INFLUENCE OF BEHAVIORAL BIASES INFLUENCING INDIVIDUAL INVESTMENTS DECISIONS BY UNIVERSITY STUDENTS: A CASE OF UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

BY

SUSAN WANGARI NGACHA

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SUMMER 2019
INFLUENCE OF BEHAVIORAL BIASES INFLUENCING INDIVIDUAL INVESTMENTS DECISIONS BY UNIVERSITY STUDENTS’: A CASE OF UNITED STATES INTERNATIONAL UNIVERSITY- AFRICA

BY

SUSAN WANGARI NGACHA

A Research Project Report Submitted to the School of Business in Partial Fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY- AFRICA

SUMMER 2019
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any institution of higher learning other than the United States International University-Africa for academic credit.

Signed: ___________________________  Date: ___________________________

Susan Wangari Ngacha (ID 650203)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: ___________________________  Date: ___________________________

Mr. Kepha Oyaro

Signed: ___________________________  Date: ___________________________

Dean, Chandaria School of Business
COPYRIGHT
All rights reserved. No part of this project may be reproduced or transmitted in any form or by any means, electronic or otherwise, without prior written permission from the author.

© Copyright by Susan Wangari Ngacha, 2019
ABSTRACT
The purpose of this study was to evaluate the effect of behavioral biases on individual investment decisions in the Nairobi Securities Exchange by university students: a case study of United States International University-Africa. Specifically the study sought to address the following: Effect of Overconfidence behavior on Individual Investors’ Decision Making in Nairobi Securities Exchange, the effect of Anchoring behavior on Individual Investors’ Decision Making in Nairobi Securities Exchange and effect of Herding behavior on Individual Investors’ Decision Making in Nairobi Securities Exchange.

The descriptive research design was used to describe the independent variable, whereas explanatory research design was used to describe the relationship between the independent and dependent variables in the study. Overconfidence, anchoring and herding behaviors’ are the independent variables, whereas investment decision making is the dependent variable. Questionnaires were used to collect primary data. 377 students were sampled using the purposive sampling technique, and data obtained was subjected to regression analysis.

The research model used in the study comprised of the independent variables overconfidence, anchoring and herding and the dependent variable investment decision making. The Statistical Package for Social Sciences (SPSS) was used to analyze data collected in order to generate descriptive statistics and inferential statistics for the study. Results were presented in the form of tables and figures. Relevant recommendations and conclusions were given. Regression analysis was used to describe the extent with which the dependent variables could be explained by the independent variable.

The study examined the effect of overconfidence behavior on investment decision. The study established that the two variables’ had a strong positive correlation at 69.10%. Concerning the effect of anchoring behavior on investment decision making, the study found out anchoring had a low correlation with investment decision making at 47.70%. As regards the effect of herding on investment decision making, the study established that the relationship had a high correlation of 61.30%.
In conclusion, the study established that there was a high positive correlation between overconfidence behavior and investment decision making. It is therefore recommended, that there is need to train investors in the investment valuation methods, to improve their mental accounting prowess. It also raises the need for investors stop being confident only to an acceptable level, and not fully trust their knowledge of the current ongoing in the market and industry. It helps investors’ make decisions in environments’ marred with certainty, but should not completely clog one’s judgments when making investment decisions.

Regarding the effect of anchoring on investment decision making, the study concluded that the correlation between the two variables was low. It therefore recommended that investors’ should adopt doing thorough research when making investment decision in order to avoid any uncertainty due to increase in the access to information and be more conversant with the decision to be addressed.

Finally, herding and investment decision making concluded that there was a high positive correlation of 61.30%. Therefore, it was recommended there is a need to rigorously analyze past events, seeing that they influence the behavior of investor. Investors should only choose reliable people to use as references when making decisions. Information should be independently verified before relying on it, and sometimes one needs to step away from what the crowd is doing in order to make better judgments’.
ACKNOWLEDGEMENT

I am thankful to God for the nice health that was necessary to complete this project. I would also like to express my gratitude to Mr. Kepha Oyaro, my supervisor for the continuous support throughout this study. His expertise in Finance enabled me in writing of this thesis. Finally, I would like to acknowledge my family and friends for the material and spiritual support throughout my MBA program.
DEDICATION

This project is dedicated to my loving parents for their support to ensure that I obtain this quality education.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>STUDENT'S DECLARATION</td>
<td>ii</td>
</tr>
<tr>
<td>COPYRIGHT</td>
<td>iii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>iv</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td>vi</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>vii</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xi</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS AND ACRONYMS</td>
<td>xiii</td>
</tr>
</tbody>
</table>

## CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study ........................................... 1
1.2 Statement of the Problem .......................................... 5
1.3 General Objective of the Study .................................. 8
1.4 Specific Objectives ................................................ 8
1.5 Significance of the Study ....................................... 8
1.6 Scope of the Study ................................................ 9
1.7 Definition of Terms ............................................... 9
1.8 Chapter Summary .................................................. 10

## CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction ................................................................ 11
2.2 Effect of Overconfidence on Investors Decision Making ......... 11
2.3 Effects of Anchoring Behavior on Investors Decision Making ... 15
2.4 Effects of Herding Behavior on Investors Decision Making ...... 19
2.5 Chapter Summary .................................................. 24
LIST OF TABLES

Table 4.1: Classification of Respondents by Gender.................................31
Table 4.2: Classification of Respondents by Age.................................31
Table 4.3: Classification of Respondents by Level of Study..........................32
Table 4.4: Classification of Respondents by School of Study..........................32
Table 4.5: Classification of Respondents by Years Invested in the Stock Market........32
Table 4.6: Classification of Respondents by how often their Investments Decision has proven to be right.................................................................33
Table 4.7: Classification of Respondents by Attendance to any Financial Training........33
Table 4.8: Classification of Respondents by their Objective in Investing in the Stock Market .................................................................34
Table 4.9: Classification of Respondents by Average Annual Returns.................34
Table 4.10: Overconfidence Behavior ..........................................................36
Table 4.11: Overconfidence Behavior and Investment Decision Making Model Summary .........................................................................................37
Table 4.12: Overconfidence Behavior and Investment Decision Making ANOVA Summary .........................................................................................38
Table 4.13: Anchoring Behavior.................................................................40
Table 4.14: Anchoring Behavior and Investment Decision Making Model Summary ....41
Table 4.15: Anchoring Behavior and Investment Decision Making ANOVA Summary .42
Table 4.16: Herding Behavior.................................................................44
Table 4.17: Herding Behavior and Investment Decision Making Model Summary ........45
Table 4.18: Herding Behavior and Investment Decision Making ANOVA Summary .....46
LIST OF FIGURES

Figure 4.1: Response Rate .................................................................................................................. 30

Figure 4.2: Means plot between Overconfidence and Investment Decisions .................. 38

Figure 4.3: Means Plot between Anchoring and Investment Decisions ....................... 42

Figure 4.4: Means Plot between Herding and Investment Decisions ......................... 46
# LIST OF ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>BF</td>
<td>Behavioral Finance</td>
</tr>
<tr>
<td>NSE</td>
<td>Nairobi Security Exchange</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Science</td>
</tr>
<tr>
<td>USIU</td>
<td>United States International University - Africa</td>
</tr>
</tbody>
</table>
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

There are two frameworks of the human thoughts that assist, explain why people accept negative selections. The first is the short wondering part of the mind that makes use of intellectual shortcuts, additionally known as heuristics, to determine. This framework works hastily and therefore depends on assumptions and little concept. The second system, which is the highest and greater methodical one, is utilized to determine nicely thought out picks and takes an effortful mental interest. Choices are made after cautious thought of accessible data. According to Kahneman's study choices are dependent on feelings that prompt adverse outcomes (Yu, 2016).

Behavioral finance is relied on the prospect that not all decision makers act rationally, always (Joo & Durri, 2015). Financial specialists should know about the distinctive behavioral biases inherent within them and deliberately work towards maintaining a strategic distance from them, thus upgrading their efficiency. Some normal mistakes made by investors are offering too early while booking benefits, holding their stocks for too long while incurring losses, purchasing overrated stocks in light of market assessments and positive assessment by even those who do not matter (Parikh, 2011). According to Parikh (2011) being able to join with the emotional indiscipline and efficaciously mange it is crucial to avoid irrationality.

Behavioral finance examines the psychological aspect of the basic decision making and clears up the unreasonableness investors are exposed to in investment decisions. Frequently, investors stray from adjusted and reasonable choices towards the preferences adjusted to their social tendencies. Such tendencies impact the financial specialists’ discernment of the financial venture (Kumar & Goyal, 2015). Behavioral finance considers how emotional elements changes among people decision making process (Chira, Adams & Thornton, 2011). The mental reality known as bias and its essence in human decision making provides the extra understanding regarding the matter of investor irrationality and widens their goals and objectives (Chira et al., 2011)
Behavioral Finance is the study of the influence of psychology on decision making in finance related issue (Kimeu, Anyango & Rotich, 2016). Proponents of behavioral finance ideology state that investment decisions are characterized by emotional factors such as endowment, loss aversion, regret aversion and mental accounting, herding behavior and cognitive factors including overconfidence, gamblers fallacy and, hindsight biases.

Awour (2017) defines investment as the available capital in the wide array of investment options that are at the disposal of an individual investor. These decisions’ are made with various objectives in mind, and these including ensuring safety of the principal amount, high liquidity, earning higher returns and tax minimization. Different types of investors exist in the capital markets, and they differ in their investment characteristics such as risk, liquidity and security requirements.

There are various types of investors, namely: conservative investors whom invest in low risk investments’ as they fear indulging in high-risk ventures where the probability of losing the principal amount and all the returns, are quite high. Such investors’ mainly invests in cash forms of investments’ such as mutual funds, money market securities’, and certificates of deposits, treasury bills and savings accounts. Secondly, moderate investors have a higher risk appetite as compared to conservative investors, and invest in a mix of cash, real estate and bonds. Lastly, we have the aggressive investors with a very high-risk appetite. They are often involved in the stock market trading, invest in high-risk real estate business and believe that higher risk means higher returns.

Investment decisions involve the determination of which security or asset to invest in, how much to invest, when to invest and the investment period. Different investment alternatives differ in their risk and return profiles, and depending on the risk appetite of the investor, one can invest in shares, bonds, marketable securities or other securities traded on the Nairobi Security Exchange (Awuor, 2017).

Behavioral subject of finance views buyers’ as irrational economic agents whose picks are motivated via sentiments, emotions, fantasies, moods and feelings. Investors’ have an emotional and personal courting’s with their assets. This explains why a few shoppers’ keep onto shares even though their fees and the associated returns are falling. Behavioral finance for this reason offer to provide a cause of, why actual traders’ conduct deviates
from that predicted from a rational economic agent. It is for that reason, combines cognitive and behavioral psychology with traditional finance precept.

Arthur (2014) conducted a study to determine the effect of behavioral biases on investment decisions of individuals at the NSE. The study targeted 30 individuals reached through questionnaires, and the data collected, analyzed through descriptive statistics and multiple correlation analysis. The study revealed that investor decisions are influenced by the illusion of control bias, representativeness, herd instincts, cognitive dissonance and hindsight biases. However, other behavioral factors such as self-attribution, risk aversion, over optimism and loss aversion did show to have no influence on individual investors’ decisions.

Kengatharan (2014) identified market prospect, herding and heuristics as the factors that influence individual investment decisions at the Colombo Stock Exchange. His study further revealed that overconfidence has a negative impact on investment decisions while anchoring has a positive influence on investment decisions and herding has a negative influence on investment decisions. According to the study, regret aversion, loss aversion, herding and the speed of buying and selling of securities have no impact on the performance of investments.

Decisions of both shifting significance and greatness are made each day. Individuals and associations’ are inclined to settling on wrong choices and subsequently can be destroying. Impaired decisions can be as a result of deficient data, Kahneman (2011) contradicts by agreeing that the mind of the decision maker can be influenced by obtaining various information. Regardless of whether the data is precise, it can in any case result in awful decisions because of specific tendencies that are already present in the decision maker’s mind. Such inclinations are alluded as intellectual predisposition and reliably damage the decisions makers’ capacity to settle on a sound decision (Kahneman, 2011).

According to Hastings, Madrian, and Skimmyhorn (2013) some personal factors such as age, level of education, size of income carry a great impact on investment decisions. At a technical level, financial decisions can be evaluated using scientific models such as the CAPM; nonetheless, investment decisions should never be reached without considering
situational factors that take into account the market psychology and environment (Wickens, Hollands, Banbury, and Parasuraman, 2015).

Ayaz and Study (2014), decision making are a critical, yet dangerous endeavor since poor choices are normally the reason behind business disappointments. Awful decisions start with wrong data where the upsides and downsides post execution of the choice are not satisfactorily considered (Snowden & Boone, 2007). There are solutions on how to overcome these issues, such as, how one perceives a problem, reframing the options in different ways and analyzing how decision maker’s thinking might differ for each alternative (Hammond, Keeney & Raiffa, 2006).

Chandra (2008) argued that effective decision making in the stock market requires an understanding of human nature in a global perspective on top of financial skills and as such cognitive psychology should be given importance in the process of decision-making. As a result of the bull market from 2004 to 2007 that occurred in the United States and the subsequent financial crisis, there has been a lot of fresh focus on the irrational investor thus studying irrational investor behavior has become important (Aiyar, 2012).

Kafayat (2014) argues that decision makers search for pleasing, instead of flawless arrangements’. Through empirical evidence, Kafayat (2014) proposes that these add to the accompanying investment related attributes such as excessive stock price instability and rises in costs, follow the leader or herding instincts among investors, mis-estimating of the risk or loss selling, winning investments too soon and offering losing investments past the point of no return or the risk of loss, differing preferences among investors for cash dividends, belief in the value of time expansion (that hazard lessens with time), popular investments earning poorer than expected returns, investors mixing up "great" organizations for "good" investments, asset prices appearing to over-or under respond to new market, individual investors holding insufficiently widened portfolios and a prevalent short-run and second rate long-run execution of initial public offerings. Because of the inadequately expanded portfolio the financial specialists suffer misfortunes both in present moment and long haul periods. This happens in light of the fact that the investor encounters particular inclinations and select portfolios that they acknowledge are favorable (Nyankundi, 2017).
1.2 Statement of the Problem

Economic theory asserts that financial specialists are rational, and that they are objective in the decision-making process. However, different authors who have investigated investor behavior state that heuristic driven biases and emotions cloud the investors’ judgment, and often negate the rules of rational economic decision making. Investors are irrational, and are enormously affected by social factors that present predispositions in their choices.

Kahneman and Tversky (1979) stated that human behavior does not always depend on a logical base as stipulated by conventional financial theories and may move away from rational behaviors in time. It is known that there are many great factors limiting, and directing individual investors who invest in financial markets and restraining them from behaving rationally (Camerer, 1995; Loewenstein, 1999). Behavioral finance focuses on the social and psychological determinants of investment decision making.

As a rule, financial specialists don’t know about their wrong practices. If investors are aware of their psychological biases by knowing their own identity, they can settle their financial decisions in a more conscious way. Thus, this way of thinking reduces their perception failures and increases the quality of their decisions. In the event that an investor realizes himself better, so he can acquire more, or he can maintain his wealth (Zweig, 2011).

Using behavioral economics, we can appreciate how these mix-ups rise, why they persevere, and what should be possible to limit them. Investment decisions have a great impact on the economy as a whole yet scholars world over have applied traditional finance models to explain the issues that influence the decision making process with less emphasis on behavioral aspects inherent in the decision makers’ environment (Barber & Odean, 2012). It is on this basis that this study will seek to determine behavioral biases influencing individual investors when making investment decision on the Nairobi Securities Exchange.

Wamae (2013) examined herding, prospecting, and risk aversion and anchoring. She found out that all the factors affect investment decisions, with herding having the most impact, followed by prospecting, anchoring and finally the risk aversion factor has the least impact. Bashir, Rasheed, Raftar, Fatima and Maqsood (2013) studied behavioral
biases, including overconfidence, confirmation, illusion of control, loss aversion, mental accounting, status quo and excessive optimism on investors’ financial decision making. Results revealed that overconfidence, illusion of control, confirmation biases and excessive optimism had an impact on investors’ decision making. While loss aversion and mental accounting biases had a positive influence but no impact on investors’ decision making.

Shikuku (2014) studied the effect of behavioral factors on the choices of individual investors at the NSE. Questionnaires were issued to 63 individual investors, and further data collection supplemented through interviews. Correlation analysis and descriptive statistics were used in data analysis. Herding, loss aversion, price changes, regret aversion, market information, overconfidence, past stock trends and anchoring were found to greatly influence investment decisions, while mental accounting was revealed to least influence individual investor behavior.

Islamoglu, Apan and Ayvali (2015) identified social factors such as the trading frequency of the investor, media and social interaction that affect individual investors’ decisions. Tabassum, Sultan and Pardhasaradhi (2012) surveyed the factors that influence Indian individual equity investors in decision making and investment behavior. Out of 40 attributes, forty-two percent of the respondents stated that their investment decisions were influenced by accounting information, while thirty-two percent said their influence was majorly from financial and personal needs. The remaining percentages were influenced by recommendations, company information and the image of the company.

Islamoglu et al. (2015), Tabassum et al. (2012) identifies media focus on the stock market, government policy, political stability, investors risk tolerance, referrals by family members’ and co-workers and accounting information as the factors that affect individual investor’s decisions. Ongoing exploration demonstrates that the normal financial specialist settles on choices dependent on feelings, not rationale, most investors purchase high on hypothesis and sell low in frenzy mode. The main reasons for the variance are the tendency for the average investor to sell after a stock price has fallen a long way and then buy back into the market after it has already raised a large amount. Effectively the average investor is buying high and selling low, and thus making losses. In addition, the
investors go for lesser risky investment avenues so that at least their principal amount is safe and they stay at breakeven point (Kumar & Kumari, 2017).

Panic selling by foreign investors’ is said to have occurred at the NSE following the announcement of the 2017 August election results, and the annulment of the 2017 elections by the supreme court on 1 September 2017. In line with the trading rules, NSE had to halt trading for some hours, after the price of the NSE 20 share index fell by more than 5%. One of the local dailies revealed that the NSE lost about fifty billion shillings within ten minutes of the Supreme Court declaration. Political vulnerability during election results in economic uncertainty, and this leads to an increase in an individual financial specialist hazard avoidance level that means panicky selling.

Behavioral finance has been studied by various scholars and rich literature exists in this field. However, most of these studies that have been conducted on behavioral factors affecting individual investment decision have focused on investors’ who are conversant on how the capital market works and have enough experience when making investment decisions, hence forcing the less experienced investors’ to rely on financial analysts, family members, colleagues, peers and financial reports when making investment decisions. In addition, existence of financial behavioral traps has a major influence on investors when making a decision such as being hasty, escape from regret, greed and escape from loss. Decision making is a complex and challenging process, whereby various factors influence investors differently due to age, sex, education level, experience and culture. The research gap cited in existing literature was the basis of the study, providing a basis for mechanisms that can be put in place to become aware of behavioral biases inherent within investors’ and how they can work towards minimizing the negative effects of these biases on decision making.

An effective investment relies upon the assurance on the determination of psychological biases as well as financial knowledge on the lowering of those biases. It is impossible that people choose with no predisposition. However, the determination of those biases and investment rules can enable the decrease of the predisposition. This study, therefore, seeks to fill this gap. To achieve this, the study will examine the behavioral biases influencing investment decisions made by USIU students.
1.3 General Objective of the Study

The main objective of the study is to examine the influence of behavioral biases influencing individual investments decisions by University students’ a case study of USIU-Africa.

1.4 Specific Objectives

Particularly, this study sought to:

1.4.1 To determine the effect of overconfidence behavior on individual investors’ decision making in the Nairobi Securities Exchange.

1.4.2 To determine the effect of anchoring behavior on individual investors’ decision making in the Nairobi Securities Exchange.

1.4.3 To determine the effect of herding behavior on individual investor’s decision making in the Nairobi Securities Exchange.

1.5 Significance of the Study

The beneficiaries of this research are:

1.5.1 Investors

This study will help investors have a clear understanding of behavioral factors that do affect their investment decisions, hence, will be able to minimize or avoid illusions influencing their decisions when making an investment by drafting ideal strategies.

1.5.2 Researchers and Scholars

This research will also help other individuals to evaluate their decision making process and lower biases that may influence them hence make improvements where necessary. This research paper will be available online for easy access by scholars and researchers.

1.5.3 Regulatory Authorities

Policy makers will be able to formulate better policies that remove the negative effects of the behavioral factors identified in this study, during the policy formulation process, which as a result leads to successful investment.
1.6 **Scope of the Study**

The focal point of this study is on student investors based in the United State International University –Africa.

1.7 **Definition of Terms**

1.7.1 **Behavioral Finance**

Behavioral finance is the study of the influence of psychology on decision making in finance related issues (Kimeu *et.al*, 2016).

1.7.2 **Investment**

Thangamani (2014) defines investment as the act of putting money into something with the expectation of returns or profits or growth in the worth of the funds employed. Funds are committed on a long-term venture, with the expectation of future reward. Economists view investments as the growth in capital stock, which are the goods and services used in the production of other goods and services. This could mean an increase in inventory, machinery, plant and buildings owned by the company.

1.7.3 **Decision Making**

Decision making includes the processes and steps for analysis of various options (Anum and Ameer, 2017).

1.7.4 **Behavioral Bias**

Behavioral bias refers to the tendency of decision making which the outcomes in unreasonable irrational financial decisions brought about by wrong cognitive reasoning or thinking influenced by feelings (Pompian, 2012).

1.7.5 **Overconfidence**

Subash (2012) defines overconfidence as the unjustified faith in one’s own cognitive abilities, predictive abilities and judgment and reasoning process.
1.7.6 Anchoring

According to Sapadin (2013) anchoring is a cognitive bias that impacts one to depend too intensely on the first piece of information they get.

1.7.7 Herding

Herding is the tendency of people to mimic a group behavior when individually a different course of action was to be pursued.

1.8 Chapter Summary

The chapter has given a background of the thesis by featuring a portion of the past of the previous research on behavioral finance. The chapter also examined the problem statement, general objectives of the study, the specific objectives of the study and the importance of the study. Moreover the scope of the study was defined and explained. Chapter two gives a review of literature on the impacts of behavioral biases on investment decision making. It also, outlines the conceptual framework utilized in this study. Chapter three describes the methodology and procedure that was used to carry out the study. In Chapter four the results and findings are discussed based on the data collected. In chapter five the discussions, conclusions and recommendations of the study will be presented.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter examines the theoretical framework adopted in the examination and discusses different literature sources related to the effects of behavioral biases on individual investment decision making. Objectives of the study are: the effect of herding behavior in investors’ investment decision making, the effect of overconfidence on investors’ investment decision making and the effect of anchoring on investors investment decision making.

2.2 Effect of Overconfidence on Investors Decision Making

Overconfidence could be a psychological bias by definition, since it is a wrong judgment of one’s own abilities. This excessive belief may be both absolute (i.e., individuals predict that their performance is better than it actually is) or relative (i.e., individuals predict that their performance is better than their peers are when it actually is not). Dobelli (2014) defines this situation as the measure of the difference between real knowledge of people and the knowledge, which they think that they know.

Subash (2012) defines overconfidence as the unjustified faith in one’s own cognitive abilities, predictive abilities and judgment and reasoning process. He further says that people think they are smarter and more knowledgeable than they actually are. Additionally, people are generally poor at estimating probabilities, and the events or occurrences that people are certain about are often less than 100% assured of happening. In short, people view of themselves is far lower than actual abilities.

Overconfidence comes about in individuals underestimating, underlying risks, overestimating their knowledge and exaggerating their ability to control extraneous events. Barber and Odean (2001) agrees that the most active traders often make lower returns on their investments as compared to the reserved counterparts. He surveys a sample of male and female investors’ and concludes that, men are generally more confident as compared to women, and they often end up making lower returns by 2.5% as compared to women. Investors overestimate the likelihood of success in investment decisions because they perceive themselves as specialists. Arthur (2014) states that,
overconfidence is shown in the failure to diversify one’s portfolio, as an investor is too comfortable with what is familiar to them.

Michailova (2010) assesses that overconfidence and individual financial choices and discovers that individuals trading activity and execution are influenced by overconfidence for female members. Weber (2013) in their study on overconfidence and greatness of exchanging volumes establishes that investors who possess a reasonable level of investment skills and those who have experience fortunes exchange frequently. Investigations’ of the alignment of subjective likelihood find that individuals will in general overestimate the exactness of their insight. Overconfidence may clarify why investment professionals hold actively managed portfolios with the goal of having the option to choose the winners. Supervisors overestimate the likelihood of progress when they think of themselves as specialists (Arthur, 2014).

Investigations by Gervias (2009) agrees with that of Arthur (2014) people tend to be overly confident and optimistic such as managers skewed to over invest money, initiate many mergers, start many corporate or organizations more often tend to stick with projects that are not productive. 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 (Trehan & Sinha, 2011). Luong and Ha (2011) models show overconfident investors overestimate the exactness of their insight about the value of a financial security. He observes that they overestimate the likelihood that their own evaluations of the security’s value are more exact compared to the assessments of others.

Razek (2011) argues that the concept of overconfidence is operationally reflected by comparing whether the specific probability assigned is greater than the portion that is correct for all 33 assessments assigned to the given probability. According to Agrawal (2012), overconfidence leads to overestimation of ones’ capacity and the undervaluing of risks. Agrawal (2012) further claims that overconfidence starts in people biased evaluation of proof. Various analysts discover evidence for the nearness of the overconfidence inclination in various monetary choices. Studies have exhibited that
declaration returns are lower for presumptuous bidders when contrasted with objective bidders.

Overconfidence is when financial specialists place too much weight on the information they gather themselves due to excessive positive reasoning. Speculators will in general dismiss information that cuts down their confidence and grasps what enables them to keep up their certainty. Overconfidence inclination makes speculators exchange too much. A study by Carbado and Gulati (2009) on the trading patterns and returns of over 66,000 accounts held by private investors with stockbrokers for the period 1991 to 1996 show that the excessive trading affected the returns of the investors as they earned less.

Elements such as self-commitment to the project and self-assertion of capability of proficiency are causes of overconfidence in an investor. When individuals neglect to understand the dubiety of their abilities fully, overconfidence tends to expand. Overconfidence inclination shows up as over the top hopefulness and superior to average impact. Overconfidence bias can be destructive on investment decisions. Kafayat (2014) states that investors who trade frequently earn much less profit than those investors who trade infrequently, thus overconfidence bias is dangerous for those types of investors.

Frequent bidders additionally demonstrate to be inferior in terms of stock selection performance. This infers that they overestimate future cash flow of the initial public offer (IPO) firms, or belittle danger of interest in these organizations, or both. Subrahmanyan (2007) asserts that 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.

Jagullice (2013) cautions that overconfidence is particularly seductive when people have unique data or experience, no matter how irrelevant, that induces them to believe that they have an investment edge. Overconfidence may originate from various reasons. Various types of carelessness uncover that arrogant financial specialist’s trust that their choices will demonstrate to be right and anticipate higher returns than normal. In any case, this isn't really the situation and arrogant financial specialists are presented to potential misfortunes because of their venture choices (Tekçe Yılmaz & Bildik, 2016).
Tekçe et al. (2016) contends that due to forceful exchanging conduct, presumptuous financial specialists may need to pay a great deal of commissions. They further express that, careless financial specialists may hold more hazardous portfolios than they ought to endure because of their underestimation of the dangers. All things considered, they note that pomposity influences monetary markets and costs, yet in addition, people as in they make venture blunders and lose cash.

According to Groth-Marnat (2009) people are overconfident without a doubt and accept that their accuracy goes to be higher than it really turns out to be that is they fail to take into account all the components which then lessen accuracy or that they artificially inflate their perceived level of accuracy for a spread of motives inclusive to delude themselves or other individuals hence securing self-esteem or giving favorable impressions to other individuals. The phenomenon of over confidence also exists where certainty is excessively low. This is because of exactness being higher than anticipated, although a few circumstances may demand low confidence for a person to appear modest. Alternatively, if under confidence seems to be a pervasive trait in a person, it could be because they are using misguided techniques for assessing future outcomes, or that as well much data is overpowering and confounding them, hence decreasing truth and certainty (Diba, 2012).

Hey and Pace (2014) study aimed at examining the effects of overconfidence on stock-prices” bubbles and on the economic behavior of traders using an experimental method conducted with 56 students at the University of York. An electronic examination has two stages. In the primary stage, a market passage game is structured utilizing z-Tree programming. In like manner, subjects pick whether to enter the market or to stay away from the market for 24 market cases. The underlying 8 cases contained enter or not choices where passage and situated by are resolved haphazardly. In the second 8 market case, if subjects choose to enter, they are asked incidental data inquiries and they are positioned by their presentation. In the last 8 cases, subjects are asked speculation inquiries rather than random data. This plan enables us to decide subjects” arrogance levels utilizing three unique estimations: the section level examination, the alignment based estimation, and predominant than normal effect.
Accordingly, there is only one seemingly perpetual advantage for be exchanged the market, which brokers purchase, sell, or hold stocks. Every financial specialist plays over a grouping of 15 exchanging periods with units of a stock paying a profit toward the end. With the information collected by the last stage, we utilize the regular bubble measures in literature; to be specific, Price Amplitude, Total Dispersion, Average Bias, Turnover, Duration, Duration, Relative Absolute Deviation and Relative Deviation Results demonstrate that people are commonly arrogant. The greater parts of them see themselves better and overestimate their capacities and the accuracy of their insight. Further, the people that are generally progressively pompous exchange routinely but then procure lower benefits. Besides, pomposity is observed to be area explicit: vendors are less arrogant when they face budgetary inquiries. Finally, vendors causing rises in the market are the ones that are increasingly arrogant.

Demirel and Atmaca (2011) studies contend that the interaction among statistic and monetary social factors in venture decisions. The investigation was conveyed to discover the impact of statistic elements affecting individual investors” conduct. It demonstrated that gender interacts with five financial behavioral factors, for example overreaction, herding, cognitive bias, irrational thinking, and overconfidence and the level of individual reserve funds interfaces with overreaction, herding, cognitive bias and irrational reasoning as the financial behavioral factors.

A prompt result of self-deception is that individuals will be overconfident about their benefits of various sorts. In over exactness, individuals imagine that their decisions are more exact than they truly are. Overconfidence will in general be more grounded when right decisions are difficult to shape, for instance when vulnerability is high. The trouble impact is the finding that over accuracy is more grounded for testing judgment endeavors (Dube, 2013).

2.3 Effects of Anchoring Behavior on Investors Decision Making

Anchoring Heuristic showed up in an environment where there was an increase in the access to information opportunity for individuals. It is quite difficult to decide in an environment wherein there is so much information for the human brain. The reason why people anchor arises from uncertainty and lack of know-how or aversion. Thus, they try to avoid uncertainty. If human beings have inadequate data, they pay attention to that
when they face with the primary information to reduce uncertainty; because this can decrease uncertainty and calm the thought of the individual.

Anchoring involves the determination of conditional probabilities, where one sets the degree of resemblance or similarity between a sample and a population or a model and an outcome. This bias sets in when one is gauging the probability that an object X belongs to class Y. Further, representativeness refers to the tendency of investors’ to make decisions based on experiences (Rahul, 2012).

Rahul (2012) further attributes the long-term underperformance of most IPO’s to the shortsightedness of most investors. Such investors translate good companies with good and quality stocks, hence making losses ultimately. Anchoring leads to people putting too much weight on recent experiences and the assumption that the current prices are the correct prices. Therefore, current performance is representative of future performance. Anchoring is a cognitive inclination that portrays the common human being tendency to depend too heavily on the initial piece of information offered when making decisions. During decision making, anchoring appears when people use an initial piece of information to make second judgment so that prices lower than the initial cost seem more reasonable, even if they are greater than what the car is worth (Hastie & Dawes, 2010). Anchoring develops when an esteem scale is fixed (anchored) by progressing perceptions. Financial specialists usually utilize their price tag as a source of perspective point (and respond to changes in value with respect to the underlying price tag. Costs of today are regularly decided simply by those of the past (Waweru, Mwangi, & Parkinson, 2014).

There are three wide reasons why people may use irrelevant pieces of data to decide: anchoring results from an insufficient adjustment process of the brain from the initially presented value, attitude change and selective accessibility to information (Furnham & Boo, 2011; Jetter & Walker, 2016). In one of the few held studies, Johnson et al. (2009) analyzes betting on horse races, finding that a horse's barrier hindrance position in a past race fills in as a significant stay when figuring possibilities. They find those with more noteworthy dimensions of skill are less subject to anchoring, yet the significance of the impact wins. Similarly, McAlvanah and Moul (2013) and bookmakers neglect to re-change completely when a horse is abruptly withdrawn from a race in which betting has
already commenced. In this setting, the fundamental chances rises rise as a powerful anchor among monetary specialists with money related motivating forces and broad experience. This impact turns out to be more pronounced in situations with more time pressure.

Numerous psychological and behavioral studies find that, in a variety of situations, expectations of individuals systematically deviate too little from seemingly arbitrary reference points, or anchors, which serve as commencing points for these predictions. As a result, those expectations give too small weight to the forecasters’ own information. According to Marchand (2012) when investors need to settle a decision they frequently neglect to do enough research because there is just too much data to collect and analyze. Rather, they continue based on a solitary figure or fact, while overlooking the significant data. When a relevant value (an anchor) is accessible, individuals make expectations by beginning from a starting value (an anchor), that is adjusted to yield the last reply. It is conceivable that the stay is proposed by the definition of the issue, or it tends to be the aftereffect of a particular calculation. In both ways, changes are deficient.

Anchoring can be captured by the fact that investors rely on the past experience, past fair prices, ignore new information, fixing prices before buying or selling stock and being on the lookout for the best time to buy or sell stock, guided by moods and the level of openness to new experiences (McGuckian, 2013). Research has linked sad or discouraged temperaments with more extensive and precise evaluation of problems. Along these lines, prior examinations, assessed that individuals with progressively discouraged states of mind will in general use tying down not exactly those with more joyful mind-sets. However, studies have shown the inverse impact: sad people are more prone to use anchoring than individuals with cheerful or impartial temperaments.

Research has related susceptibility to anchoring with the majority of the Big Five character qualities. People high in pleasantness and principles will undoubtedly be affected by anchoring, while those high in extroversion are more averse to be impacted (Eroglu & Croxton, 2010). Studies by McElroy and Dowd, (2007) describes that those high in openness to new encounters are more susceptible to the anchoring effect. The effect of subjective capacity on anchoring is challenged. A study on eagerness to pay for purchaser’s goods by Bergman and Klefsjö (2010) find that anchoring diminished in
those with greater cognitive ability, though it did not vanish. Whereas Oechssler, Roider, and Schmitz, (2009) find that cognitive ability had no huge impact on how likely people were to use anchoring.

Kiev (2009) asserts that anchoring occurs when one becomes stuck to a particular reference point as a basis for making judgments and decisions and it is common for traders to anchor to an entry point after entering a position. Numerous merchants will not leave a dreadful position to assume a misfortune, rather trusting that the market will come back to the passage point to enable them to scratch the exchange. According to Bretton (2009) numerous traders refuse to exit a bad position that moved to inside ticks of their entry, fixed on exiting at the anchored point of entry and the outcome is that they frequently end up taking much larger losses when sheer pain turns into their stop-loss mechanism. People are well on the way to grapple choices to criteria that catch their consideration and thus; merchants regularly anchor to high points and low points in market movements, including obvious points of support and resistance (Muriithi, 2014).

Traders will incline towards these concentrations for the position of their stops just as their entrances for breakout exchanges. On the off chance that a dealer grapples to a help or opposition level to enter a breakout exchange, the broker might be absolutely oblivious uninformed of the interest or supply that rests beneath or over those anchor levels. Similarly, if a trader places a stop near an obvious region of high low costs, he may expand the chances the odds that ordinary market probes will take out those levels in the search for value (Muriithi, 2014).

Anchoring tends to consider logically irrelevant cost level as significant in the process of decision making could lead to missed investment opportunities and terrible entry timing in the market, (Rahul, 2012). The anchoring effect holds notwithstanding, when the anchor is subliminal, this is unimaginable, since anchoring is just a result of conscious modification. Anchoring happens where the underlying presentation data or information serves as the reference point accordingly influencing future decisions. The procedure customarily occurs without our mindfulness, causing impact of price observations. For instance, the expense of the underlying house appeared to somebody by an estate agent may serve as an anchor and impact impression of the houses along these lines presented.
These impacts have also been seen in buyer behavior whereby not only explicit slogans to purchase more, but also purchase quantity limits can build up buying amounts.

Jetter and Walker (2016) demonstrate that contestants anchor intensely on the underlying piece of data, notwithstanding, when there is no sensible avocation to do as such. Murithi (2014) attempts to develop in the case of anchoring impact investments selections of people's in Kenya. These examinations on anchoring in like manner did not evaluate the impact of tying down on the positioning of financing choices. These examinations on anchoring likewise did not assess the effect of anchoring on the ranking of financing decisions.

Andersen (2010) shows the involvement of anchoring in decision making of market participants by using an existing trading algorithm. The algorithm was applied to real market data of the Dow Jones Industrial average and CAC40 stock index to look for arbitrage possibilities. The model returned out-of-sample profit even while considering transaction costs on the CAC40 and thus provide evidence that anchoring had a role to play in the weekly price fixing of the Dow and CAC40. Shriller (2000) found that during the peak of the Japanese market only 14% of investors expected it to crush but after it finally crashed the number rose to 32%.

**2.4 Effects of Herding Behavior on Investors Decision Making**

Herd instincts refer to the natural desire of people to be part of a group, hence herd together. It is the tendency of people to mimic the group behavior when individually a different course of action would have been taken. In situations of uncertainty, this behavior is magnified because people want to feel as part of a group rather than independent analysts, hence introducing bias in decision making. As a result, small information can cause a significant change in people’s behavior, and not necessarily in the right direction (Awour, 2017).

Herd behavior refers to the tendency of an individual to emulate the moves of the majority or larger team irrespective of whether their actions are rational or irrational. They tend to imitate the group and the actions they take would be ideas that an individual would not necessarily make on their own. In the 1990s, venture capitalists and investors made decisions to invest heavily in internet related companies. Many traders transferred
their money based on the reassurance that other investors were doing so. Moreover, this wave is being experienced in today’s market with the upsurge of those investors that are involved in crypto currency. All investors are under duress to comply with the crowd and more often end up making poor investment decisions. However, investors who avoid the herd and make their own independent decisions are likely to avoid the disappointment that comes with investment into the wrong project. Various studies done include those that private traders tend to be influenced by recommendations of famous financial specialists.

The implication of this theory is that investor’s decisions will be influenced by what everyone else is doing in the market and not by objective factors. People experience psychological pressure towards group action because of peer pressure. The predominant motive why herding exist is because people are concerned about how other people will view their investment decisions. Additionally, people think that there is no way an enormous team could be wrong, hence trying to benefit from what the group knows.

Arthur (2014) theorizes that the life of investment decision makers has become more complex as a result of the large mass of information available in the market, and the breathtakingly high speed at which this information spreads in the market. Additionally, one investor’s behavior will most definitely affect the decisions of other investors. He further states that even though operating in a vacuum is discouraged, investors should employ more professional judgment and skepticism when evaluating the mass action of other investors in the market.

Aduda, Oduor and Onwonga (2017) undertook a study to determine the financial performance and behavior of individual investors when trading in the NSE listed shares. Questionnaire survey and secondary data retrieved from CMA and NSE was used in this study. Some investors were found to be irrational in decision making, and they often made losses in their investment as a result of herding and irrationality. A majority of the investors who responded were male, signifying men’s confidence in their ability to outperform the market. A majority of the investors were Bachelor’s degree holders, hence sufficiently educated to make investment decisions. Other factors found to determine investment behavior included improved stock exchange, influence of friends, family and
colleagues, Inflation, management stability, number of available shares, stock capitalization level and family and religious background.

According to Nyamute, Lishenga and Oloko (2015) investor behavior does influence portfolio performance at the NSE. The study revealed a positive effect on performance, and also requires a good cue for an investor to herd and gain sufficient returns. Wamae (2013) an examination of behavioral factors impacting investment decisions in the Kenyan stock market, focusing on investment banks, found out that all the factors affect investment decisions, with herding having the most impact, followed by prospecting, anchoring and finally the risk aversion factor has the least impact.

Philippas, Economou and Kostakis (2013) observed herd behavior in extreme market conditions using daily data from the Greek, Italian, Portuguese and Spanish stock markets for the years 1998-2008 i.e. the existence of asymmetric Herding behavior associated with market returns, trading volume, and return volatility. Along with this, they also investigated the presence of herd behavior during the global financial crisis of 2008. The results of the study showed that Herding is found to be stronger during periods of rising markets in these stock markets. Herding is present in the Portuguese stock market during periods of down returns and there is no evidence of Herding in the Spanish stock market. Finally, it is said that there is evidence of Herding during the global financial crisis of 2008 only for the Portuguese stock market and evidence of anti-Herding for the Spanish and the Italian stock markets. Investor behavior seems to have been rational for the Greek stock market during the global financial crisis.

Mwimali (2012) documents the existence of herd behavior: proof of the Nairobi Securities Exchange. This study focused on the price implications of herding by looking into how equity returns reflect the existence of herd behavior. The objective of the study was to determine the existence of herding behavior among the investors at NSE. The study entailed an empirical research design. Data used was secondary data obtained from the Nairobi securities exchange. Data was analyzed using Christie and Huang (1995) model, where a regression analysis was on CSSD against dummy variables to determine the beta coefficients in the market. The regression produced statistically significant positive beta coefficients, which reveal no presence of herding behavior among investors at the NSE. In conclusion, there is evidence of existence of herding; however herding was
not found to be an important determinant of equity returns during periods of price fluctuations in the market.

Jagongo and Mutwenje (2014) studied, expected earnings, past stock performance, state of the economy, expected dividends, the status of the company in the industry and the strength of the income and balance sheet statements. Individual’s risk profiles, the existence of an organized securities exchange market, noise in the market financial stability and expected returns were also identified as key considerations in making investment decisions.

Wendo (2015) studied the factors that influence the participation of individual investors in the NSE, and used 105 Nairobi County advocates as her research subjects. Descriptive research design was used to collect primary data from the respondents using structured questionnaires. Collected data was analyzed using excel and SPSS. ANOVA was also used to test if significant differences existed in the means of the advocates that were interviewed. The study found out that most investors are risk averse and prefer to invest in real estate rather than the stock market. The group also lacked financial literacy skills to make sound investment decisions on the securities exchange market. The factors’ that were found to influence decision making among this group of investors included popular market opinion, referrals from friends, family, colleagues and recent trends and announcements of profitability and returns.

More recently, Sias (2004) finds that institutional investors tend to follow each other in buying and selling the same securities and their own lag trades and that they tend to follow momentum strategies, although little of their herding results from momentum trading. Also there is no evidence that institutional herding drives prices away from fundamental values. Sias argues that the results are most consistent with the hypothesis that institutions herd as a result of inferring information from each other’s trades. The US institutional herding in the American Depositary Receipt (ADR) market is studied by Young and Huang (2004) find a significant positive relation between changes in institutional ownership and ADR returns that persists even after they control for momentum. Strong empirical evidence of US institutional industry herding is reported by Choi and Sias (2009): there is a cross-sectional correlation between the fraction of institutional traders buying an industry one quarter and the fraction buying the previous
quarter of, on average, 39 percent. They also show that institutional industry herding stems from managers’ decisions, is behind institutional industry momentum trading, is more pronounced in smaller and more volatile industries, and may drive industry market values away from fundamentals. Gutierrez and Kelley (2008) point out that institutional purchase may have a more permanent effect than institutional sells, since the former may be motivated by information about intrinsic stock values while the later may be driven by liquidity needs. They use data between 1980 and 2005 and a herding measure that is based on the LSV measure to find that prices are destabilized by buy herds and stabilized by sell herds.

Other studies examine institutional investor herding in non-US markets and the results indicate that in smaller markets herding may be more prevalent. For example, Wylie (2005) finds that there is only a modest amount of UK equity fund manager herding and only for extreme capitalization individual stocks, with little herding detected for other capitalizations or stocks aggregated by industry, while Kim and Nofsinger (2005) find a lower level of institutional herding in Japan than the USA. This seems to depend on economic conditions and the regulatory environment, while herding appears to have a more significant impact on price movements. Similar results on the impact of herding on stock prices in Japan are reported by Iihara et al. (2001) who use the yearly change in ownership as a proxy for investor herding. They also find herding in financial markets that both institutional and foreign investors herd. Chang and Dong (2006) show that in Japan both institutional herding and firm earnings are positively related to idiosyncratic volatility.

Walter and Weber (2006) find evidence of herding and positive-feedback trading by German mutual fund managers, with a significant portion of herding being related to spurious herding as a consequence of changes in benchmark index composition. In a study that examines Polish pension fund managers Voronkova and Bohl (2005) show that managers are to a greater extent involved in herding and positive feedback trading than managers in mature markets. Order flow data are used by Chang (2010) in order to examine the behavior of qualified foreign institutional investors in emerging markets and finds that when they increase (decrease) their investments in particular sectors other market participants such as margin traders and mutual funds follow the same action.
during the same and subsequent periods. Chang argues that this behavior can be destabilizing since asset prices initially overshoot and later revert. Bowe and Domuta (2004) use data from the Jakarta Stock Exchange to investigate the investment patterns of foreign and domestic investors for evidence of herding and positive feedback during the 1997 Asian crisis. They find that both foreign and domestic investors herd with the former herding more than the later especially after the crisis; they further argue that herding does not destabilize the market. The Korean market is examined by Choea et al. (1999) who employ order and trade data between 1996 and 1997 and find significant evidence of evidence of herding (and positive feedback trading) by foreign investors before the crisis. As Bowe and Domuta for Indonesia, they report no evidence that trades by foreign investors have a destabilizing effect on Korea’s stock market. Recently, Holmes et al. (2013) employ the Sias (2004) methodology and monthly institutional holdings data for Portugal and find evidence of herding; further analysis under different market conditions indicates that institutional herding is intentional rather than spurious and due to reputational reasons. There is also evidence to indicate that hedge fund managers may herd.

2.5 Chapter Summary

This chapter provided a conceptual and informative review of the literature on investment decision making. Considering the objectives of the present study, this chapter talked about theories that provided knowledge about the truth from the investors’ perspective. The chapter reviewed relevant literature and possible impact of individual overconfidence, anchoring and herding biases on investment decisions. The chapter three describes the methods and procedures used to carry out the study. This is specifically research design, population and sampling design, data collection methods, and data analysis methods used in the study. In chapter four, the results and findings are discussed based on the data collected. In chapter five the discussions, conclusions and recommendations of the study will be presented.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This section clearly defines the research strategies utilized to conduct the study. The researcher clarifies how the vital data and information to address the research objectives was gathered, displayed and analyzed. Reasons and justifications for the research design, research instruments, data sources, and data gathering methods, data presentation strategies’ and analytical techniques utilized are discussed herein.

3.2 Research Design

Research designs, are plans that guide the course of action of conditions for the accumulation and examination of information in a way that expects to consolidate pertinence to the exploration reason with economy, giving the paste that holds the examination theory together (Blumberg et al., 2014, p. 25). A plan is utilized to form the research, to show how all of the major parts of the research project; the samples or gatherings, measures, medications or projects, and strategies for task, work connected at the hip to address the focal research questions (Trochim, 2006). Research design is an exhaustive arrangement for information gathering in an observational research project (Blumberg, Cooper & Schindler, 2014). Research design is the blueprint for empirical research aimed at answering specific research questions or testing specific hypotheses and must specify the following processes, that is, development of the instrument, sampling process, pre-test and data collection (Bhattacherjee, 2012; Saunders, Lewis & Thornhill, 2011).

This study was designed as a case study of students at the United States International University –Africa using the survey method. According to Odoh and Chinedum (2014), a case study describes an analysis of a firm, assuming that the researcher can acquire knowledge regarding the subject under review from an in-depth exploration of a single case. It is a qualitative analysis that involves careful observation of a situation.
3.3 Population and Sampling Design

3.3.1 Population

A population can be characterized as all people or things with credits which one wishes to consider (Saunders et al., 2012). According to Blumberg et al., (2014), a population is characterized as total of all components that we will make couple of inductions. The target population was 6,372 USIU undergraduates and graduates who are involved in making investment decisions. Odoh and Chinedum (2014), describe the target population of a study as the point of focus from which a generalization is made regarding the research findings.

Table 3.1: Number of Students at each Level

<table>
<thead>
<tr>
<th>Level of Study</th>
<th>Number of Students at each Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Graduates</td>
<td>5,029</td>
</tr>
<tr>
<td>Graduates</td>
<td>1,343</td>
</tr>
<tr>
<td>Total Number</td>
<td>6,372</td>
</tr>
</tbody>
</table>

Where

\[
N = 6,372
\]

\[
e = 0.05
\]

\[
n = \frac{6,372}{1 + 6,372 \times (0.05)^2}
\]

\[
n = 377
\]

3.3.2 Sampling Design

A sampling design gives an arrangement that aide how cases are picked for perception (Blumberg et al., 2014). The plan therefore, maps out the technique to be sought after to draw the investigation test dependent on test estimate (Saunders et al, 2016). According to Kothari (2006) sampling design refers to the technique used to choose respondents.
The huge preliminary of an example configuration is the means by which well it speaks to the populace qualities it proposes. Lists of all disciplines were obtained from the registrar’s office. Sample data will be selected using cluster sampling technique to ensure that respondents are represented equally. Random sampling is to be used to obtain a manageable size.

3.3.2.1 Sampling Frame

Sampling frame can be defined as a complete description of all the cases in the target population from which the sample is drawn (Saunders et al., 2016). The sample frame for this study consisted 377 students for undergraduates and graduates at USIU.

3.3.2.2 Sampling Technique

Stratified sampling method is to be utilized in this study. It will entail dividing the population into mutually inclusive groups.

3.3.2.3 Sample Size

A sample, according to Kombo and Tromp (2009), is a subsection of the populace that has been picked and represents to the qualities of a populace. The objective populace for this investigation are undergrad and graduate understudies.

Using the sample formula

\[ n = \frac{N}{1 + N \times e^2} \]

Derived from Yamae (1967) formula (Sekaran & Bougie, 2013),

Where: \( n = \) sample size

\( N = \) Population

\( e = \) error

At 95% confidence interval and a population of the sample size was calculated as:
Table 3.2: Sample Size

<table>
<thead>
<tr>
<th>School of Study</th>
<th>Number of Students per School</th>
<th>Number of Students per Sample size (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandaria Business School</td>
<td>1,179</td>
<td>70</td>
</tr>
<tr>
<td>School of Humanities</td>
<td>2,271</td>
<td>134</td>
</tr>
<tr>
<td>School of Science</td>
<td>2,922</td>
<td>173</td>
</tr>
<tr>
<td>TOTAL</td>
<td>6,372</td>
<td>377</td>
</tr>
</tbody>
</table>

3.4 Data Collection Techniques

Primary data was gathered using a structured questionnaire. The questionnaire was presented in four sections. Section I of the questionnaire captured respondents’ demographics. Section B captured data on the effects of overconfidence behavior in individual investment decision making in the stock market; section C captured data on the effects on anchoring behavior in individual investment decision making in the stock market; section D captured data on the effects on herding behavior in individual investment decision making in the stock market. The questionnaire was closed ended. A five point Likert scale will be used to quantify the appropriate responses of the respondents in the second piece of the device. Social affair of information was finished utilizing drop and pick method of directing an organized survey to respondents. The survey is among the most prevalent information accumulation techniques in business studies (Ghayri & Gronthug, 2015). The success strategies deployed included pre-survey contact during which the aim of the study was explained and elaborated to respondents, printing of the questionnaire in full color, and timely collections as expressed by the opinions of the few respondents in the target population.

3.5 Research Procedures

The questionnaire was pre-tested on 10 respondents to establish its validity and if need be, necessary adjustments made. After piloting, the revised questionnaire was issued to the respondents. On collection of the filled questionnaires, the researcher reviewed all the questionnaires to ensure that all copies issued to the respondents were filled are returned.
The returned questionnaire were coded and run through the Statistical Package for Social Sciences (SPSS) for examination.

3.6 Data Analysis Methods
Data analysis involves bringing to order, and gives meaning to the bulk of information collected in a research (Johnston, 2014). The quantitative data was examined using descriptive and inferential statistics after running the information gathered through the Statistical Package for Social Sciences (SPSS). Inferential statistics included correlation and regression analysis. Correlation analysis was used to test the extent with which the independent variable was used to explain changes in the dependent variable. The independent variables are overconfidence, anchoring and herding behaviors, whereas the dependent variable was investment decision making. The regression model was as follows:

\[ Y_{idm} = a + bX_1 + e; \ Y_{idm} = a + bX_2 + e; \ Y_{idm} = a + bX_3 + e \]

\( X_1 = \) independent variable, overconfidence behavior

\( X_2 = \) independent variable, anchoring behavior

\( X_3 = \) independent variable, herding behavior

\( a = \) constant coefficient of the university

\( b = \) slope coefficient of the independent variable

\( Y_{idm} = \) investment decision making

The findings of the study were finally presented in form of tables and figures.

3.7 Chapter Summary
This chapter outlined how the research was directed, the strategy utilized to gather data as well as the methodology that was utilized in analyzing the data. The point of the investigation was to comprehend the respondents’ effects on behavioral biases. Chapter four details the results and findings of the research.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction
In this chapter primary data gathered is summarized. Whereas quantitative data gathered with the assistance of the survey questionnaire is presented with the guide of tables and brief explanations. Where important, relationships are tested for significance between variables, with the assistance of statistical software towards providing responses to the research questions.

4.2 Demographic Information
4.2.1 Response Rate
377 questionnaires were administered out of which 325 were appropriately completed and returned. A few of the respondents (52) or 13.8% returned the questionnaires half-filled while others declined to fill. The response rate result is itemized in figure 4.1 below. The reaction rate of 86.20%, which is deemed quite adequate, demonstrates the effectiveness of strategies used to elicit responses.

Figure 4.1: Response Rate
4.2.2 Classification of Respondents by Gender

Respondents were additionally mentioned to indicate their gender. Results in Table 4.1 shows that 46% of the respondents were male, while 54% were female.

Table 4.1: Classification of Respondents by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>150</td>
<td>46.00%</td>
</tr>
<tr>
<td>Female</td>
<td>175</td>
<td>54.00%</td>
</tr>
<tr>
<td>Total</td>
<td>325</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.2.3 Classification of Respondents by Age

Respondents’ were requested to show their respective age sections. Table 4.2 depicts the results. Results uncovered that 38% of the respondents, were between 17-25 years, 33% between 26-30 years, 20% were between 31-35 years while only 9% were 36 years of age and above.

Table 4.2: Classification of Respondents by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-25 years</td>
<td>125</td>
<td>38.00%</td>
</tr>
<tr>
<td>26-30 years</td>
<td>106</td>
<td>33.00%</td>
</tr>
<tr>
<td>31-35 years</td>
<td>65</td>
<td>20.00%</td>
</tr>
<tr>
<td>36 years and Above</td>
<td>29</td>
<td>9.00%</td>
</tr>
<tr>
<td>Total</td>
<td>325</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.2.4 Classification of Respondents by Level of Study

Respondents were further requested to disclose their current level of study. Table 4.3 shows the results. Table 4.3 results show that 52% of those who responded were undergraduate while 48% were graduates.
Table 4.3: Classification of Respondents by Level of Study

<table>
<thead>
<tr>
<th>Level of Study</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>169</td>
<td>52.00%</td>
</tr>
<tr>
<td>Graduate</td>
<td>156</td>
<td>48.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.2.5 Classification of Respondents by School of Study

Respondents in addition revealed their school of study. Table 4.4 shows the results. Table 4.4 reveals that 41% of the respondents were from Chandaria School of Business, 31% from School of Humanities while 28% from School of Science.

Table 4.4: Classification of Respondents by School of Study

<table>
<thead>
<tr>
<th>Appropriate School of Study</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandaria School of Business</td>
<td>133</td>
<td>41.00%</td>
</tr>
<tr>
<td>School of Humanities</td>
<td>102</td>
<td>31.00%</td>
</tr>
<tr>
<td>School of Science</td>
<td>90</td>
<td>28.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.2.6 Classification of Respondents by Years Invested in the Stock Market

The respondents were requested to specify how long they have invested in the stock market. Table 4.5 shows the results. Table 4.5 result reveal that 86% have invested for less than 3 years, 8% of respondents have invested for 3-6 years, 4% for more than 11 years while only 2% have invested in the stock market for 7-10 years.

Table 4.5: Classification of Respondents by Years Invested in the Stock Market

<table>
<thead>
<tr>
<th>Years Invested in the Stock Market</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3 years</td>
<td>279</td>
<td>86.00%</td>
</tr>
<tr>
<td>3-6 years</td>
<td>26</td>
<td>8.00%</td>
</tr>
<tr>
<td>7-10 years</td>
<td>5</td>
<td>2.00%</td>
</tr>
<tr>
<td>Greater than 11 years</td>
<td>15</td>
<td>4.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
4.2.7 Classification of Respondents by how often their Investments Decisions have proven to be right

The respondents were further requested to indicate how often their investment decisions proved to be right. Table 4.6 shows the results. Results in table 4.6 show that 65% of the respondents’ investments’ decisions being right were less than 25%, 28% of their investment decision being right was 26%-50%, 5% of the respondents was between 51%-75% while only 2% were greater than 75%.

Table 4.6: Classification of Respondents by how often their Investments Decision has proven to be right

<table>
<thead>
<tr>
<th>Investment Decision proven to be right</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 25%</td>
<td>212</td>
<td>65.00%</td>
</tr>
<tr>
<td>26%-50%</td>
<td>92</td>
<td>28.00%</td>
</tr>
<tr>
<td>51%-75%</td>
<td>16</td>
<td>5.00%</td>
</tr>
<tr>
<td>Greater than 75%</td>
<td>5</td>
<td>2.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.2.8 Classification of Respondents by Attendance to any Financial Training

Further, respondents were requested to indicate whether they have gone through any financial training. Table 4.7 indicates the results. Results in table 4.7 reveal that 66% have never attended any financial training while 34% have gone through a financial training session.

Table 4.7: Classification of Respondents by Attendance to any Financial Training

<table>
<thead>
<tr>
<th>Attendance to any financial training</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>112</td>
<td>34.00%</td>
</tr>
<tr>
<td>No</td>
<td>213</td>
<td>66.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
4.2.9 Classification of Respondents by their Objective in investing in the Stock Market

Respondents were further asked to indicate their objective in investing in the stock market. Table 4.8 indicates the results. Results in table 4.8 reveal that 36% invest in a combination of income and capital gain, 33% take benefit from the daily price fluctuations while 31% invest in to earn steady income in the form of dividends/interest.

Table 4.8: Classification of Respondents by their Objective in Investing in the Stock Market

<table>
<thead>
<tr>
<th>Objective in Investing in the stock market</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take benefit from the daily price fluctuations</td>
<td>107</td>
<td>33.00%</td>
</tr>
<tr>
<td>Earn a steady income in the form of dividends/interest</td>
<td>102</td>
<td>31.00%</td>
</tr>
<tr>
<td>Combination of income and capital gain</td>
<td>116</td>
<td>36.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.2.10 Classification of Respondents by Average Annual Returns

Respondents were requested to indicate their average annual returns. Results in table 4.9 show results. Results in table 4.9 reveals that 58% respondents average annual returns is less than 5%, 34% get 6%-10%, 6% receive 11%-15% while only 2% receive greater than 15% annual returns.

Table 4.9: Classification of Respondents by Average Annual Returns

<table>
<thead>
<tr>
<th>Average Annual Returns</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5%</td>
<td>190</td>
<td>58.00%</td>
</tr>
<tr>
<td>6%-10%</td>
<td>110</td>
<td>34.00%</td>
</tr>
<tr>
<td>11%-15%</td>
<td>18</td>
<td>6.00%</td>
</tr>
<tr>
<td>Greater than 15%</td>
<td>7</td>
<td>2.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
4.3 Effects of Overconfidence Behavior in Individual Investment Decision Making in the Stock Market

Here, the main objective of the study was to determine the effect of overconfidence behavior in individual investment decision making in the stock market.

4.3.1 Descriptive Analysis

The level of simultaneous in connection with the accompanying statements on overconfidence was requested from one and every of the respondents. Table 4.1 shows the criticism on each statement. The outcomes in table 4.1 revealed that 30% of the respondents moderately agree, “I am an experienced investor” while 38% concur with the statement and 32% disagree with the statement. The results additionally uncovered 42% contradict with the statement that “I feel more confident in my own investment opinions over the opinions of others” while 19% moderately agree and 42% agree. On the other hand, results revealed that 54% agree with the statement, “I consult others before making an investment” while 31% contradict and 15% moderately agree. Results further revealed that 55% agree with the statement “I use my predictive skills to time the market and to make my portfolio performance higher than the market performance”, 21% moderately agree and 24% disagree. Results indicated that 60% contradict with the statement “I trade stocks excessively” while 25% moderately agree and 15% agree to the statement. Results further indicate 44% agree with the statement “I have the ability to choose stocks that perform better in the market”, 32% moderately agree and 24% disagree. Results indicated that 48% agree with the statement “I have high expectations on the stocks that I choose generate better returns beyond market expectations”. Finally, the results reveal that 47% contradict with the statement “I believe my investment performance supersedes other investors that am acquainted”. Using a five-point scale, the overall mean of the responses was 2.96 and a standard deviation of 1.13. Whereby, mean and standard deviation for the statement “I am an experienced investor was 2.98 and 1.20 respectively. Results indicate a standard deviation of 1.17 and mean of 2.93 for the statement “I feel more confident in my own investment opinions over the opinions of others”. Further results indicate a mean of 2.66 and a standard deviation of 1.13 for the statement “I use my predictive skills to time the market and to make my portfolio performance higher than the market performance. On the other hand, results revealed, a mean of 2.85 and standard deviation of 1.12 for the statement “I have the ability to choose stocks that perform better in the
market. Results also revealed a mean of 2.74 and standard deviation of 1.12 for the statement “I have high expectations on the stocks that I choose to generate better returns beyond market expectations”. Finally, the results reveal a mean of 3.39 and standard deviation of 1.04 for the statement “I believe my investment performance supersedes other investors that are acquainted with”.

**Table 4.10: Overconfidence Behavior**

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am an experienced investor.</td>
<td>14%</td>
<td>18%</td>
<td>30%</td>
<td>28%</td>
<td>10%</td>
<td>2.98</td>
<td>1.20</td>
</tr>
<tr>
<td>2. I feel more confident in my own investment opinions over the opinions of others.</td>
<td>8%</td>
<td>31%</td>
<td>19%</td>
<td>31%</td>
<td>11%</td>
<td>2.93</td>
<td>1.17</td>
</tr>
<tr>
<td>3. I consult others before making an investment.</td>
<td>5%</td>
<td>26%</td>
<td>15%</td>
<td>31%</td>
<td>23%</td>
<td>2.59</td>
<td>1.24</td>
</tr>
<tr>
<td>4. I use my predictive skills to time the market and to make my portfolio performance higher than the market performance.</td>
<td>8%</td>
<td>16%</td>
<td>21%</td>
<td>43%</td>
<td>12%</td>
<td>2.66</td>
<td>1.13</td>
</tr>
<tr>
<td>5. I trade stocks excessively.</td>
<td>15%</td>
<td>45%</td>
<td>25%</td>
<td>8%</td>
<td>7%</td>
<td>3.51</td>
<td>1.07</td>
</tr>
<tr>
<td>6. I have the ability to choose stocks that perform better in the market.</td>
<td>12%</td>
<td>12%</td>
<td>32%</td>
<td>36%</td>
<td>8%</td>
<td>2.85</td>
<td>1.12</td>
</tr>
<tr>
<td>7. I have high expectations on the stocks that I choose to generate better returns beyond market expectations.</td>
<td>6%</td>
<td>22%</td>
<td>24%</td>
<td>35%</td>
<td>13%</td>
<td>2.74</td>
<td>1.12</td>
</tr>
<tr>
<td>8. I believe my investment performance supersedes other investors that are acquainted with</td>
<td>15%</td>
<td>32%</td>
<td>37%</td>
<td>11%</td>
<td>5%</td>
<td>3.39</td>
<td>1.04</td>
</tr>
</tbody>
</table>
4.3.2 Regression Analysis on Overconfidence Behavior on Individual Investment Decision Making in the Stock Market

Regression analysis is mainly concerned with determining the extent of the relationship between independent and dependent variables used in research. It shows whether the relationship is positive or negative. The researchers’ main objective is to unravel the fundamental effect of one variable over the other, which in this study is the relationship between investment decision as the dependent variable and overconfidence as independent variables.

The study sought to establish the underlying effect of one variable on another variable. Overconfidence behavior as the independent variable and decision making as dependent variable. The table 4.1 below provides the R and R Square values. The R value representing simple correlation was 0.691, indicating that there is a strong positive relationship between overconfidence behavior and investment decision making at \( r = 0.691 \). The \( R^2 \) value indicated the extent of which overconfidence behavior can predict investment decision making. In this case, overconfidence behavior can predict 47.70% of investment decision made by individual investors in the stock market.

**Table 4.11: Overconfidence Behavior and Investment Decision Making Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.691(^a)</td>
<td>0.477</td>
<td>0.476</td>
<td>1.121</td>
</tr>
</tbody>
</table>

\(^a\)Predictors:(Constant),Overconfidence

The ANOVA (Analysis of Variance) in table 4.12 below indicates the significance with which the regression model can be used to predict the dependent variable. The statistical significance (p- value, 0.00<0.05). The F- distribution table value for, F (1,324) at 5% level of significance, F calculated, 10.128< F – table value of 294.735. Thus, critical analysis of both p value and F critical value indicates that the model or regression was significant. Thus, the model is a good predictor of the dependent variable.
Table 4.1: Overconfidence Behavior and Investment Decision Making ANOVA Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>370.321</td>
<td>1</td>
<td>370.321</td>
<td>294.7</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>405.835</td>
<td>324</td>
<td>1.256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>776.156</td>
<td>325</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Investment Decision

b. Predictors: Constant, Overconfidence

A means plot was used to present the linear relationship between overconfidence and investment decision making through a One-way ANOVA and got the following results as shown below in Figure 4.2. Results show a significant relationship between means. Overconfidence behavior being the independent variable and investment decision being the independent variable. The average means range from 5.00 to 12.00. A mean of 5.00 being the lowest while a mean of 12.00 recording the highest mean. A high peak of a mean 7.667 was evident and a mean of 12.00 that showed a significant impact while the lowest impact was recorded at a mean of 5.33 and 9.67.

Figure 4.2: Means plot between Overconfidence and Investment Decisions
4.4 Effects of Anchoring Behavior in Individual Investment Decision Making in the Stock Market

The second objective of the study was to establish the effect of anchoring behavior in individual investment decision making in the stock market.

4.4.1 Descriptive Statistics

Respondents were asked to demonstrate their dimension of agreement with statements that support anchoring behavior. Table 4.13 displays the outcome. Results revealed that 90% of the respondents agree with the statement “I consider the past performance of a stock before investing in it”. The results also reveal that 56% agree with the statement “I am likely to sell my stock after the price hits recent year high”. The results also revealed that 46% of the respondents disagree with the statement “I am unlikely to buy a stock if it is more expensive than last year”. Further, the results found out that 55% agree with the statement “I see the stock price being high if it has increased from the previous year”. Results further revealed that 47% agree with the statement “I use the stock purchase price as a reference point for trade”. The results further revealed that 50% of the respondents disagree with the statement “I often end up sticking with a losing stock for too long”. The results also revealed that 74% of the respondents agree with the statement “I look out for new market information that relates to my portfolio and use the new information to evaluate my investment decision”. Lastly, results reveal that 88% of respondents agree to the statement “Does the history performance of a stock influence your present investment decision?” Using a five-point scale Likert mean, responses were 2.53 and a standard deviation of 0.99. Whereby, in the statement “I consider the past performance of a stock before investing in it” had a mean of 1.72 and a standard deviation of 0.85. Results reveal a mean of 3.37 and a standard deviation of 1.09 for the statement “I am unlikely to buy a stock if it is more expensive than last year”. Results further reveal a mean of 3.45 and standard deviation of 0.86 for the statement “I often end up sticking with a losing stock for too long”. The results also revealed that the statement “I look out for new market information that relates to my portfolio and use the new information to evaluate my investment decision” had a mean of 2.26 and a standard deviation of 0.93. Finally, results show a mean of 1.86 and standard deviation of 0.79 for the statement “Does the historical performance of a stock influence your present investment decision”.

39
### Table 4.13: Anchoring Behavior

<table>
<thead>
<tr>
<th>Anchoring</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I consider the past performance of a stock before investing in it.</td>
<td>2%</td>
<td>3%</td>
<td>5%</td>
<td>45%</td>
<td>45%</td>
<td>1.72</td>
<td>0.85</td>
</tr>
<tr>
<td>2. I am likely to sell my stock after the price hits recent year high.</td>
<td>4%</td>
<td>20%</td>
<td>20%</td>
<td>30%</td>
<td>26%</td>
<td>2.48</td>
<td>1.20</td>
</tr>
<tr>
<td>3. I am unlikely to buy a stock if it is more expensive than last year.</td>
<td>16%</td>
<td>30%</td>
<td>36%</td>
<td>12%</td>
<td>6%</td>
<td>3.37</td>
<td>1.09</td>
</tr>
<tr>
<td>4. I see the stock price being high if it has increased from the previous year.</td>
<td>10%</td>
<td>23%</td>
<td>12%</td>
<td>36%</td>
<td>19%</td>
<td>2.70</td>
<td>1.28</td>
</tr>
<tr>
<td>5. I use the stock purchase price as a reference point for trade.</td>
<td>3%</td>
<td>12%</td>
<td>18%</td>
<td>52%</td>
<td>15%</td>
<td>2.39</td>
<td>0.99</td>
</tr>
<tr>
<td>6. I often end up sticking with a losing stock (wrong investment decision) for too long.</td>
<td>9%</td>
<td>41%</td>
<td>39%</td>
<td>9%</td>
<td>2%</td>
<td>3.45</td>
<td>0.86</td>
</tr>
<tr>
<td>7. I look out for new market information that relates to my portfolio and use the new information to evaluate my investment decision.</td>
<td>1%</td>
<td>14%</td>
<td>11%</td>
<td>58%</td>
<td>16%</td>
<td>2.26</td>
<td>0.93</td>
</tr>
<tr>
<td>8. Does the historical performance of a stock influence your present investment decision?</td>
<td>1%</td>
<td>2%</td>
<td>9%</td>
<td>56%</td>
<td>32%</td>
<td>1.86</td>
<td>0.79</td>
</tr>
</tbody>
</table>
4.4.2 Regression Analysis on Anchoring Behavior in Individual Investment Decision Making in the Stock Market

Regression analysis is mainly concerned with determining the extent of the relationship between independent and dependent variables used in research. It shows whether the relationship is positive or negative. The researchers’ main objective is to unravel the fundamental effect of one variable over the other, which in this study is the relationship between investment decision as the dependent variable and anchoring as independent variables.

The study sought to establish the underlying effect of one variable on another variable. Anchoring behavior as the independent variable and decision making as the dependent variable. The table 4.14 below provides the R and R Square values. The R value representing simple correlation was 0.477, indicating that there is a weak positive relationship between anchoring behavior and investment decision making at \((r = 0.477)\). The \(R^2\) Value indicated the extent of which anchoring behavior can predict investment decision making. In this case, anchoring behavior can predict 22.7% of investment decision made by individual investors in the stock market.

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>1</td>
<td>.477a</td>
<td>0.227</td>
<td>0.225</td>
<td>1.363</td>
</tr>
</tbody>
</table>
| a. Predictors: (Constant), Anchoring

The ANOVA (Analysis of Variance) in table 4.15 above indicates the significance with which the regression model can be used to predict the dependent variable. The statistical significance (p-value, 0.00 < 0.05). The F-distribution table value for, \(F (1,324)\) at 5% level of significance \(F\) calculated, \(10.128 < F\) – table value of 94.979. Thus, critical analysis of both p value and F critical value indicates that the model or regression was significant. Thus, the model is a good predictor of the dependent variable.
Table 4.15: Anchoring Behavior and Investment Decision Making ANOVA Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>176.368</td>
<td>1</td>
<td>176.368</td>
<td>94.979</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>599.787</td>
<td>323</td>
<td>1.857</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>776.156</td>
<td>324</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Investment Decision

b. Predictors: Constant, Anchoring

A means plot was used to present a linear relationship between anchoring and investment decision making through a One-way ANOVA and got the following results as shown below in Figure 4.3. Results show a significant relationship between means. Anchoring behavior being the independent variable and investment decision being the independent variable. The average means range from 7.00 to 11.30. A mean of 7.09 being the lowest while a mean of 11.30 recording the highest mean. A high peak of a mean 9.83 was evident and a mean of 11.30 that showed a significant impact while the lowest impact was recorded at a mean of 6.67 and 8.75.

Figure 4.3: Means Plot between Anchoring and Investment Decisions.
4.5 Effects of Herding Behavior in Individual Investment Decision Making in the Stock Market

The study’s third objective was to determine the effect of herding behavior on individual investment decision making in the stock market.

4.5.1. Descriptive Statistics

Respondents were asked to show their level of concurrence with selected statements on herding. Table 4.1 shows the results. Results in table 4.1 revealed that 82% of the respondents agree with the statement “I usually invest in companies I am familiar with”. Results also revealed that 42% of respondents disagree with the statement “I find it easy to imitate the behavior of other people”. Further results reveal that 52% of the respondents disagree with the statement “I prefer to follow group behavior in risky financial products”. Results further revealed that 56% of the respondents agree with the statement “Rumors in the market affect my own investment decisions making power”. Results also show that 51% of the respondents disagree with the statement “I prefer to follow group decisions to protect my current level of status”. Further, the results found out that 45% agree to the statement “I would like to invest in those stocks where my friends and family have made the investment. Results also revealed that 66% agree to the statement “when I am uncertain how to act in a given situation, I look to the behavior of others. Results also revealed that 72% of the respondents disagree with the statement “I protect my interest by intentionally replicating others decisions because I believe decisions made by others better”. Finally, results revealed that 67% disagree with the statement “I rely on the opinion of my family, friends or peer group while investing in international markets”. Using a five-point scale Likert mean, the overall mean of the responses was 3.05 and a standard deviation of 1.08. Whereby, the statement “I usually invest in companies I am familiar with” had a mean of 1.90 and a standard deviation of 1.06. The results also reveal a mean of 3.12 and a standard deviation of 1.20 for the statement “I find it easy to imitate the behavior of other people”. The statement “Rumors in the market affect my own investment decisions making power” had a mean of 2.66 and a standard deviation of 1.05. Results further revealed a mean of 2.84 and 1.14 for the statement “I would like to invest in those stocks where my friends and family have made the investments”. A mean of 3.90 and a standard deviation of 0.88 was revealed in the statement “I protect my interest by intentionally replicating others decisions because I
believe decisions made by others better”. Finally, the results show a mean of 3.84 and a standard deviation for the statement “I rely on the opinion of my family, friends or peer group while investing in international markets”.

**Table 4.16: Herding Behavior**

<table>
<thead>
<tr>
<th>Herding</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I usually invest in companies I am familiar with.</td>
<td>4%</td>
<td>7%</td>
<td>7%</td>
<td>39%</td>
<td>43%</td>
<td>1.90</td>
<td>1.06</td>
</tr>
<tr>
<td>2. I find it easy to imitate the behavior of other people.</td>
<td>15%</td>
<td>27%</td>
<td>21%</td>
<td>29%</td>
<td>8%</td>
<td>3.12</td>
<td>1.20</td>
</tr>
<tr>
<td>3. I prefer to follow group behavior in risky financial products.</td>
<td>13%</td>
<td>39%</td>
<td>31%</td>
<td>9%</td>
<td>8%</td>
<td>3.41</td>
<td>1.09</td>
</tr>
<tr>
<td>4. Rumors in the market affect my own investment decisions making power.</td>
<td>6%</td>
<td>16%</td>
<td>22%</td>
<td>48%</td>
<td>8%</td>
<td>2.66</td>
<td>1.05</td>
</tr>
<tr>
<td>5. I prefer to follow group decisions to protect my current level of status</td>
<td>18%</td>
<td>33%</td>
<td>24%</td>
<td>19%</td>
<td>6%</td>
<td>3.38</td>
<td>1.16</td>
</tr>
<tr>
<td>6. I would like to invest in those stocks where my friends and family have made the investment.</td>
<td>10%</td>
<td>18%</td>
<td>27%</td>
<td>35%</td>
<td>10%</td>
<td>2.84</td>
<td>1.14</td>
</tr>
<tr>
<td>7. When I am uncertain how to act in a given situation, I look to the behavior of others</td>
<td>6%</td>
<td>12%</td>
<td>16%</td>
<td>51%</td>
<td>15%</td>
<td>2.44</td>
<td>1.07</td>
</tr>
<tr>
<td>8. I protect my interest by intentionally replicating others decisions because I believe decisions made by others better.</td>
<td>25%</td>
<td>47%</td>
<td>19%</td>
<td>7%</td>
<td>2%</td>
<td>3.90</td>
<td>0.88</td>
</tr>
<tr>
<td>9. I rely on the opinion of my family, friends or peer group while investing in international markets.</td>
<td>32%</td>
<td>35%</td>
<td>19%</td>
<td>11%</td>
<td>3%</td>
<td>3.84</td>
<td>1.08</td>
</tr>
</tbody>
</table>
4.5.2 Regression Analysis on Herding Behavior on Individual Investment Decision Making in the Stock Market

Regression analysis is mainly concerned with determining the extent of the relationship between independent and dependent variables used in research. It shows whether the relationship is positive or negative. The researchers’ main objective is to unravel the fundamental effect of one variable over the other, which in this study is the relationship between investment decision as the dependent variable and herding as independent variables.

The study sought to establish the underlying effect of one variable on another variable. Herding behavior as the independent variable and decision making as the dependent variable. The table 4.17 below provides the R and R Square values. The R value representing simple correlation was 0.613, indicating that there is a strong positive relationship between herding behavior and investment decision making at (r = 0.613). The R² Value indicated the extent of which herding behavior can predict investment decision making. In this case, herding behavior can predict 37.5% of investment decision made by individual investors in the stock market

**Table 4.17: Herding Behavior and Investment Decision Making Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.613</td>
<td>0.375</td>
<td>0.373</td>
<td>1.225</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Predictors:(Constant),Herding</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The ANOVA (Analysis of Variance) in table 4.18 below indicates the significance with which the regression model can be used to predict the dependent variable. The statistical significance (p-value, 0.00<0.05). The F-distribution table value for, F (1,324) at 5% level of significance F calculated, 10.128< F – table value of 193.957. Thus, critical analysis of both p value and F critical value indicates that the model or regression was significant. Thus, the model is a good predictor of the dependent variable.
## Table 4.18: Herding Behavior and Investment Decision Making ANOVA Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>291.206</td>
<td>1</td>
<td>291.206</td>
<td>193.957</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>484.95</td>
<td>323</td>
<td>1.501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>776.156</td>
<td>324</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Investment Decision
b. Predictors: Constant, Herding

A means plot was used to present a linear relationship between herding and investment decision making through a One-way ANOVA and got the following results as shown below in Figure 4.4. Results show a significant relationship between means. Herding behavior being the independent variable and investment decision being the independent variable. The average means range from 5.00 to 12.44. A mean of 5.00 being the lowest while a mean of 12.44 recording the highest mean. A high peak of a mean 12.33 was evident and a mean of 12.44 that showed a significant impact while the lowest impact was recorded at a mean of 6.488 and 7.667.

![Figure 4.4 : Means Plot between Herding and Investment Decision.](image)

46
4.6 Chapter Summary

The chapter starts with the demographic information of the respondents, before exhibiting the descriptive and inferential statistics for all the variables of the study. Section four has provided outcomes and findings for the effects of overconfidence behavior in individual investment decision making in the stock market, effects of anchoring behavior in individual investment decision making in the stock market and effects of herding behavior in individual investment decision making in the stock market as per the data collected from the respondents who were university students from USIU-Africa. In chapter five the discussion, conclusions and recommendations of the study are presented.
CHAPTER FIVE

5.0 SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This area establishes conclusions based on findings of the examination and in accordance with the research goals established in section 1. It might be noticed that conclusions are established in consideration of findings and other literature discussed earlier in the study. Suggestions are proposed on future researches on behavioral finance.

5.2 Summary of Findings
The study sought to investigate the influence of behavioral biases on individual investment decisions in the NSE by university students. The research objective was to determine the effect of overconfidence, anchoring and herding behaviors on individual investors’ decision making in the NSE.

The study utilized primary data. The target population was made up of 377 university students. A self-administered questionnaire was used for data collection in this study. The questionnaire which used a 5 point Likert scale was then issued out to 377 university students at USIU-Africa.

A total of 325 respondents, leading to a reasonably good response rate of 86%. Of these respondents; 46% were male, while 54% were female, most of whom were between the ages of 17-25 years at 38% and 33% between the ages of 26-30 years while 20% from ages 31-35. This equally collates to the fact that 52% were undergraduates while 48% were graduates from the level of study. In the school of study most were from the Chandaria Business school at 41%, while 31% is from school of humanities and 28% of the school of science. 86% of the students’ invested in the stock market for less than 3 years and only 65% of this investment prove to be right. Having no financial training, collates to why they have annual returns of less than 5%.

Firstly, the study addressed the first research question on overconfidence behavior on individual investment decision making in the NSE. Using regression analysis, the findings established high correlation that stood at 69.1%. Secondly, the study also addressed the question on the effect of anchoring behavior on individual investment
decision making in the NSE. The findings show a low correlation that stood at 47.7%. The third and last research question of the study was aimed at addressing the effect of herding behavior on individual investment decision making in the NSE. The study established that the correlation was high because it stood at 61.3%.

5.3 Discussion

5.3.1 Effect of Overconfidence Behavior on Individual Investment Decision Making in the NSE

The study was aimed at finding out the effect of overconfidence behavior on individual decision making in the Nairobi Security Exchange. ANOVA results show there is a strong positive significant relationship between overconfidence and investment decision making by individuals’ in the NSE. This study is in agreement with Bakar and Yi (2016) found that overconfidence bias has a significant impact on investors’ decision-making.

These findings are in line with Shikuku (2014) findings of the study-established factors that determine the individual investor behavior at the NSE. Overconfidence had a high significant impact on individual investor behavior. Tripath (2014) findings show that overconfidence bias had a significant impact on the investors’ decision making in Malaysian stock market: A case of Klang valley and Pahang.

Pourijiban, Setayesh and Janani (2014) found out that overconfidence bias had a significant impact on financial specialists’ investment in the Tehran stock exchange market. Qasim, Hussain, Mehboob and Arshad (2018) revealed that the over-confidence bias had a significant and positive impact on the investment decision making. Any individual may become overconfident when his/her education and experience will increase. The previous studies have indicated that males are more confident than female and their impact on decision is significant (Baber & Odean, 2001). When an individual is over- confident then his decision is not well and appropriate. In other words, individuals make a poor decision (Chen et al., 2007).

A study by Shah, Ahmad and Mahood (2018) also contradict as results of the study indicate that the overconfidence heuristic has a significant negative influence on the decisions of individual investors psychologically, this means that, due to overconfidence bias, investors cannot make better investment decisions. Overconfident investors tend to
make inappropriate or risky investments, and they may trade excessively, which can have a negative effect on their returns. This finding is consistent with research by Waweru et al. (2008), Park et al. (2010), Fagerstrom (2008), Kafayat (2014) and Seppala (2009).

Overconfidence may originate from various reasons. Different types of overconfidence show that overconfident investors believe that their decisions will demonstrate to be right and expect higher returns than average. However, this is not necessarily the case and overconfident investors’ are exposed to possible losses due to their investment decisions (Tekce & Bildik, 2016).

Overconfidence explains why aggressive traders tend to have to pay a significant amount of commissions. What's more, such financial specialists may hold more hazardous portfolios than they should endure because of their underestimation of risk. Thus making investment mistakes and loses money. Overconfidence tends to be stronger when right judgments are difficult to form, such as when uncertainty is high. The difficulty effect is the finding that over precision is stronger for challenging judgments tasks (Dube, 2013).

Agrawal (2012) findings agree with the study finds that individual investor decisions are significantly correlated with overconfidence bias. He further states that successful stock investing is more than 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.

Luong and Ha (2011) study agrees with the findings that behavioral factors affect investment decisions of individual investors at Ho Chi Minh Stock Exchange whereby these factors have moderate impacts. Jacgullice (2013) also is in agreement that behavioral biases do influence individual investors’ decisions in the NSE. Findings implied that individual investment decisions were influenced by cognitive biases than they did emotional biases. It was recommended that investor education is the key to overcoming unfavorable investment outcomes caused by behavioral biases. In order to manage the excesses of behavioral influences investment decision making, training programs that create investor awareness and ability to identify and guard against cognitive and emotional bias4es that lead to bad investment choices should be offered to prospective individual investors.
Tekce et al. (2016) agrees with the findings as he investigates behavioral biases among Turkish individual stock investors during 2011. Overconfidence is positively correlated with individual stock investors. Subash (2012) findings, agrees with the study that behavioral biases influence decision making process of individual investors in the Stock Market. Overconfidence was seen to affect the young investors significantly more than experienced investors. Trehan and Sinha (2011) findings agree that investors are overconfident about their investment decisions, skills, knowledge, and ability to choose stocks, control of portfolio, future investment plans and views about the stock market and require the multiple approaches.

5.3.2 Effect of Anchoring Behavior on Individual Investment Decision Making in the NSE

The study aimed at finding out the effect of anchoring behavior on individual decision making in the NSE.ANOVA results show there is a significant relationship between anchoring behavior and investment decision making by individuals in the NSE. This study is in agreement with Kengatharan and Kengatharan (2014) research revealed that anchoring variable from heuristic factor had a high influence on investment decisions of individual investors at the Colombo stock exchange. Luong and Ha (2011) also is in agreement with the study as anchoring bias had a moderate impact on the investment decisions of individual investors at the Ho Chi Minh Stock exchange.

This study is in line with the findings Murithi (2014) established that individual investment decisions are affected by anchoring behavior and that decisions are affected by the experience of their past performance, suggesting the effect of anchoring. There was a strong positive relationship between dependent and independent variables. Rahul (2012) identified that individual investment decisions are affected by anchoring on the decision making process of individual investors in the Indian stock market. There was a strong positive effect of anchoring to the young investors significantly more than experienced investors’ anchor. Additionally, Shikuku (2014) anchoring had a high significant impact on individual investor behavior at the NSE.

A study by Shah, Ahmad and Mahmood (2018) contradicts the findings, it “showed that anchoring had a marked negative impact on investment decisions made by individual investors’ actively trading on the Pakistan stock exchange and on perceived market
efficiency. Anchoring can be captured by the fact that investors rely on past experience, past fair prices, ignore new information, fixing prices before buying or selling stock and being on the lookout for the best time to buy or sell stock, guided by moods and the level of openness to new experience (McGuckian, 2013). Various components are viewed as impacts of securing. A wide range or research has connected miserable or discouraged dispositions with progressively broad and exact assessment of issues. Along these lines, earlier investigations guessed that individuals with progressively discouraged states of mind would will in general use anchoring not exactly those with more joyful dispositions. In any case, thinks about have appeared inverse impact: miserable individuals are bound to utilize mooring than individuals with glad or unbiased state of mind, (Englich & Soder, 2009). Andersen (2010) findings contradict whereby no significance is found for the main regression concerning the effect of treatment on participant’s choice of supplier recommendations possibly partly due to sample size.

Rahul (2012) findings, agrees with the study that behavioral biases influence decision making process of individual investors in the Stock Market. Anchoring was seen to affect the young investors significantly more than experienced investors. Murithii (2014) agrees with the study that investment decisions are affected by anchoring behavior and that decisions are affected by experience of their past performance suggesting the effect of anchoring. McAlvanah and Moul (2013) agree that anchoring does influence individual investors’ decision making, they examined Australian horseracing bookmakers’ responses to late scratches, instances in which a horse is abruptly withdrawn after betting commenced. They observed bookies exhibit anchoring on the original odds and fail to re-adjust odds fully on the remaining horses after a scratch, thereby earning lower profit margins and occasionally creating nominal arbitrage opportunities for bettors.

Jetter and Walker (2016) agree with the study findings whereby they find a very large anchoring effect in the students’ long-term stock return expectations, that is, their estimates are influenced by an initial starting value. Professionals show a much smaller anchoring effect but it nevertheless remains statistically and economically significant, even when they restrict the sample to more experienced professionals. Marchand (2012) agrees that investors’ are influenced by behavioral factors such as anchoring that are important in financial markets because they influence the investors who make the financial decisions. When a relevant value is accessible, individuals make expectations
by beginning from a starting value that is adjusted to yield the last reply. Study by Waweru, Mwangi and Parkinson (2014) study is also in agreement with the findings, it establishes that anchoring is among the major behavioral factors that influence property investment decision making. The results indicate that property price change and property market information have a very high impact on property investment decision. Most investors’ search for property information through previous experience and through real estate firms.

5.3.3 Effect of Herding Behavior on Individual Investment Decision Making in the Stock Market

The study was aimed at finding out the effect of herding behavior on individual decision making in the NSE. ANOVA results show there is a significant relationship between herding behavior and investment decision making by individuals in the NSE. The finding is agreement with Qasim, Hussain, Mehboob and Arshad (2018) the results indicate that the herding bias has strong impact on the investment decision. The Pakistani markets are not well developed and efficient, so information is not equally available to everyone. So in order to protect from the loss the small investors imitate the strategies of the big financial institutions. The investors are affected by herding bias because of two reasons, first to protect themselves from the loss and the second to reward with a maximum profit (Raddatz & Schmukler, 2011). The results are in agreement with Shikuku (2014) herding had a high significant impact on individual investor behavior at the NSE. Tripath (2014) contradicts the findings showing that herding had no significant impact on the investors, decision making in Malaysian stock market; A case of Klang valley and Pahang.

According to Kengatharan and Kengatharan (2014) findings show that herding biases affect the investment decisions of individual investors at the Colombo stock exchange. In addition, herding had a negative influence from the investment performances. Luong and Ha (2011) reveals that herding bias is one of the five behavioral factors affecting the investment decisions of individual investors at the Ho Chi Minh stock exchange. There is a significant relationship between herding and investment decisions of individual investors at the Ho Chi Minh stock exchange. In addition, Kimani (2011) listed herding as among the behavioral factors that affect investment decisions of individual investors at the NSE showing there is a significant relationship between the two variables. One on
the main reasons as to why herding effect is evident is existence of large mass of information available in the market, and the breathtakingly high speed at which information spreads in the market has become complex for investment decision makers. Subash (2012) findings, agrees with the study that behavioral biases influence decision making process of individual investors in the Stock Market. Anchoring was seen to affect the young investors significantly more than experienced investors.

Nyamute, Lishenga and Oloko (2015) agree with the study findings the results confirmed that there was a significant positive linear relationship between herding bias in investment in stock markets. The study also concluded that most investors suffered from behavioral biases in investment in stock markets. Awour (2017) agree that investors’ are in fact irrational, and are largely influenced by behavioral factors that introduce biases in their decisions. Findings of the study reveal that disparities in individual investment decisions are influenced mutually by herding behavior, prospect theory factors and heuristic driven biases.

Mwilimali (2012) studies contradict with the findings which reveal no presence of herding behavior among investors at the NSE. However, herding was not found to be an important determinant of equity returns during periods of price fluctuations in the market. Herding is reported by Choi and Sias (2009): there is a cross-sectional correlation between the fraction of institutional traders buying an industry one quarter and the fraction buying the previous quarter of, on average, 39 percent. They also show that institutional industry herding stems from managers’ decisions, is behind institutional industry momentum trading, is more pronounced in smaller and more volatile industries, and may drive industry market values away from fundamentals. Walter and Weber (2006) agree with the study findings evidence of herding and positive-feedback trading by German mutual fund managers, with a significant portion of herding being related to spurious herding as a consequence of changes in benchmark index composition. In a study that examines Polish pension fund managers Voronkova and Bohl (2005) show that managers are to a greater extent involved in herding and positive feedback trading than managers in mature markets. Order flow data are used by Chang (2010) in order to examine the behavior of qualified foreign institutional investors in emerging markets and finds that when they increase (decrease) their investments in particular sectors other market participants such as margin traders and mutual funds follow the same action.
during the same and subsequent periods. Chang argues that this behavior can be destabilizing since asset prices initially overshoot and later revert.

Philippas, Economou and Kostakis (2013) findings agree that herding is found to be stronger during periods of rising markets in these stock markets. Herding is present in the Portuguese stock market during periods of down returns and there is no evidence of Herding in the Spanish stock market. Finally, it is said that there is evidence of Herding during the global financial crisis of 2008 only for the Portuguese stock market and evidence of anti-Herding for the Spanish and the Italian stock markets. Investor behavior seems to have been rational for the Greek stock market during the global financial crisis.

The Korean market is examined by Choea et al. (1999) who employ order and trade data between 1996 and 1997 and find significant evidence of evidence of herding (and positive feedback trading) by foreign investors before the crisis. As Bowe and Domuta (2010) for Indonesia, disagree with the study and report no evidence that trades by foreign investors have a destabilizing effect on Korea’s stock market. Recently, Holmes et al. (2013) employ the Sias (2004) methodology and monthly institutional holdings data for Portugal and find evidence of herding; further analysis under different market conditions indicates that institutional herding is more intentional rather than spurious and due to reputation reasons. There is also evidence to indicate that hedge fund managers may herd.

5.4 Conclusions

5.4.1 Effect of Overconfidence Behavior on Individual Investment Decision Making in the NSE

The study concludes that there is a strong positive correlation between overconfidence behavior and investment decision making standing at 69.10%. Thus, behaviors such as investors underestimating, underlying risks, overestimating their knowledge and exaggerating their ability are responsible for the high positive correlation. Findings agree that the most active traders often make lower returns on their investments as results show 48% of respondents agree to have high expectations on the stocks that they choose to generate better returns.
5.4.2 Effect of Anchoring Behavior on Individual Investment Decision Making in the NSE

On the effect of anchoring behavior, the study concludes that the correlation between the two variables was low. The study established that respondents had adequate data and know-how of the investment decisions that they were carrying out in the stock market hence a low correlation. In addition, respondents don’t put too much weight on recent experiences and the assumption that current prices are the correct prices instead they look out for new market information that relates to their portfolio and use the new information to evaluate their investment decision.

5.4.3 Effect of Herding Behavior on Individual Investment Decision Making in the NSE

The study concluded that there was a strong positive correlation of 61.30% between herding and investment decision making. Behaviors’ such as rumors in the market affects investors’ decision making power, uncertainty of how to act in a given situation results to investors emulating others behavior, lastly, most investors find it easy to imitate the behavior of other people are mainly responsible for the high correlation.

5.5 Recommendations

5.5.1 Suggestions for Improvement

5.5.1.1 Effect of Overconfidence Behavior on Individual Investment Decision Making in the NSE

Since overconfidence had positive impacts on the investment decision, individual investors at the NSE should only be overconfident at an acceptable level to utilize their skills and knowledge to improve the investment results and not fully trust their knowledge of the current on going in the market and industry. It helps investors make decisions in environments marred with certainty, but should not completely clog one judgments when making investment decisions. There is also need to train investors in the investment valuation methods, to improve their mental accounting prowess.
5.5.1.2 Effect of Anchoring Behavior on Individual Investment Decision Making in the NSE

Regression analysis on the correlation between anchoring and investment decision making depicted a low correlation. Investors should adopt doing thorough research when making investment decision in order to avoid any uncertainty due to an increase in the access to information and be more conversant with the decision to be addressed.

5.5.1.3 Effect of Herding Behavior on Individual Investment Decision Making in the NSE

The study established a positive relationship between herding and investment decision making. There is a need to rigorously analyze past events, seeing that they influence the behavior of the investor. Investors should only choose reliable people to use as references when making decisions. Not everyone who tells you something acts in your best interest. Information be verified independently before relying on it, and sometimes one needs to step away from what the crowd is doing in order to make better judgments’.

5.5.2 Recommendations for Further Research

Further studies are recommended to confirm the findings of this research on behavioral finance related to individual investors decision making processes. Securities and investment firms should use these findings as reference for their analysis and prediction of the trends of the security market. Investors should be educated in order to manage and balance the effect of behavioral influences with respect to decision making. Investors should also carefully consider and carry out research before making investment decisions and should not be carried away by their earlier loss or their future investment decisions.

In addition, investor education is paramount to overcoming unfavorable investment outcomes caused by behavioral biases. In order to manage the excesses of behavioral influences to investment decision making, training programs that create investor awareness and ability to identify and guard against overconfidence, anchoring and herding biases that lead to bad investment choices should be offered to individual investors’. Need for public campaign to increase awareness for basic investment principles’ as this is likely to help many individual investors make better decisions.
Other statistical analysis tools other than regression analysis be used when doing further research on the effect of behavioral finance on investment decision, such include factor analysis.
REFERENCES


APPENDICES

Appendix 1: Study Questionnaire

APPENDIX 1: STUDY QUESTIONNAIRE

This study is a requirement for the fulfillment of Masters in Business Administration (MBA) degree. The study aims to examine the behavioural factors influencing individual investment decisions in the Nairobi Securities Exchange by University Students. Any information given will be treated with utmost confidentiality. Your assistance will be highly appreciated.

SECTION A: GENERAL INFORMATION

Kindly answer all the questions either by ticking or commenting on the boxes or writing in the spaces provided

1. Please tick against your appropriate gender
   i. Male
   ii. Female

2. Please indicate your age bracket
   i. 17 - 25 years
   ii. 26 - 30 years
   iii. 31 - 35 years
   iv. >36 years

3. Please indicate your level of Study
   i. Undergraduate
   ii. Graduate

4. Please indicate your appropriate school of study
   i. Chandaria School of Business
   ii. School of Humanities
   iii. School of Science
5. How long have you invested in the stock market?
   i. < 3 years □
   ii. 3-6 years □
   iii. 7-10 years □
   iv. > 11 years □

6. How often have your investment decisions proved to be right?
   i. < 25% □
   ii. 26%-50% □
   iii. 51%-75% □
   iv. > 75% □

7. Did you have any financial training before making the investment decision?
   i. Yes □
   ii. No □

8. What is your objective in investing in the stock market
   i. Take benefit from the daily price fluctuations □
   ii. Earn steady income in the form of dividends/Interest □
   iii. Combination of income and capital gain □

9. Please estimate your average annual returns
   i. < 5% □
   ii. 6%-10% □
   iii. 11%-15% □
   iv. >15% □
SECTION B: EFFECTS OF OVERCONFIDENCE BEHAVIOUR IN INDIVIDUAL INVESTMENT DECISION MAKING IN THE STOCK MARKET

Please indicate the extent to which you agree with the following aspects of overconfidence behavior apply to you when making an investment decision. Please tick (√) appropriately on a scale of 1-5: 1- Strongly Agree, 2 – Agree, 3 – Uncertain, 4 – Disagree, 5 – Strongly disagree.

<table>
<thead>
<tr>
<th>Overconfidence</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am an experienced investor.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I feel more confident in my own investment opinions over opinions of others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I consult others before making an investment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I use my predictive skills to time the market and to make my portfolio performance higher than the market performance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I trade stocks excessively.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I have the ability to choose stocks that perform better in the market.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I have high expectations on the stocks that I choose generate better returns beyond market expectations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I believe my investment performance supersedes other investors that am acquainted with</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SECTION C: EFFECTS OF ANCHORING BEHAVIOUR IN INDIVIDUAL INVESTMENT DECISION MAKING IN THE STOCK MARKET

Please indicate the extent to which you agree with the following aspects of anchoring behavior apply to you when making an investment decision. Please tick (✓) appropriately on a scale of 1-5: 1 – Strongly Agree, 2 – Agree, 3 – Uncertain, 4 – Disagree, 5 – Strongly disagree.

<table>
<thead>
<tr>
<th>Anchoring</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I consider the past performance of a stock before investing in it.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I am likely to sell my stock after the price hits recent year high.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I am unlikely to buy a stock if it is more expensive than last year.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I see the stock price being high if it has increased from the previous year.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I use the stock purchase price as a reference point for trade.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I often end up sticking with a losing stock (wrong investment decision) for too long.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I look out for new market information that relates to my portfolio and use the new information to evaluate my investment decision.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Does the history performance of a stock influence your present investment decision?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION D: EFFECTS OF HERDING BEHAVIOUR IN INDIVIDUAL INVESTMENT DECISION MAKING IN THE STOCK MARKET

Please indicate the extent to which you agree with the following aspects of herding behavior apply to you when making an investment decision. Please tick (√) appropriately on a scale of 1-5.

1- Strongly Agree, 2 – Agree, 3 – Uncertain, 4 – Disagree, 5 – Strongly disagree.

<table>
<thead>
<tr>
<th>Herding</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I usually invest in companies I am familiar with.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I find it easy to imitate the behavior of other people.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I prefer to follow group behavior in risky financial products.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Rumors in the market affect my own investment decisions making power.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I prefer to follow group decisions to protect my current level of status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I would like to invest in those stocks where my friends and family have done the investment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. When I am uncertain how to act in a given situation, I look to the behavior of others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I protect my interest by intentionally replicating others decisions because I believe decisions made by others better.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I rely on the opinion of my family, friends or peer group while investing in international markets.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

THANK YOU FOR TAKING YOUR TIME TO COMPLETE THE QUESTIONNAIRE.
Appendix 2: Letter from Institution

TO WHOM IT MAY CONCERN.

1ST JULY, 2019
Dear Sir/Madam,

REF: PERMISSION TO CONDUCT RESEARCH – SUSAN WANGARI
STUDENT ID. NO. 650203

The bearer of this letter is a student of United States International University (USIU) - Africa pursuing a Masters of Business Administration.

As part of the program, the student is required to undertake a dissertation on the “Influence of Behavioral Biases Influencing Individual Investment Decisions by University Students: A Case of United States International University- Africa,” which requires her to collect data.

Please note that information provided will be treated with utmost confidentiality and will only be used for academic purposes.

Kindly assist the student get the appropriate data and should you have any queries contact the undersigned.

Yours Sincerely,

[Signature]
Prof. Amos Ngunga,
Dean – School of Graduate Studies, Research and Extension
Tel. 730 116 442
Email: amonngunga@usiu.ac.ke
Appendix 3: Nacosti Certificate

![Research License](image-url)