bond mix of the available choices. Goetzman & Kumar (2003) show individual investors who are young and less wealthy hold more under-diversified portfolios, suggesting that they may exhibit stronger behavioural biases.

Aduda et al. (2012) while conducting their study on "the behaviour and financial performance of individual investors in the trading shares of companies listed at the Nairobi Stock Exchange, Kenya" with the first objective of their study being 'to find out how individual investors make their investment decisions', they found out that, influence from friends; where most investors relied on advice from from friends and colleagues (3.65 on a likert scale of 1-5) before deciding to go for stocks and; popular opinion about the market (3.58) and from recent trend in share price movements (3.53), were clear indication of herd behaviour existing in NSE.

Yvan. (2010) in a study examining whether the African Growth Opportunity Act (AGOA) legislation has had any impact on the market returns in Kenya identified that there are always some trade barriers or restrictions that are not removed by free trade agreements and that many companies listed on the NSE export their products to the united states under the AGOA agreement. In this staudy Yvan noted that the stock market reacts to different events. Psychological elements impact financial practitioners and therefore move the stock markets.

Events such as press releases, rumours, panics and euphoria can psychologically affect traders, thus affect the stock market, Michayluk & Sanger (2006). According to Yvan (2010) psychological effects can impact the success of initial public offerings (IPOs) and investment decisions. The initial public offering is the process where a company (issuing firm) issues common stocks to the public for the first time under the assistance of the underwriting firm. It is one of the most common ways of raising capital.

The findings of Nyamute & Maina (2010) indicated that financial literacy does not necessarily lead to better emergency management. They associated this outcome by the fact that emergency expectation is a behavioural aspect that leads to different levels of risk tolerance by human beings regardless of the level of financial literacy. A report byFSD Kenya (2009) established that Kenyans are keen to save, however just over half of those interviewed stated that they save towards meeting day to day expenses rather than for long term needs. Fewer than half of adult kenyans say that they have a financial asset that they can use in an emergency, and the poor are particularly ill prepared to deal with medical emergencies and bereavements. There does seem to be a gap in the capability of consumers to plan financially to cope with a crisis. Most respondents say that they would turn to family and friends to help them manage. Again, this raises the question of financial capability. In their discourse of financial capability, FSD Kenya (2009) suggested that the meaning of the term should be understood in context. They argue that in a developed country context, a financially capable person would have home, car and life insurance to deal with risks. But in an environment where consumers have a long list of simultaneous risks but few insurance products with which to manage them, a financially capable person would be

better defined as having a clear, self-defined strategy, backed by enough saving and borrowing resources, to manage their vulnerabilities.

2.5 Summary of the chapter

Behavioural finance is the study of psychology on the behaviour of financial practitioners and the subsequent effect on markets (Sewell, 2005). It attempts to better understand and explain how emotions and cognitive errors influence investors. Much of economic and financial theories presume that individuals act rationally and consider all available information in the investment decision-making process. Bernstein (1996) notes that there is evidence to show repeated patterns of irrationality, inconsistency and incompetence in the way human beings arrive at decisions and choices when faced with uncertainty. There is also emerging evidence that institutional investors behave differently from individual investors, in part because they are agents acting on behalf of the ultimate investors. Studies have shown that the individual and institutional investors are affected by emotions and cognitive influences when making investment decisions.

The literature has reviewed both cognitive errors and emotional biases that potentially influence individual investor decisions. It has discussed biases such as representativeness bias, illusion of control, hindsight, cognitive dissonance, availability and self-attribution bias. It has also discussed loss aversion, regret aversion, overconfidence and over optimizing biases. It has further explored the role of age, gender, experience, education and peer influence on investment decisions generally. In sum, the literature has suggested that cognitive biases stem from faulty reasoning that can be corrected by education and advice. However, this is not supported by empirical evidence. Instead, there exist contradictory literature which suggests that financially

literate investors are not immune from the effects of the popular investing culture observed in individual investors, and many of the factors no doubt influence their thinking as well. In addition, while there is statistical evidence in favour of other biases such as representativeness bias argument, it is not clear how individual investors are influenced by such a cognitive bias in their investment decisions. These are gaps which this research proceeded to fill.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

The general objective of the study is to determine the impact of behavioural biases on investment decisions in Kenya. This chapter describes the details of the research design used for this study. It discusses the population and sampling design, sample size, sampling technique, data collection methods, research procedures and data analysis methods.

3.2 Research Design

According to Kombo & Tromp (2006), research design can be thought of as the structure of research. This research problem employed the use of a descriptive research design. Cooper & Schindler (2003) posited that descriptive study is concerned with finding out the what, where and how of a phenomenon. This study therefore generalized the findings to individual investors in Kenya. The main focus of the study will be quantitative.

3.3 Population

Mugenda & Mugenda (2003) explained that the target population should have observable characteristics to which the researcher intents to generalize the result of the study. This definition assumes that the population is not homogeneous. For the purpose of this study, the population was all individual investors in Kenya.

3.4 Sample

The sampling plan describes the sampling unit, sampling frame, sampling procedures and the sample size for the study. The sampling frame describes the list of all population units from which the sample selected (Cooper & Schindler, 2003). According to Fox & Bayat (2007), the choice of sample size is regulated by four parameters: the level of certainty of the collected data to be representative of the total population, the accuracy required as the basis for the estimates made for the sample, the type of analysis that was used as many statistical techniques have a minimum threshold of data cases for every variable and the size of the total population from which the sample will be drawn. The study targeted a convenient sample of 30 respondents. The respondents were targeted by using snow-ball sampling technique as the first respondent was requested to recommend a colleague who is an investor and so on, until the desired sample is reached.

3.5 Data Collection

The study referred to the secondary source available on individuals' risk adjusted returns for the last five years and as well employed questionnaire to collect primary data. Questionnaires are appropriate for studies since they collect information that is not directly observable as they inquire about feelings, motivations, attitudes, accomplishments as well as experiences of individuals (Mellenbergh, 2008). The questionnaire comprised of both open and close ended questions. Franker (2006) stated that a questionnaire is useful in obtaining objective data because participants are not manipulated in any way by the researcher. According to Franker (2006)

questionnaires have the added advantage of being less costly and using less time as instruments of data collection.

3.6 Data Analysis

Before processing the responses, the completed questionnaires were edited for completeness and consistency. The study generated quantitative data which was coded and entered into Statistical Packages for Social Scientists (SPSS) and analyzed using descriptive statistics.

Descriptive statistics involves use of absolute and relative (percentages) frequencies, measures of central tendency and dispersion (mean and standard deviation respectively). Quantitative data was presented in tables and explanation in prose. In addition, the study conducted a multiple regression analysis. This provided the generalization of the findings on impact of behavioural biases on investment decisions in Kenya. The regression equation given below was used:

$$\mathbf{Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \varepsilon}$$

Whereby the variables will be identified as follows

Y – The dependent variable represents the individual investor decision and is measured by an analysis of the individuals' risk adjusted returns resulting from such decisions. Scores were derived from Likert scale for each behavioural factor.

$\mathbf{X_1}$ – Representativeness

$\mathbf{X_2}$ – Cognitive Dissonance Bias

$\mathbf{X_3}$ – Over-optimism Bias

$\mathbf{X_4}$ – Herd Instinct Bias

$\mathbf{X_5}$ – Illusion of Control Bias

$\mathbf{X_6}$ – Loss Aversion Bias

$\mathbf{X_7}$ – Hindsight Bias

$\mathbf{X_8}$ – Self Attribution Bias

$\mathbf{X_9}$ – Regret Aversion Bias

In the model, the dependent variables were operationalized and measured as shown in appendix II.

$\boldsymbol{\alpha}$ – is the constant (intercept), and

$\boldsymbol{\beta_1 x_1 \ldots\ldots X_n}$ - the Predictors

$\boldsymbol{\varepsilon}$ - Is the error term

Regression analysis was done using statistics software, SPSS. The β coefficients from the equation above represent the strength and direction of the relationship between the independent and dependent variables. Assuming that the error term in the linear regression model is independent of x, and is normally distributed, with zero mean and constant variance, by testing the null hypothesis that $\beta = 0$, it will be realized that there is a significant relationship between x and y, at a 0.05 significance level.

3.7 Data Validity and Reliability

Before the actual study, a pilot study was done. The questionnaire was pre-tested to a selected sample. The procedure used in pre-testing the questionnaire was similar to the actual used in the study. This was done in order to ensure the relevance of the items to the study, gain knowledge on how to administer the instruments, and test the validity and reliability of the instruments, thus check if there were ambiguities in the instruments. The reliability was measured so as to find out the degree to which the measuring items would give similar results over a number of repeated trials. A test-retest method was used to estimate the degree to which the same results could be obtained with a repeated measure of accuracy of the same concept in order to determine the reliability of the instrument. The selection of the pilot sample was done using purposive sampling.

CHAPTER FOUR

4.0 DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

The objective of the study was to determine the effect of behavioural biases on investment decisions of individual investors in Kenya. In this chapter, the findings of the study was analysed. Statistical Package for Social Scientists (SPSS) was used for data analysis. Descriptive statitistics and regression analysis were used to summarize the results and presented in tabular forms.

4.1.1 Response rate

From the study population of thirty one respondents, all questionnaires administered were successfully filled and returned, constituting 100% response rate as in table 4.1.

Table 4.1: Response Rate

Response rate	Distribution	
	Frequency	Percent
Returned	31	100.0
Not returned	0	0.0
Total	31	100.0

4.2 General Information

The general information sought from the respondents included their gender, age, level of education, financial management knowledge, and work experience in the field of finance.

4.2.1 Gender of Respondents

The distribution of respondents by gender is shown in table 4.2. The table shows that male respondents accounted for 54.8% of the respondents whereas 45.2% of the respondents were female.

Table 4.2: Distribution of Respondents' Gender

Gender of respondents	Distribution	
	Frequency	Percent
Male	17	54.8
Female	14	45.2
Total	31	100.0

4.2.2 Age of Respondents

Respondents were classified into three groups shown in table 4.3. The table shows that 74.2% of the respondents were aged between 20-29 years, 22.6% aged between 30-39 whereas 3.2% were over 40 years of age.

Table 4.3: Distribution of Respondents' Age

	Distribution

Age of Respondents	Frequency	Percent
20-29	23	74.2
30-39	7	22.6
Over 40	1	3.2
Total	31	100.0

4.2.3 Level of Education

The study sought to establish respondents' highest level of education. Table 4.4 shows that 77.4% of the respondents were university graduates, followed by 22.6% of the respondents attained college education level whereas none of the respondents obtained secondary level of education.

Table 4.4: Respondents' Highest level of Education

Highest level of Education	Distribution	
	Frequency	Percent
College education	7	22.6
University	24	77.4
Total	31	100.0

4.2.4 Financial Management Knowledge

Respondents were asked to indicate whether they had sufficient financial management knowledge. Table 4.5 shows that 96.8% of the respondents had financial management knowledge whereas 3.2% did not have the financial management knowledge.

Table 4.5: Respondents' Financial Management Knowledge

Responses	Distribution	
	Frequency	Percent
Yes	30	96.8
No	1	3.2
Total	31	100.0

4.2.5 Work Experience in the Field of Finance

Respondents were asked whether they had any work experience in the field of finance. Table 4.6 shows that 83.9% of the respondents had work experience in the field whereas 16.1% did not have the experience in the field.

Table 4.6: Respondents' work Experience in the field of Finance

Responses	Distribution	
	Frequency	Percent
Yes	26	83.9
No	5	16.1
Total	31	100.0

4.2.6 Stock Market Investments

The study sought whether respondents have ever made any stock market investments. Table 4.7 shows that 87.1% of the respondents said yes whereas 12.9% of the respondents said no.

Table 4.7: Previous Investments in the Stock Markets

Responses	Distribution	
	Frequency	Percent
Yes	27	87.1
No	4	12.9
Total	31	100.0

4.2.7 Encouragement of Purchase of investments

The respondents were asked to indicate what encouraged them to purchase their investments. Table 4.8 shows that 67.7% of the respondents were encouraged by their friends to make such purchase of investments whereas 32.3% of them were encouraged by their experience and personal financial knowledge.

Table 4.8: Who encouraged you to Purchase such Investment

Responses	Distribution	
	Frequency	Percent
A Friend	21	67.7
Personal experience & Financial Knowledge	10	32.3
Total	31	100.0

4.2.8 Objective of Investment

The respondents were asked what the objective of their investment was. Table 4.9 shows that 32.3% of the respondents' objective was to have growth in their income, 29% of the respondents wanted to achieve capital appreciation, 25.8% of them also wanted to receive income generation, 6.5% of the respondents wanted to have stability of their principal and finally 6.5 of them wanted to have tax shelter.

Table 4.9: Respondents' Objective of Investment

Responses	Distribution	
	Frequency	Percent
To achieve capital appreciation	9	29.0
To receive income generation	8	25.8
To have growth in income	10	32.3
To have stability of principal	2	6.5
To have tax shelter	2	6.5
Total	31	100.0

4.2.9 Proportion of Income Preferred to be Invested

The study sought the proportion of respondents' income they would prefer to invest. Table 4.10 shows that 64.5% of the respondents prefer to invest 0-10% of the income, 16.1% prefer to invest 11-20%, 6.5% prefer to invest 21-30% while 12.9% of the respondents prefer to invest over 30% of their income.

Table 4.10: Respondents' Proportion of Income Preferred to be invested

Responses	Duration	
	Frequency	Percent
0-10%	20	64.5
11-20%	5	16.1
21-30%	2	6.5
Over 30%	4	12.9
Total	31	100.0

4.2.10 Duration of Investment

The respondents were asked to indicate what duration they would like their investment to be. Table 4.11 shows that 9.7% of the respondents would like their investment to be six months, 32.3% would like their investment to be one year while 58.1% of the respondents would like their investment to be more than one year.

Table 4.11: Respondents' Preferred Duration of Investment

Responses	Duration	
	Frequency	Percent
Six months	3	9.7
One year	10	32.3
More than one year	18	58.1
Total	31	100.0

4.2.11 Expected Return

The respondents were asked what their expected return from any investment would be. Table 4.12 shows that 6.5% of the respondents would expect their return from any investment to be between 5&10%, 29% would expect their return to be between 11&15%, 45.2% would expect their return to be between 16&20% while 19.4% of the respondents would like their expected return from any investment to be above 20%.

Table 4.12: Respondents' Expected Return from any Investment

Responses	Distribution	
	Frequency	Percent
Between 5 & 10%	2	6.5
Between 11 & 15%	9	29.0
Between 16 & 20%	14	45.2
Above 20%	6	19.4
Total	31	100.0

4.2.12 Source of Information

The respondents were asked their main source of information about the investment market. Table 4.13 shows that 22.6% of the respondents' source of information was radio, 12.9% of the respondents' source of information was Reference groups, 9.7% depended on Print media (including news papers) and 54.8% of the respondents' source of information was brokers/fund managers.

Table 4.13: Respondents' Source of Information about Investment Market

Responses	Duration	
	Frequency	Percent
Television	7	22.6
Reference groups	4	12.9
Print media (including news papers)	3	9.7
Brokers/fund managers	17	54.8
Total	31	100.0

4.3 Behavioural Factors Influencing Investment Decisions

In this section, the relationships between individual investor decisions and behavioural factors are analyzed. Table 4.14 shows Spearman's Rank Correlation coefficients with alpha at .01 levels. The table shows outcomes of individual investor decisions were significantly correlated to: representativeness bias (r=-.253, p<.01); Illusion of Control bias ((r=-.240, p<.01); Cognitive Dissonance bias (r=.200, p<.01); Herd Instinct bias (r=.200, p<.01); and Hindsight bias (r=.187, p<.01). These statistically significant correlations suggest that these dimensions of behavioural factors influence individual investor decisions. However, individual investor outcomes were not significantly related to loss aversion bias (r=.003, p<.01); Self attribution bias (r=-.020, p<.01); regret aversion bias (r=-.022, p<.01); over-optimism bias (r=-.023, p<.01).

Table 4.14: Correlation between Behavioural Biases and Investment Decisions

Spearman's rho		Average Return for the past five (5) years (Investment decisions)
Average Return for the past five (5) years (Investment Decisions)	Pearson Correlation	1
	Sig. (2-tailed)	
	N	31
Past history influences present investment decisions (Representativeness Bias)	Pearson Correlation	-.253
	Sig. (2-tailed)	.169
	N	31
I am holding to my investment because selling them would be painful to me since I would incur loss (Cognitive Dissonance Bias)	Pearson Correlation	.200
	Sig. (2-tailed)	.281
	N	31
When it comes to trusting people, I can usually rely on my "gut feelings" (Over-optimism Bias)	Pearson Correlation	-.023
	Sig. (2-tailed)	.903
	N	31
Thinking hard and for a long time about something gives me	Pearson Correlation	.200
	Sig. (2-tailed)	.281

little satisfaction (Herd Instinct Bias)	N	31
I was informed about all the fundamentals of the company that I am confident in making my investments (Illusion of Control Bias)	Pearson Correlation	-.240
	Sig. (2-tailed)	.193
	N	31
I intend to sell my investments immediately it goes back to the acquisition price (Loss Aversion Bias)	Pearson Correlation	.003
	Sig. (2-tailed)	.989
	N	31
The previous profits generated from similar investments by the company made it very attractive to me to invest in it (Hindsight Bias)	Pearson Correlation	.187
	Sig. (2-tailed)	.313
	N	31
The last investment was more of a bad luck than it was my	Pearson Correlation	-.020
	Sig. (2-tailed)	.914

own poor judgment (Self Attribution/Overconfidence Bias)	N	31
I am holding to my investments because I know the prices will revert soon (Regret Aversion Bias)	Pearson Correlation	-.022
	Sig. (2-tailed)	.907
	N	31

4.3.1 Representativeness Bias

The study sought whether representativeness bias played a role in influencing individual investor decisions. Respondents were asked to indicate whether their past history influences their present investment decisions. Table 4.15 shows that 32.3% and 19.4% agree and strongly agree respectively. However, 16.1% of the respondents were neutral while 22.6% and 9.7% strongly disagree and disagree, respectively. Therefore, majority of the respondents' past history influences their present investment decisions hence representativeness bias influences investor decisions.

Table 4.15: My Past History Influences my Present Investment Decisions

Responses	Distribution	
	Frequency	Percent
Strongly disagree	7	22.6
Disagree	3	9.7

Not sure	5	16.1
Agree	10	32.3
Strongly agree	6	19.4
Total	31	100.0

4.3.2 Cognitive Dissonance Bias

The respondents were asked whether they were holding to their investment because selling them would be painful to them since they would incur loss. Table 4.16 shows that 29% and 22.6% of the respondents strongly disagreed and disagreed respectively. However, 6.5% of the respondents were neutral whereas 22.6% of the respondents strongly agreed and 19.4% of the respondents agreed. Therefore, majority of the respondents disagreed that they were holding to their investments because selling them would be a painful loss, implying that cognitive dissonance did not underplay their investment choices.

Table 4.16: I am holding to my Investment because selling them would be painful to me since I would incur Loss

Responses	Distribution	
	Frequency	Percent
Strongly disagree	9	29.0
Disagree	7	22.6
Not sure	2	6.5
Agree	6	19.4

Strongly agree	7	22.6
Total	31	100.0

4.3.3 The Influence of Over-Optimism Bias

The respondents' opinion was sought as to whether when it comes to trusting people; they can usually rely on their "gut feelings". As table 4.17 shows that 48.4% and 22.6% of the respondents strongly agree and agree respectively. However, 19.4% of the respondents are neutral whereas 6.5% of them disagreed and 3.2% of the respondents strongly disagree. Therefore, majority of the respondents agreed that when it comes to trusting people; they can usually rely on their gut feeling implying that over-optimism does influence investors' decisions.

Table 4.17: When it comes to trusting People, I can rely on my "gut feelings"

Responses	Distribution	
	Frequency	Percent
Strongly disagree	1	3.2
Disagree	2	6.5
Not sure	6	19.4
Agree	7	22.6
Strongly agree	15	48.4
Total	31	100.0

4.3.4 The Influence of Herd Instinct

The respondents' opinion as to whether thinking hard and for a long time about something gives them little satisfaction was sought by the study. Table 4.18 shows that 48.4% of the respondents strongly agree and further 9.7% of them agree. However, 12.9% of the respondents are neutral whereas, 16.1% and 12.9% of the respondents strongly disagree and agree respectively. Therefore, majority of the respondents agree to the fact that thinking hard and for a long time about something gives them little satisfaction. This is a clear indication that herd instinct influences individual investors' decisions.

Table 4.18: Thinking hard and for a long time about something gives me little satisfaction

Responses	Distribution	
	Frequency	Percent
Strongly disagree	4	12.9
Disagree	5	16.1
Not sure	4	12.9
Agree	3	9.7
Strongly agree	15	48.4
Total	31	100.0

4.3.5 The Influence of Illusion of Control

The study sought as to whether the respondents were informed about all the fundamentals of the company that they are confident in making their investment. Table 4.19 shows that 48.4% and 29% of the respondents agreed and strongly agreed respectively. However, 9.7% of the

respondents were neutral, whereas 6.5% of the respondents disagreed and further 6.5% of them strongly disagreed. From the above, majority of the respondents have agreed that they were informed about the fundamentals of the company that they were confident in making their investment. This therefore portrays that the correlation results that the negative outcomes of individual investor decisions were significantly related to illusion of control.

Table 4.19: I was informed about all the Fundamentals of the Company

Responses	Distribution	
	Frequency	Percent
Strongly disagree	2	6.5
Disagree	2	6.5
Not sure	3	9.7
Agree	15	48.4
Strongly agree	9	29.0
Total	31	100.0

4.3.6 The Influence of Loss Aversion Bias

The views of the respondents were sought as to whether they intended to sell their investments immediately it goes back to the acquisition price. Table 4.20 shows that 35.5% and 22.6% of the respondents agreed and strongly agreed respectively. However, 9.7% of the respondents were neutral whereas 12.9% and 19.4% of the respondents strongly disagreed and disagreed respectively. Therefore, majority of the respondents agreed that they intended to sell their

investments immediately it goes back to the acquisition price. This finding is in agreement with the loss aversion bias as explained by Pompian (2012).

Table 4.20: I intend to sell my Investments immediately it goes back to the Acquisition Price

Responses	Distribution	
	Frequency	Percent
Strongly disagree	4	12.9
Disagree	6	19.4
Not sure	3	9.7
Agree	11	35.5
Strongly agree	7	22.6
Total	31	100.0

4.3.7 The Influence of Hindsight Bias

The respondents were asked to indicate as whether the previous profits generated from similar investments by the company made it very attractive to them to invest in it. Table 4.21 shows that 38.7% and 29% of the respondents strongly agreed and agreed respectively. However, 16.1% of the respondents were neutral whereas 12.9% and 3.2% of the respondents disagreed and strongly disagreed respectively. Therefore, majority of the respondents agreed that the previous profits generated from similar investments by the company made it very attractive to them to invest in it. This therefore is an indication of the fact that hindsight influences individual investors' decisions.

Table 4.21: Previous Profits Generated from similar Investments by the Company made it very attractive to me to invest in it

Responses	Distribution	
	Frequency	Percent
Strongly disagree	1	3.2
Disagree	4	12.9
Not sure	5	16.1
Agree	9	29.0
Strongly agree	12	38.7
Total	31	100.0

4.3.8 The Influence of Self-Attribution Bias

The study sought as to whether the respondents' last investment was more of a bad luck than it was their own poor judgment. Table 4.22 shows that 54.8% of the respondents strongly agreed and a further 12.9% agreed. However, 9.7% of the respondents were neutral whereas 16.1% of the respondents strongly disagreed and 6.5% of them disagreed. Therefore, majority of the respondents agreed that their last investment was more of a bad luck than it was their own poor judgment. In conclusion therefore, self attribution influences individual investors' decisions.

Table 4.22: The last Investment was more of a bad luck than it was my own poor judgment

Responses	Distribution	
	Frequency	Percent

Strongly disagree	5	16.1
Disagree	2	6.5
Not sure	3	9.7
Agree	4	12.9
Strongly agree	17	54.8
Total	31	100.0

4.3.9 The Influence of Regret Aversion Bias

The study sought the respondents' opinion as to whether they were holding to their investments because they know the prices will revert soon. Table 4.23 indicates that 38.7% of the respondents strongly agreed and a further 38.7% of the respondents agreed. However, 12.9% of the respondents were neutral whereas 16.1% of the respondents disagreed and 9.7% strongly disagreed. Therefore, majority of the respondents agreed that they were holding to their investments because they knew the prices will revert soon. This indicates that regret aversion influences investors' decisions.

Table 4.23: I am holding to my investments because I know the Prices will revert soon

Respondents	Distribution	
	Frequency	Percent
Strongly disagree	3	9.7
Disagree	5	16.1
Not sure	4	12.9

Agree	7	22.6
Strongly agree	12	38.7
Total	31	100.0

A regression analysis of the influence of behavioural biases in individual investor decisions was made to determine the extent to which such biases explained individual investment decisions. Table 4.24 indicating the model summary shows that the R^2=*.329* adjusted to *.042.* This means that 32.9% of the variance in individual investor decisions is explained by the regression model. The adjusted R^2=*.042* means that 4.2% of the variance in individual investor decisions is explained by the regression model derived from the sample population.

Table 4.24: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.574[a]	.329	.042	956.27727

a. Predictors: (Constant), Regret Aversion, Representativeness Bias. Illusion of control Bias, Loss Aversion Bias , Hindsight Bias, Self-Attribution Bias, Cognitive Dissonance Bias, Over-optimism, Hard Instinct bias

The following is the regression equation:

$$\mathbf{Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \varepsilon}$$

$$\mathbf{Y} = 1996.936 - 296.319\,\mathbf{X_1} + 309.200\mathbf{X_2} + 39.512\mathbf{X_3} + 176.941\mathbf{X_4} - 240.538\mathbf{X_5} + 91.971\mathbf{X_6} - 27.141\mathbf{X_7} - 129.352\mathbf{X_8} + 106.343\mathbf{X_9}$$

Table 4.25 shows that the estimated regression coefficients, standard errors of the estimates, t-values and significant levels.

Table 4.25: Coefficients (a)

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1996.936	1295.192		1.542	.138
Representativeness Bias	-296.319	159.759	-.444	-1.855	.078
Cognitive Dissonance Bias	309.200	134.940	.504	2.291	.032
Over-Optimism	39.512	232.228	.045	.170	.867
Herd Instinct Bias	176.941	177.510	.279	.997	.330
Illusion of Control Bias	-240.538	181.581	-.275	-1.325	.200
Loss Aversion Bias	91.971	143.381	.130	.641	.528
Hindsight Bias	-27.141	172.156	-.033	-.158	.876
Self-Attribution Bias	-129.352	150.110	-.205	-.862	.399
Regret Aversion Bias	106.343	167.541	.153	.635	.532

a. Dependent Variable: average return for the past five (5) years

4.4 Summary and Interpretation of the findings

The questionnaire was administered to seek the response of 31 individual investors as representative of the whole population i.e. individual investors in Kenya. According to the findings male respondents comprised of 54.8% while female composed of 45.2%. In terms of the age of respondents, most of them were between the ages of 20-29 translating into 74.2% of the respondents. This means that young people of between the said ages make much investment decisions compared to their old counterparts. 77.4% of the respondents' attained university level of education whereas 22.6% attended college level of education. This translates into a positive relationship between the level of education and investment decisions.

The respondents were asked whether they had financial management knowledge and the response rate was that 96.8% of them asserted that they had the knowledge in financial management. The interpretation here is that an investor with financial management knowledge will most likely make a rational decision compared to another with deficiency in the same. Most of the respondents, 83.9% of them had experience in the field of finance in relation to their work. Most of the respondents, 87.1% of the respondents have in one way or the other made an stock investment and almost 67.7% of them were encouraged by their friends to purchase such an investment. The fact that one makes an investment in consultation with their friends as compared with their financial knowledge and personal experience implies that the peer pressure which translates to herd behaviour has an influence in investment decisions.

There was a mixed reaction in terms of the objective of investment by the respondents with 32% of them acknowledging that their prime objective was to have growth in their income. 29% and 25.8% responded that their objective was to achieve capital appreciation and to receive income

generation respectively. Majority of the respondents in relation to the proportion of income they invested preferred to invest 0-10% of their income. This translated into 64.5% of the respondents.

According to the research findings 58.1% of the respondents preferred their duration of investment to be more than one year. 32.3% and 9.7% of them preferred to invest in an investment with one year and six months respectively. This means that individual investors would invest in long term maturity investment as compared to short term.

In terms of the return expected, 45.2% of the respondents would expect a return of between 16 and 20% whereas 29% and 19.4% of them expected a return of between 11 and 15% and above 20% respectively. The interpretation is that one would expect the highest of returns possible in undertaking an investment decision.

The research also found out that 54.8% of the respondents relied on brokers/fund managers as their source of information whereas 22.6% and 12.9% of them relied on television and reference groups respectively. The source of information is a factor considered in determining behavioural biases that influence investment decisions. It answers the question as to whether investors make an informed decision of their own or are influenced by decisions made by others.

The study further analyzed the relationships between individual investor decisions and behavioural biases. The chapter analyzed the behavioural factors in turn. The respondents were asked questions to establish how a certain factor influences their decisions to invest. The influences of representativeness bias cognitive dissonance bias, over-optimism bias, herd instinct bias, illusion of control bias, loss aversion bias, hindsight bias, self-attribution bias, and regret aversion bias were discussed in detail.

Major findings showed that results of individual investor decisions were significantly correlated to: representativeness bias (r=-.253, p<.01); Illusion of Control bias ((r=-.240, p<.01); Cognitive Dissonance bias (r=.200, p<.01); Herd Instinct bias (r=.200, p<.01); and Hindsight bias (r=.187, p<.01). These statistically significant correlations suggest that these dimensions of behavioural factors influence individual investor decisions. However, individual investor outcomes were not significantly related to loss aversion bias (r=.003, p<.01); Self attribution bias (r=-.020, p<.01); regret aversion bias (r=-.022, p<.01); over-optimism bias (r=-.023, p<.01).

Successful stock investing is more than choosing a particular stock; it is also how to go about doing it. This is achieved through staying rational, choosing a few stocks that are likely to outperform the market, having fortitude to hold on them during short-term market volatility, keeping track of them and controlling excess optimism and pessimism. However, this has not been observed in practice. The field of behavioural finance has developed in response to the increasing number of stock market anomalies (undervaluation or overvaluation) that could not be explained by traditional asset pricing models. However, an apparent lack of consensus among financial scholars concerning the validity of behavioural finance theory has been noted in literature. This lack of consensus suggests that behavioural finance as a concept is still open for debate.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Summary

The background of the study was discussed, followed by the research problem, objectives of the study, justification and scope of the study. The objective of the study was to determine the effect of behavioural biases on investment decisions of individual investors in Kenya. The study based the research on 31 individual investors in Kenya.

Descriptive research design was adopted. The population of the study was based on all individual investors in Kenya. The study targeted a convenient sample of 30 respondents. The respondents were targeted using snow-ball sampling technique as the first respondent was requested to recommend a colleague who is an investor and so on, until the desired sample is reached. Data was collected using a structured questionnaire. Spearman's rank correlation coefficient and linear regression modeling techniques were used for analysis. The data was analyzed using SPSS. The findings were presented in tabular forms.

The findings showed that outcomes of individual investor decisions were significantly correlated to: representativeness bias, illusion of Control bias, Cognitive Dissonance bias, Herd Instinct bias and Hindsight bias. These statistically significant correlations suggest that these dimensions of behavioural factors influence individual investor decisions. However, individual investor outcomes were not significantly related to loss aversion bias, Self attribution bias, regret aversion bias, and over-optimism bias.

5.2 Conclusions

Individual investor decisions were influenced several behavioural biases. The investors thereby showed that their decisions are influenced by the behavioural factors as opposed to being rational. The factors that were most prevalent among individual investors manifested in the form of representativeness bias, leading to individual investors' past history influencing their present investment decisions.

The individual investors were also affected by illusion of control bias, as they purport to have been informed about all the fundaments of the company the\at they were confident in making their investments. Similarly, individual investors were affected by cognitive dissonance bias, since majority responded that they were holding to their investment because selling them would be painful to them since they would incur loss.

The individual investors' decisions were also influenced by herd instinct bias as they responded thinking hard and for a long time about something give them little satisfaction. Finally the individual investors are as well affected by hindsight bias since the previous profits generated from similar investments by the company made it very attractive to them to invest in it. However, individual investors were not susceptible to self attribution bias, regret aversion bias, over-optimism and loss aversion bias.

5.3 Policy Recommendation

The study would recommend education to be vested in individual investors since this would overcome unfavourable investment outcomes caused by behavioural biases. In order to manage the excesses of behavioural influences to investment decision making, training programs that create investor awareness and ability to identify and guard against behavioural biases that lead to bad investment choices should be offered to both potential and existing individual investors.

The study also recommends that there is need for financial management knowledge for individual investors such that their capacities in managing funds are enhanced. Therefore, research should be conducted on how financial capability program could be designed and implemented in suitable and cost effective manners that enhance the value of the investors.

The study further recommends the individual investors to seek the advice of stock brokers/fund managers to advice them accordingly in terms of performance of a specific security in which an investor would wish to invest in. the implication is that such brokers/fund managers have the information of the market and are aware of the movers and shakers of securities and therefore provide their advice at a fee.

In relation to the above recommendation there should exist measure to curb the behaviours of such brokers/fund managers in trying to exploit naïve investors by misadvising them or even charging exorbitant fee in the name of information provision. This is to say that there should be some kind of regulation by the government or even say the governing body.

5.4 Limitations of the Study

The study like any other empirical research had its short-comings. Some of the limitations of the research include:

The researcher used a sample of thirty one respondents. This was due to the fact that it would be hard to trace most of the individual investors and it is costly on the part of the researcher. A bigger sample would increase the reliability of statistical estimates.

The research was constrained by time as the researcher had to balance the research undertaking with other commitments mostly work related. Thus, a more comprehensive study was not possible.

The research targeted only the investors in Nairobi County as a representative of the whole country, Kenya. This is limited due financial constraints. More objective findings would be possible given an extension of the research to include other Counties.

The researcher relied heavily on quantitative data compared to qualitative data. This means that the benefits associated to using qualitative research had to be forgone.

5.5 Suggestions for Further Study

Further researchers can fine tune and improve this research in the following areas:

Further researchers should base their research on a bigger sample to increase the confidence level for the study findings.

A more detailed and comprehensive study which is not constrained by time can be conducted so as to improve the quality of the report.

The same study can be extended to other geographical scope to individual investors in other counties in Kenya could be carried out.

Further researchers could also adopt a mixed method approach where both quantitative and qualitative data is used to strengthen the findings of the study.

Additionally, a research on the influence of gender on individual investor decisions could be carried out to determine how gender would affect such decisions.

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Appendix 1: Questionnaire

I am an MSC (FINANCE) student at The University of Nairobi and currently undertaking a study on the effect of behavioural biases on investment decisions of individual investors in Kenya. The questionnaire is made up of three sections that should take only a moment of your time. Kindly fill in your responses by ticking in the appropriate box. I assure you that all the information you give will be kept confidential and solely for the purpose of this study. Thank you.

SECTION ONE: BACKGROUND INFORMATION

1. Gender
    a. Male ( )
    b. Female ( )
2. Age
    a. 20-29 ( )
    b. 30-39 ( )
    c. Over 40 ( )
3. Highest level of education
    a. Secondary education ( )
    b. College education ( )

c. University ( )

4. Do you have sufficient financial management knowledge? Yes ( ) No ( )

5. Do you have any work experience in the field of finance? Yes ( ) No ( )

6. If yes, How many Years?_____

SECTION TWO: INVESTMENT DECISIONS

1. Have you ever made any stock market investments yourself? Yes ( ) No ( )

2. What encouraged you to purchase such investment?

   a. A friend ( )

   b. My experience & personal financial knowledge ( )

3. What was the objective of your investment?

   a. To achieve capital appreciation ( )

   b. To receive income generation ( )

   c. To have growth in income ( )

   d. To have stability of principal ( )

   e. To have tax shelter ( )

4. In general terms, what proportion of your income would you prefer to invest?

a. 0 – 10% ( )

b. 11 - 20% ( )

c. 21 – 30% ( )

d. Over 30% ( )

5. What duration would like your investment to be?

a. Six months ( )

b. One year( )

c. More than one year( )

6. What would be your expected return from any investment?

a. Between 5 & 10%( )

b. Between 11 & 15%( )

c. Between 16 & 20%( )

d. Above 20%( )

SECTION THREE: BEHAVIOURAL FACTORS INFLUENCING INVESTMENT DECISION

What is your main source of information about the investment market?

Television( ) Websites from the internet( )

Reference groups( ) From broker/fund managers( )

Print media (including news papers)( )

Please tick the choice (box) that best describes yourself on the scale by indicating whether you Strongly disagree (1), Disagree (2), Not sure (3), Agree (4) and Strongly agree

	1	2	3	4	5
1. My past history influences my present investment decisions					
2. I am holding to my investment because selling them would be painful to me since I would incur loss					
3. When it comes to trusting people, I can usually rely on my "gut feelings"					
4. Thinking hard and for a long time about something gives me little satisfaction					
5. I was informed about all the fundamentals of the company that I am confident in making my investments					
6. I intend to sell my investments immediately it goes back to the acquisition price					

7. The previous profits generated from similar investments by the company made it very attractive to me to invest in it					
8. The last investment was more of a bad luck than it was my own poor judgement					
9. I am holding to my investments because I know the prices will revert soon					

What was your average return for the past five (5) years? _____

Please show returns per year for the last five years

Year 1 _____ 2 _____ 3 _____4 _____5_____

Thank you for participating.

Appendix 2: Operationalization and Measurement of the Dependent Variables

Variable	**Operationalization**	**Measurement**	**Reference Question: (Section three)**
Representativeness Bias	Strongly disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly agree=5	Ordinal	1
Cognitive Dissonance Bias	Strongly disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly agree=5	Ordinal	2
Over-optimism Bias	Strongly disagree=1 Disagree=2 Not sure=3	Ordinal	3

	Agree=4 Strongly agree=5		
Herd Instict Bias	Strongly disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly agree=5	Ordinal	4
Illusion of Control Bias	Strongly disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly agree=5	Ordinal	5
Loss Aversion Bias	Strongly disagree=1 Disagree=2 Not sure=3 Agree=4	Ordinal	6

	Strongly agree=5		
Hindsight Bias	Strongly disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly agree=5	Ordinal	7
Self-Attribution Bias	Strongly disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly agree=5	Ordinal	8
Regret Aversion Bias	Strongly disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly agree=5	Ordinal	9