

THE EFFECTS OF BEHAVIOURAL FACTORS ON INVESTMENT DECISION
MAKING BY UNIT TRUST COMPANIES IN KENYA

RASTUS MATANYI SHIKUKU

D61/60678/2010

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION (MBA), SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

AUGUST, 2012

DECLARATION

I, the undersigned, declare that this project is my original work and that it has not been presented in any other university or institution for academic credit.

Signature ..J^TV^P.....Date .. ft.T.Xlr..

NAME: RASTUS MATANYI SHIKUKU, REG: D61/60678/2010

This project has been submitted for examination with my approval as university supervisor.

Supervisor: Signed y ^ ^ ^ i r.....Date M i l l J. P ^ } ^]

NAME: MOHAMED N. MWACHITI,
LECTURER DEPT. OF FINANCE & ACCOUNTING

DEDICATION

I dedicate this project to my family & friends who supported me. May the Almighty God bless you all.

ACKNOWLEDGEMENTS

First I give my sincere gratitude to the Almighty God for the gift of life and strength that enabled me to undertake this course at the University of Nairobi. I also appreciate the valuable contribution of all my colleagues together with whom we have laboured to this far end. Lastly I wish to express my gratitude to my supervisor, Mr Mohamed N. Mwachiti and moderator, Mr. Mirie Mwangi for their support in the course of my research work.

ABSTRACT

Behavioral finance attempts to investigate the psychological and sociological issues that influence investment decision making process of individual and institutions. It also considers how various psychological traits affect how individuals or groups act as investors, analysts, and portfolio manager. The study investigated the effects of behavioral factors on investment decisions making by unit trust companies in Kenya. Literature has documented that individual and even institutional investors have embraced heuristics in their investment decision making. The study therefore sought to establish whether heuristics (overconfidence behavior, herd behavior, and anchoring behavior) affect investment decisions in unit trusts.

Descriptive design study was used through census survey of eleven unit trust companies. Semi structured questionnaire was used for data collection with 100% response rate being registered. Drop and pick later method was used to distribute the questionnaires. Analysis was done using Statistical Packages for Social Scientists. Descriptive statistics and correlation analysis were used to summarize the research findings.

The study established that unit trusts' investment decisions are affected by overconfidence, herd, and anchoring behaviors. Unit trust managers tend to be overconfident while making investment decisions. Their decisions are also affected by experience of their past performance suggesting the effect of anchoring. Herd behavior is not common among the unit trust manager as most of them prefer making their own decisions. According to the findings, managers who are overconfident are also likely to follow the masses in decision making.

Behavioral finance models are not empirically supported and therefore should not be used in isolation for investment analysis by unit trusts. Investors on the other hand should be cognizance of the fact that fund managers are not immune from behavioral biases while making investment decisions. They should therefore closely monitor their investments' performance and actions of fund managers to ensure that these biases are eliminated.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	ix
ABBREVIATIONS	x
CHAPTER ONE	1
1.0 INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.1.1 Financial Markets.....	1
1.1.2 Efficient Market Hypothesis.....	2
1.1.3 Unit Trust Companies.....	3
1.1.4 Investment Decisions.....	4
1.1.5 Behavioral Aspects of Investment Decisions.....	5
1.1.5.1 Herd behavior.....	6
1.1.5.2 Overconfidence.....	7
1.1.5.3 Anchoring.....	7
1.2 Statement of the Problem.....	8
1.3 Objective of the Study.....	9
1.4 Importance of the study.....	9
CHAPTER TWO	10
2.0 LITERATURE REVIEW.....	10
2.1 Introduction	10
2.2 Theoretical Review.....	10
2.2.1 Standard Financial Models.....	10
2.2.2 Behavioral Models.....	14
2.2.2.1 Prospect Theory.....	15
2.2.2.1.1 Loss aversion and cognitive dissonance.....	16
2.2.2.1.2 Mental Accounting.....	17

2.2.2.2 Heuristics	17
2.2.2.2.1 Herd behavior	18
2.2.2.2.2 Overconfidence and Representativeness	18
2.2.2.2.3 Belief perseverance and anchoring	20
2.2.2.3 Empirical evidence on behavioral influence	20
2.2.3 Summary of the chapter	21
CHAPTER THREE	23
3.0 RESEARCH METHODOLOGY	23
3.1 Introduction	23
3.2 Research Design	23
3.3 Target Population	23
3.4 Data Collection Tools and Procedure	23
3.5 Validity and Reliability	24
3.6 Data Analysis and Presentation	24
CHAPTER FOUR	26
4.0 Data Analysis and Interpretation	26
4.1 Introduction	26
4.2 Behavioral Characteristics	26
4.2.1 Anchoring	27
4.2.2 Overconfidence	28
4.2.3 Herd Behavior	30
4.3 Analysis and Interpretations	31
CHAPTER FIVE	33
5.0 SUMMARY, CONCLUSIONS, POLICY RECOMMENDATION, LIMITATIONS, & SUGGESTIONS FOR FURTHER RESEARCH	33
5.1 Introduction	32
5.2 Summary of findings	33
5.3 Conclusions	36
5.4 Policy Recommendations	37
5.5 Limitations of the study	38
5.6 Suggestions for further research	38
REFERENCES	39

APPENDICES

Appendix I

Appendix II....

LIST OF TABLES

Table 1' Do y ^o u evaluate investments using quantitative financial models?.....	26
Table 2' Sometimes quantitative financial models do not yield true representation of the market behavior.....	26
Table 3" We use our personal judgment and experience to predict the market behavior.....	27
Table 4' Does the past history influence your present investment decisions.....	27
Table 5: In the selection of investment options, do you base decision on the past performance of various investments?.....	28
Table 6: For an investment whose historical performance has been consistently excellent, how do you treat it in the subsequent selection?.....	28
Table 7: Based on your expertise you do not need advice from investment experts.....	29
Table 8: Does you institution consult experts before investing in particular options?.....	29
Table9: Where do you get information for ycur investment decisions ?.....	29
Table 10: Some unit trusts make decisions br sed on information available to others.....	30
Table 11: Portfolio performance for the last four years.....	30
Table 12: Relationship between overconfldence and herd behavior.....	31
Table 13: Relationship between herd and anchoring behavior.....	31
Table 14: Relationship between anchoring and overconfldence.....	32
Table 15: Relationship between overconfldence and portfolio performance.....	32
Table 16: Relationship between herd behavior and portfolio performance.....	32
Table 17: Relationship between anchor and portfolio performance.,.....	33

ABBREVIATIONS

Capital Markets Authority

Capital Asset Pricing Model

Efficient Markets Hypothesis

Earning Per Share

Initial Public Offer

Modern Portfolio Theory

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

1.1.1 Financial Markets

Financial markets provide the mechanisms that link surplus and deficit units by providing **the means** for surplus units to deficit units with additional options. An efficient financial **sector helps investors** to allocate their savings through financial markets and institutions **rather than** buying non-productive assets as a store of value (Herring & Santomero, 1991).

Financial markets encompass various participants (borrowers, lenders, financial intermediaries, brokers, investment managers, investment advisors) whose dealings in financial claims or groups of claim and the manner in which their demands and requirements interact to set a price for such claims (Fouere, 1987). Capital markets are an essential part of the financial sectors of modern economies and more so for growing economies. Well developed capital markets promote economic growth through increased savings and mobilization, access to foreign savings, spreading of financial risk, and a facilitating role in translating savings to investments.

In a nonergodic world, financial markets have the primary function of providing liquidity rather than establishing efficient prices which cannot be known (Davidson, 2002). Financial markets such as stock markets make illiquid assets liquid for investors (Raines & Leathers, 2011). Given the Keynesian human nature and the uncertain future, (Davidson 2002), people are willing to hold financial assets as long as they believe that if anything changes, a fast exit strategy is provided by a well-organized stable financial market. The low transaction costs in moving from financial assets to money (liquidity) allow people to think that their wealth holdings are highly liquid (Davidson, 2002).

During the past years, the equity markets have been characterized by increasing volatility and fluctuations. The ever more integrated financial markets are increasingly exposed to macroeconomic shocks which affect markets on a global scale. From an investor's point

f view the vulnerability of markets has led to increased uncertainty and unpredictability **as market conditions cannot** always be judged with the help of standard financial **measures and** tools (Johnson et al. 2002)

1.1.2 Efficient Market Hypothesis

The Efficient Market Hypothesis argues that competition between investors seeking **abnormal profits** drives prices to their correct value (Ritter, 2003). Johnson et al (2002) **note that financial** prices incorporate all available information and prices can be regarded **as optimal estimates** of true investment value at all times. According to Shiller (1998), **the Efficient** Market Hypothesis is based on the notion that people behave rationally, **maximize expected** utility accurately and process all available information. The EMH **does not assume** that markets can foresee the future, but it assumes that markets make **unbiased forecasts** of the future. Behavioral finance in contrast assumes that in some **circumstances**, financial markets are informationally inefficient (Ritter, 2003)

Market participants have for a long time relied on the notion of efficient market and rational investor behavior when making financial decisions. However the idea of fully rational investors who always maximize their utility and demonstrate perfect self-control is becoming inadequate. During the recent years, examples of market inefficiency in the form of anomalies and irrational investor behavior have been observed more frequently (Johnson et al. 2002). According to Arthur (1995), one of the major puzzles in finance is that academic theorists, by and large, see markets differently from the way traders or practitioners do. The academic view sees investors as perfectly rational, from which it follows that, markets are efficient in the sense that all usable information is discounted **into current** prices. Traders or practitioners in contrast tend to see markets as offering speculative opportunities. Some traders and financial writers even see the market itself as possessing "moods", sometimes describing it as "nervous" or "sluggish" or "jittery" (Arthur, 1995).

Shiller (2000) points out that many of the experts, such as managers of university endowments who have at their exposure some of the finest scholars and university

trustees drawn from the highest ranks of business world were actively involved in the **market just** before its peak in March 2000.-Can these experts really be characterized as **irrational** or foolish? Nevertheless, that is what one apparently would have to do if one **wishes to** attribute the market behavior to human error (Johnson et al. 2002). Gwily (2009) **points** out that there is wide spread evidence that financial market practitioners **make use** of a variety of forecasting techniques, both technical analysis and fundamental **analysis in** forming their investment decisions. However mis-valuation in the market **arises** due to temporary supply and demand imbalances.

1.1.3 Unit Trust Companies

An investor can choose to purchase directly any one of a number of different securities many of which represents different types of claims on a private or government entity. Alternatively, an investor can invest in an intermediary (unit trust) which bundles together a set of direct investments and then sells shares in the portfolio of financial instruments it holds. The investor can choose to invest indirectly by purchasing the shares of unit trust (Elton & Gruber, 1995).

A Unit Trust fund according to CMA is an investment scheme that pools money together from many investors who share the same financial objective to be managed by a group of professional managers who invest the pooled money in a portfolio of securities such as shares, bonds and money market instruments or other authorized securities to achieve the objectives of the fund. In exchange of the money received from the investors, the fund issues units to investors who are known as unit holders. The fund earns income from the investment in the form of dividends, interest income and capital gains.

In Kenya Unit Trusts are regulated by CNIa, a corporate body set up in 1989 through an Act of parliament with the mandate of promoting, regulating, and facilitating the development of orderly, fair and efficient capital markets. According to CMA, Unit Trusts are the small investor's answer to achieving wide investment diversification without the need of prohibitive sums of money. As market becomes sophisticated and more volatile, unit trusts become safe havens for less sophisticated and less capitalized,

nservative individuals in the market place. Unit Trusts may offer investors special **services such as check-writing** privileges or the ability to switch between types of **investments in the same family** of funds at no costs. However, although most offer **liquidity, diversification and** professional management, they do not offer these qualities **without a cost** **Investors pay** a **pro** rata share of expenses and management fees charged **by Unit Trust fund companies** (Elton & Gruber, 1995).

Unit Trust fund is characterized by continual selling and redeeming of its shares. It sells **its shares to the investing** public whenever it can at their net asset value per share and it **stands ready to repurchase** these shares (Fischer & Jordan, 1995). According to Zimele **Asset Management Company's** guide on Unit Trusts, each Unit Trust has a specific **investment objective**, and investment guidelines developed to achieve this objective, **which guides ihe investment** activities of the fund manager.

1.1.4 Investment Decisions

Investment according to Bodie et al. (2008) is the current commitment of money or other **resources in** the expectation of reaping future benefits. Investment management is the **professional** management of investment funds for individuals, families and institutions. It **can be done** either **by** the consumer or a professional and can be passive, active, **aggressive or** conservative. The level of return will depend on internal factors and **characteristics such** as type of investment, quality of management, and how the **investment is** financed (Griffith, 1990).

Investors have difficulties making long term financial decisions for reasons such as shortsightedness, a lack of financial sophistication and inability to self regulate (Winchester et al. 2011). The individual investors can employ a team of investment professionals under the direction of a portfolio or fund manager. These individuals work full time on studying the markets, market trends, and individual stocks (Fischer & Jordan, <995). Investment decisions should be guided by predefined asset allocation decisions that incorporate an acceptable level of risk for the overall portfolio and are consistent with the goals and time horizon of the investor (Winchester et al. 2011). The willingness

t act prudently and maintain an appropriately balanced investment portfolio in the face of **f falling security prices** requires the ability to avoid behavioral impulses when making **long term asset** allocation decisions (Winchester et al. 2011).

A number of studies have been conducted pointing to market anomalies that cannot be **explained** with the help of financial theories, such as abnormal price movements in **connection** with IPOs, mergers, stock splits, and spin-offs (Johnson et al. 2002). The high **trading** volume on organized exchange is perhaps the single most embarrassing fact to the **standard finance** paradigm. It must be stressed that the high volume is not produced by **amateur** investors. The average turnover for institutional investors is much higher than **the rate** for individuals (DeBondt & Thaler, 1994). Investors have been shown not to **react logically** to new information but to be over confident to alter their choices when **given** superficial changes in the presentation of investment information (Olsen, 1998). **These** anomalies suggest that the underlying principles of rational behavior underlying **the efficient** market hypothesis are not entirely correct, and that we need to look at other **models of** human behavior, as have been studied in other social sciences (Shiller, 1998).

i.1.5 Behavioral Aspects of Investment Decisions

Much of economics and financial theories presume that individuals act rationally and **consider all** available information in the investment decision making process. Bernstein (IW6) notes that there is evidence to show repeated patterns of irrationality, **inconsistency** and incompetence in the way human beings arrive at decisions and choices **when faced** with uncertainty. Gwily (2009) argues that inefficiency in the market that **prompts** practitioners to make use of forecasting techniques is caused by traders using **simple**, heuristical forecasting rules in preference to basing their expectations on an **analysis of** the fundamentals. Behavioral finance seeks to understand and predict **systematic** financial market implications of psychological decision processes (Olsen, 1998). The contention of behavioral economics is that the level of complexity in the real **world makes** it impossible for agents to fully comprehend the markets in which they trade (Gwily, 2003). A basic question that arises from the literature is whether managers

dealing with irrational **market or whether rational market dealing with irrational managers** or both (Subrahmanyam, 2007).

Behavioral finance considers how various psychological traits affect how individuals or **groups act as** investors, analysts, and portfolio managers (Brown & Reilly, 2004). **Heuristics can be** defined as the use of experience and practical efforts to answer **questions or to improve** performance. Raines & Leathers (2011) argue that when faced **with uncertainty, people** rely on heuristics or rules of thumb to subjectively assess risks **of alternatives**, which reduces the complex tasks of assessing probabilities and predicting values **to simpler** judgmental operations.

1.1.5.1 Herd behavior

Due to the fact that more and more information is spread faster and faster, (Fromlet, 2001), life for decision makers in financial markets has become more complicated. According to Johnson et al (2002) the interpretation of new information may require heuristic decision-making rules. Research suggest that a herd mentality play an instrumental role on both sides of the equation, impacting institutional decision making and investors behavior alike (Gounaris & Prout, 2009). Keynes (1936) argues that professional investors are only concerned with what the market will value it at, under the influence of mass psychology in three months to a year. In the context of professional money managers, Hong et al. (2005) found that mutual fund managers are more likely to buy stocks that other managers in the same city are buying, suggesting that one factor impacting portfolio decisions is a word-of-mouth effect by way of social interaction between money managers. Gounaris & Prout (2009) contends that in financial planning; there are situations in which herd investment is completely appropriate. While it would be unwise to make investment decisions in a vacuum, Gounaris & Prout (2009) argue that 't is equally important that financial professionals employ a healthy dose of skepticism when herd is clearly moving en mass in a certain direction. Investors with no access to 'inside information (Thaler, 1993) irrationally act on noise as if it were information that would give them an edge.

1.1.5.2 Overconfidence

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

fx

1.1.5.3 Anchoring

Tversky & Kahneman (1974) identified the systematic biases in judgment and their **applied** implications associated with three common biases: representativeness, **availability** and adjustment, and anchoring. Anchoring occurs as investors assume that **current prices** are about right, putting too much weight on recent experiences (Raines and **Leathers**, 2011). Gvily (2009) observed that heterogeneous agents make portfolio choice **based on** expectations that are not rational in conventional sense, but based on one or two **heuristic** rules. Agents keep switching between the rules depending on how **profitable** the rule was in the preceding period, this according to him suggests some form

f status quo bias as suggested by Tversky & Kahneman (1974). Investors often fail to do **enough** research because there is simply too much data to collect and analyse. Instead, **they take action** based on a single factor figure that should have little or no bearing on **their decision**, while ignoring more important information (Chandran, 2008).

1.2 Statement of the problem

There is huge psychology literature documenting that people make systematic errors in **the** way that they think; they are overconfident, they put too much weight on recent **experience** etc. This preference may create distortion. The field of behavioral finance **attempts** to investigate the psychological and sociological issues that influence **investment** decisions making process of individual and institutions (Subrahmanyam, 2007). In the recent years, the Kenyan market has witnessed tremendous rise in the **number** of companies applying to be listed on the Nairobi Stock Exchange. Investors on **the other** hand have responded positively as it is evidenced through repeated oversubscriptions for shares. However many investor have had to endure the pain of **losses** due to following the masses and being overconfident as it was exemplified in the just concluded Salaricom and Eveready Initial Public Offers.

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

knowledge, local studies have not adequately addressed the effects of behavioral aspects of investment decisions in unit trusty. This research paper attempts to fill this gap by analyzing heuristical factors (overconfit⁴ence, anchoring, and herd behavior) and their effects on investment decisions in unit trusts companies.

1.3 Objective of the study

The objective of the study was to determine the effects of behavioral factors on investment decision making by Unit Trust Companies in Kenya.

1.4 Importance of the study

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

The findings of the study are expected to assist investors and investment managers in understanding the contribution of psychological and emotional factors towards their investment decisions. It will help investors and managers to formulate appropriate strategies that will help to minimize the negative impact of such influences. The statistics provided will form a basis for self evaluation by fund managers in light of their previous decisions to gauge the extent of their biasness and make necessary adjustment.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews the existing literature on behavioral finance and investment decision **making**. **In** particular it reviews the theoretical studies on both the standard models of **finance** and the behavioral financial models with specific highlights on areas of deviation.

2.2 Theoretical Review

2.2.1 Standard finance models

Standard finance is the body of knowledge built on the pillars of the arbitrage principles of Miller and Modigliani, the Portfolio Principles of Markowitz, the Capital Asset Pricing theory of Sharpe, Lintner and Black, and the Option-Pricing theory of Black, Scholes and Merton (Statman, 1999). These approaches consider markets to be efficient and highly analytical and normative.

The basic question facing all investors is which securities to invest in. Most investors **according** to Samal (1995) have eight common needs from their investments: security of **original** capital; wealth accumulation; comfort factor; tax efficiency; life cover; income; **simplicity**; ease of withdrawal; and communication. Lofthouse (2001) suggests that all **investors** must consider investment objectives; asset classes to include in the portfolio; **weights** assigned to various asset classes; the selection strategies to use with each asset **class and** evaluation of the other four steps.

An investor's portfolio is simply his collection of investment assets (Bodie et al., 2008). Portfolios according to Fischer & Jordan (1995) are combination of assets. Traditional portfolio planning called for the selection of those securities that best fit the personal needs and desires of the investor. Modern portfolio theory on the other hand suggests that traditional approach to portfolio analysis, selection, and management may well yield less ¹ an optimum results-that a more scientific approach is needed based on estimates of risk and TM return of the portfolio and the attitude of the investor toward a risk-return trade-off stemming from the analysis of the individual security (Fischer & Jordan, 1995). Investors

make two types of decisions in constructing their portfolio: the asset allocation decisions are the choice among the broad asset classes; while security selection is the choice of **which** particular securities to hold within each asset class (Bodie et al. 2008).

A portfolio mix simply means the approach to diversify one's investment or to hold **various** assets in order to avoid the risk of total failure. The basic principle in investment is to compare investment proposals with alternative investments. The ideal investment strategy should be a customized one for each investor depending on his risk-return **profile**, his satisfaction level, his income and his expectation (Samal, 1995). Accurate planning gives accurate results. And for that, there must be an efficient and trustworthy roadmap to achieve the ultimate goal of wealth maximization. As long as the investment strategy matches the needs of investor according to the priority assigned to them, he should be happy (Samal, 1995).

Generally investment is distinguished from speculation by the time horizon of investor and often by risk-return characteristics of the investment. Fischer & Jordan (1995) argue that true investor is interested in a good rate of return earned on a rather consistent basis for relatively long period of time. The speculator seeks opportunities promising very large returns, earned rather quickly. The speculator is less interested in consistent performance than is the investor and is more interested in the abnormal, extremely high rate of return than the normal, more moderate rate. Furthermore the speculator wants to get these high returns in a short time and then seek greener pastures in other investment outlets.

After understanding the concept of investment, the investor would like to know how to go about the task of investment, how much to invest at any time and when to buy or sell securities. This according to Samal (1995) depends on investment process as investment policy, investment analysis, valuation of securities, portfolio construction, and Portfolio evaluation and revision. Portfolio selection entails choosing the one best Portfolio to suit the risk-return preference of investor (Fischer & Jordan, 1995). Every investor tries to derive maximum economic advantage from his investment activity. For

B

UNIVERSITY OF NAROB

'OVVEP SUBIETE
LIBRARY

evaluating an investment avenues are based upon the rate of return, risk and uncertainty, capital appreciation, marketability, tax advantage and convenience of investment (Samal, 1995). In most cases the right investment is a balance of the three things: liquidity, safety, and return.

Risk or uncertainty refers to the variability of returns associated with a given asset. Traditional security analysis recognizes the key importance of risk and return to the **investor** (Fischer & Jordan, 1995). The basic problem facing investors is to determine **which** particular risky securities to invest in. The simple fact that securities carry differing degrees of expected risk leads most investors to the notion of holding more than **one** security at a time in an attempt to spread risk by not putting all their eggs in one **basket**. Modern portfolio theory indicates the significance of diversification to reduce the **total** portfolio risk, but it also shows to investors how they can effectively diversify by **picking** assets that tend to have dissimilar price movements (Fischer & Jordan, 1995).

Markowitz (1952) developed modern portfolio theory (MPT). This basic portfolio model suggests that the variance of the rate of return is a significant measure of portfolio risk under a certain set of assumptions related to investor behavior. Markowitz suggested that to choose profitable investments, it is not enough to look at the relationship between risk and return. Investors should focus on the significance of diversification to reduce the total portfolio risk, but they also learn how they can effectively diversify.

The basic assumption of the modern portfolio theory is that investors are willing to maximize their return on investment for a given level of risk. However investors are fundamentally risk averse which means that if they have to choose between two assets with equal rates of returns they are more likely to choose the asset with the lower level of **risk**. Markowitz (1952) demonstrated further that because investors are risk averse they need to combine assets into efficiently diversified portfolios. However MPT assumes that Portfolio risk can be reduced if investors focus on the variability of expected returns. To achieve that, investors should pick assets that tend to have dissimilar price movement.

To identify the best level of diversification, Markowitz suggested the efficient frontier, **which** suggests that for each level of risk there is a portfolio that offers the highest return **and** for each level of return there is a portfolio that offers the lowest risk. By plotting all **these** combinations on a graph, the resulting line is the efficient frontier. Portfolios that **are** positioned on the upper part of the curve are efficient because they provide maximum **expected** return at a given level of risk, and these are portfolios that rational investors **should** choose. According to Markowitz, the expected rate of return on a portfolio is simply the weighted average of the expected returns of the individual securities in the portfolio. The riskiness of a portfolio is measured by the standard deviation of its return distribution. It depends on the correlation of the assets making up the portfolio. **Correlation** is the tendency of the returns of two assets to move together measured by the **correlation** coefficient.

i

In 1964, William Sharpe extended Harry Markowitz's theory to introduce the notion of systematic risk and non-systematic risk. Sharpe developed the Capital Asset Pricing Model (CAPM) that considers a simplified world where all investors aim to maximize economic utility, are rational and risk averse, are price takers, can lend and borrow unlimited under the risk free rate of interest, trade without transaction or taxation costs, deal with securities that are all highly divisible into small parcels, have identical investment horizons, have identical options about expected returns, volatilities and correlations of available investments, and assume all information is at the same time available to all investors.

CAPM starts with the idea that individual investments contain two types of risks. First, systematic risk is the risk of holding the market portfolio. These are market risks that cannot be diversified away. As the market moves each individual asset is more or less affected. To the extent that any asset participates in such general market moves, that asset entails market risk. Secondly, non-systematic risk is the risk which is unique to an individual asset. This risk can be diversified away as the investor increases the number of stocks in his or her portfolio. In more technical terms, it represents the component of an asset's returns which is uncorrected with general market moves (Pandey, 2008).

Modern portfolio theory shows that non-systematic risk can be removed through diversification. The trouble is that diversification doesn't solve the problem of systematic risk; even a portfolio of all the shares in the stock market can't eliminate that risk. Therefore, when calculating a deserved return, systematic risk is what plagues investors most. CAPM therefore evolved as a way to measure this systematic risk (Brigham & Ehrhardt, 2005). Sharpe (1964) found that the return on an individual stock or a portfolio of stocks should equal to the cost of capital. The CAPM model is of the form:

$$E(R_j) = R_f + \beta_i (R_m - R_f);$$

Where;

$E(R_j)$ is the expected return on the security j ;

R_f is the risk free rate of interest;

β_i is the beta coefficient which is the sensitivity of the expected asset returns to the expected market returns;

$(R_m - R_f)$ is the market premium.

2.2.2 Behavioral Models

From mid 1950s the field of finance has been dominated by the traditional finance model. The central assumption of the traditional finance model is that people are rational. However, psychologists challenged this assumption. They argued that people often suffer from cognitive and emotional biases and act in a seemingly irrational manner.

In its attempt to model financial markets and the behavior of firms (DeBondt & Thaler, 1994), modern finance theory starts from a set of normatively appealing axioms about individual behavior. Specifically people are said to be risk averse, expected utility maximizes and unbiased Bayesian forecasters, i.e. agents make rational choices based on rational expectations. As noted by Olsen (1998), behavioral finance advocates recognize that the standard finance models of rational behavior and profit maximization can be true within specific boundaries, but they assert that it is an incomplete model since it does not consider individual behavior. It is argued that some financial phenomena can be better explained using models where it is recognized that some investors are not fully rational or

realize that it is not possible for arbitrageurs to offset all instances of mispricing (Barberis & Thaler, 2003).

Over the past twenty years (DeBondt & Thaler, 1994), psychologists (most notably Daniel Kahneman & Amos Tversky) have found again and again that the usual axioms of finance theory are descriptively false. Raines & Leathers (2011) argue that institutional **conduits** allow the psychological propensities to drive financial behavior. With rational calculation of long-term yields from investments being impossible, Raines and Leather argue that investors lack confidence in their own judgment and rely instead on conventional judgment. Professional investors according to Keynes (1936) are only concerned with what the market will value it at, under the influence of mass psychology in three months to a year.

The following are some of the basic findings and principal theories within behavioral finance that contradicts the basic assumptions of standard finance theories.

2.2.2.1. Prospect Theory

Prospect theory according to Ritter (2003) is a descriptive theory under uncertainty. It is a mathematically formulated alternative to the theory of expected utility maximization (Johnson et al. 2002). This theory was developed by Professor Daniel Kahneman and Amos Tversky in 1979. It focuses on changes in wealth, whereas expected utility theory focuses on level of wealth (Ritter, 2003). The theory describes how people frame and value decisions involving uncertainty by looking at choices in terms of potential gains or losses in relation to a specific reference point which is often the purchase price. Kahneman and Tversky (1979) argue that investors value gains/losses according to an S-shaped utility function.

The reference point is determined by each individual as a point of comparison. For wealth levels under the reference point investors are risk seekers i.e. they are prepared to make riskier bets in order to stay above their preferred target level of wealth. Whereas for wealth levels above this reference point, the value function is downward sloping in line

with conventional theories and investors are risk averse. Kahneman and Tversky asserted that people are risk lovers for losses (Johnson et al. 2002). The utility function is concave for gains meaning that people feel good when they gain, but twice the gain does not make them feel twice as good. The utility function is convex for loss meaning that **people** experience pain when they lose, but twice the loss does not mean twice the pain.

2.2.2.1.1 Loss aversion and cognitive dissonance

Cognitive dissonance refers to the psychological conflict resulting from incongruous beliefs and attitudes held simultaneously. This concept was introduced by psychologist **Leon** Festinger in the late 1950s. He and other researchers showed that when confronted with challenging new information most people seek to preserve their current understanding of the world by rejecting, explaining away, or avoiding the new information or by convincing themselves that no conflict really existed (Chandra, 2008). Loss aversion and regret are often the underlying motivations for what appears to be irrational investment behavior (Gounaris & Prout, 2009).

Kahneman and Tversky sought to provide a theory that describes how decision makers actually behave when confronted with choices under uncertainty. Empirical tests indicate that losses are weighted about twice as heavily as gains—losing \$1 is about twice as painful as the pleasure of gaining \$1 (Johnson et al. 2002). This can also be expressed as the phenomena in which people will tend to gamble in losses i.e. investors will tend to hold on to losing positions in the hope that prices will eventually recover. Gounaris & Prout (2009) argue that as financial professionals rebuild client trust in the face of uncertainty and skepticism, loss aversion is likely to play a prominent role in the dialogue and subsequent decisions. Consequently, they note, advisors face two challenges: 1) the fear of further loss is more powerful than any objective logical data that minimizes the likelihood of loss, and 2) people are largely unaware of the dynamics operating between their feelings about loss and their emotional state or financial decisions.

2.2.2.1.2 Mental Accounting

Mental accounting describes the tendency of people to place particular events into **different** mental accounts based on superficial attributes (Shiller, 1997). Shiller (1997) suggest that investors place their investments into arbitrarily separate mental **compartments and** react separately **and** in different ways to the investment based on **which** compartment they are in.

Thaler (1999) argued that mental accounting includes three components. The first compartment captures how outcomes are perceived and experienced and then how decisions are made and subsequently evaluated. The second part of mental accounting assigns the activities to specific accounts. The third component is concerned with the frequency with which accounts are evaluated. Each of the components of mental accounting violates the economic principle of fungibility. Consequently, decision choices are influenced (Chandra, 2008).

Mental accounting affects not only the personal finances but is common phenomenon in the complex world of investment. When an investor buys a new stock, he starts maintaining a new virtual account for this stock in his mind. Each decision, action, and outcome about that stock is placed in that account. So has each investment of its own. Once an outcome is assigned a mental account it is difficult to view that outcome in another way. When interaction among assets in different accounts are overlooked, this mental process can adversely affect investor wealth (Chandra, 2008)

2.2.2.2. Heuristics

Heuristics, which expresses that individuals have tendency to make judgments quickly, ^{are} simplifying strategies used to approach complex problems and limit explanatory ^{formation}. Individual investors tend to take decisions usually by trial and error method thus developing rules of thumb. To put it simply, investors use rules of thumb in order to Process complex information so as to make investment decisions. Sometimes it may lead ^{to} a favorable decision, but many a times it may result in unfavorable and poor decision outcomes (Chandra, 2008).

due to **the** fact that more and more information is spread faster and faster, life for **decision** makers in financial markets has become more complicated. This implies **increased** use of heuristics which is often a mostly inevitable approach but not always beneficial (Fromlet, 2001). The interpretation of new information may require heuristic **decision**-making rules, which might later have to be considered (Johnson et al. 2002).

2.2.2.2.1 Herd behavior

Herd behavior is a form of heuristics **where** individuals are led to conform to the majority of individuals present in the decision-making environment, by following their decisions. **However, herd** behavior, as **with** other heuristics may lead **people** astray **when they** follow e.g. a general market trend. A fundamental observation about the human society is that **people** who communicate regularly **with** one another think similarly (Johnson et al. 2002). Across situations **and** cultures, psychologists have found that humans employ such **social** comparisons to inform their beliefs **and** decisions even **when** it contradicts facts or their **better** judgment (Gounaris & Prout, 2009).

People are influenced by their social environment and they often feel pressured to conform. Gounaris & Prout (2009) argue that humans are deeply social beings, dependent on each other for survival. When they make decisions especially when they feel unsure or threatened, they watch what others do and then copy them.

2.2.2.2.2 Overconfidence and Representativeness

Representativeness is the tendency for people to try to categorize events as typical representative of well-known class (Kahneman & Tversky, 1974). In the stock market, for example, investors might classify some stocks as growth stocks based on a history of consistent earnings, growth, ignoring the likelihood that there are very few companies that will keep growing (Johnson et al. 2002). Raines & Leather (2011) argue that the tendency to make numerical predictions of values of stocks that is representative of the Ascriptions of the companies but ignoring the reliability of those descriptions results in ^{0v}erreliance on stereotypes and the underweighting of base rate information. Kahneman & Tversky (1974) show that people have a tendency to categorize events as typical

representative of a well known class and then, in making probability estimates to overstress the importance of such categorization disregarding evidence of the underlying **probabilities**.

According to Barber and Odean (2001), individuals turn over their stock investments about 70 per cent annually. Carhart (1997) contents that mutual funds have similar turnover rate. Yet those individuals arid mutual funds that trade most earn the lowest returns. Barber and Odean (2001) believe that there is a simple and powerful explanation for the high levels of counterproductive trading in financial markets which Bondt & Thaler (1994) also contents with: overconfidence. Odean (1998) shows that overconfident investors- who believe that the precision of their knowledge about the value of a security is greater than it actually is - trade more than rational investors and that doing so lowers their expected utilities.

People tend to exaggerate their talents and underestimate the likelihood of bad outcomes over which they have no control. The combination of overconfidence and optimism causes people to overestimate the reliability of their knowledge, underestimate risks and exaggerate their ability to control events, which leads to excessive trading volume and speculative bubbles (Johnson et al. 2002). Barberis & Shleifer (2003) argue that the tendency of investors to heuristically categorize objects can lead to the emergence of styled-based mutual funds. Doukas & Petmczas (2005) find support for self-attribution hypothesis in the market for corporate control. Specifically, they find that managers earn successfully smaller returns in each successive acquisition suggesting they become more and more overconfident with each successful acquisition. In experimental setting, Johnson et al. (2002) observes that people tend to show excessive confidence about their own judgments. Overconfidence can also be traced to the representativeness heuristic (Kahneman & Tversky, 1974), a tendency for people to try to categorize events as typical or representative of a well-known class.

2.2.2.2.3 Belief perseverance and anchoring

Belief perseverance means that (Brown & Reilly, 2009) once people have formed opinion (on stock or a company) they cling to it too tightly and for too long. As a result they are very skeptical about it or even misinterpret such information. Anchoring refers to the decision-making process where quantitative assessments are required and where these assessments may be influenced by suggestions. People have in their mind some reference points (anchors), for example previous stock prices. When they get new information they adjust this past reference insufficiently to the new information acquired (Johnson et al. 2002). Raines & Leathers (2011) argue that anchoring occurs as investors assume that current prices are about right, putting too much weight on recent experiences. The tendency of the investor to use this anchor enforces the similarity of stock prices from one day to the next (ShiHer, 2000). Brown & Reilly (2009) argue that individuals facing anchoring bias when asked to estimate something, they start with an initial arbitrary (casual) value and then adjust away from it. The problem is that the adjustment is often insufficient.

2.2.2.3. Empirical evidence on behavioral influence

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

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

that the managers are based. Hong et al. (2004) observes that stock market participation is influenced by social interaction i.e. agents that are more social in the sense of interacting more with peers at collective gathering such as church are more likely to invest in the stock market.

Chandran (2008) studied behavioral factors and their impact on investors' attitude towards risk and behavioral decision making process. The study concluded that individual investors suffer from heuristics such as representativeness, overconfidence and anchoring, cognitive dissonance, greed and fear, and regret aversion and mental accounting (drawn from prospect theory) all influence investor's perception of risk and subsequently his decision making.

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

Cohen (2005) found that many participants in the investment business still rely on EPS, to the exclusion of important measures of the firm performance, such as revenues and cash flow. This emphasis is useful to investors with limited attention and processing power. When faced with many relevant signals, investors can try to leverage their attention by focusing on more important information items. Evidence from both psychology and market behavior indicates that individuals often fail to adjust appropriately for the fact that they have left some information unprocessed (Hirshleifer et al. 2011)

2.2.3 Summary of the chapter

behavioral finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets (Sewell, 2005). It attempts to better understand and explain how emotions and cognitive errors influence investors.

Much of economic and financial theories presume that individuals act rationally and consider all available information in the investment decision-making process. Bernstein (1996) notes that there is evidence to show repeated patterns of irrationality, inconsistency and incompetence in the way human beings arrive at decisions and choices when faced with uncertainty. There is also emerging evidence that institutional investors behave differently from individual investors, in part because they are agents acting on behalf of the ultimate investors.

«

Studies have however shown that both individuals and institutional investors are affected by emotions and cognitive influences when making investment decisions. Intuitively one can presume that unit trusts managers are rational and therefore strictly observe and follow the standard finance models when making investment decision in the financial market. This however, may not be true as suggested by most studies. Hong et al. (2004) observed that stock market participation is influenced by social interaction rather than individual rational judgment of the available information. They also argue that mutual fund managers are more likely to buy stocks that other managers in the same city are buying, suggesting that one factor impacting portfolio decisions is a word-of-mouth effect by way of social interaction between money managers.

From the foregoing, it is evident that most of the studies were done in the developed world with very little having been carried out in Africa. Specifically, Unit Trusts in Kenya have not been studied to establish the extent to which psychological behavior influence the choice of their investments.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used in the study. It forms a framework for specifying the relationships among the study variables. The chapter covers various aspects of the target population, sampling techniques, data collection procedure and data analysis.

3.2 Research Design

The study employed descriptive research design. The major purpose of descriptive research design is to describe the state of affairs as it is at present. Descriptive research **according** to Mugenda & Mugenda (1999) is a process of collecting data in order to answer questions concerning the status of the subjects in the study. This type of research attempts to describe such things as possible behavior, attitudes, values and characteristics. This design was appropriate in this study because it ensured in-depth analysis and description of the various phenomena under investigation.

3.3 Target Population

According to the Capital Markets Authority (CMA) update report of 2008, there were eleven companies licensed as unit trust companies in Kenya with each operating different types of funds and making the necessary reporting in the local dailies (Appendix 1). The study employed census survey where all the unit trusts were investigated because of the small number of the population hence no sampling was required.

3.4. Data Collection Tools and Procedures.

The primary data was collected by use of semi-structured questionnaires that were filled by the respondents. The questionnaire consisted of 16 questions concerning the fundamental heuristics affecting investment decisions. These questions helped to elicit the relevant evidential information for analysis upon which the conclusions were drawn.

The questionnaires were distributed using the drop and pick later method. Pilot study was done to verify reliability and validity of the questionnaires.

3.5. Validity and Reliability.

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

3.6. Data Analysis and Presentation.

The study involved both quantitative and qualitative data. The study examined the collected data to make inferences through a series of operations involving editing to eliminate repetitions and inconsistencies, classification on the basis of response homogeneity and subsequent tabulation for the purpose of inter-relating the variables under study. Once the data was checked for completeness ready for analysis, it was coded according to the themes researched on.

The refined quantitative data was analyzed using descriptive statistics involving frequencies and percentages to determine concentrations. First, regular analysis with comparison among questions was done using frequency analysis. This made it easier to quantify and establish the variations in the number of counts observed per variable.

The second part of the analysis established the relationship among the variables. In general two variables x and y are said to be linearly related, if there exists a relationship of the form: $y = a + bx$. On the other hand the relationship between two variables is said to be non-linear if corresponding to a unit change in one variable, the other variable does not change at a constant rate but changes at a fluctuating rate. Such a relation may be of the form: $y = a + bx + cx^2$. Correlation coefficients can provide for the degree and

direction of relationships. **It** measures the association, or co-variation of two or more **dependent** variables. The statistical calculation of such correlation was done and expressed in terms of correlation coefficients. The Pearson Product Moment Correlation **Coefficient** (r) was used for this purpose. The r provided information on the direction and **magnitude** of observed relationship between two variables (X and Y).

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum X^2 - (\sum X)^2} \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

Where; r is the product moment correlation coefficient,

N is the number of scores, and

X and **Y** are the variables being correlated.

In this method, the scores obtained regarding one variable were correlated with the scores of another variable. The interpretation was given in statistical figures between -1.00 and +1.00. These two values represented the two extremes of perfect relationship: a value of $r = 0.00$ represents the absence of any relationship (Moore, 1983). If the value of r is -1.00, this indicates a perfect negative relationship. If the value of r is +1.00, this indicates a perfect positive relationship. The values in between are interpreted accordingly. The existence of a relationship between two variables implies that the scores obtained within a certain range on one measure are associated with the scores within a certain range on another measure.

CHAPTER FOUR

4.0 DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter includes statistical analysis of the research findings. From the study population of **eleven** respondents, all the questionnaires were returned, constituting 100% response rate. Statistical Package for Social Scientists (SPSS) was used for data analysis. **Frequencies** and percentages were **used** to summarize the results and presented in tabular form. The last part of this chapter includes statistical analysis and comparison of various variables using correlation analysis.

4.2 Behavioral characteristics

In order to establish the use of traditional and behavioral financial models by fund managers in their investment decisions, questions concerning their use were asked.

Table 1: Do you evaluate investments using quantitative financial models?

Response	Frequency	Percent
Yes	7	63.6
No	4	36.4
Total	11	100.0

According to the findings, 63.6% of the unit trust managers use quantitative models in evaluating their investment decisions while 36.4% do not.

Table 2: Sometimes quantitative financial models do not yield true representation of the market behavior

Response	Frequency	Percent
Yes	10	90.9
No	1	9.1
Total	1 *	100.0

90.9% of the unit trust managers believe that quantitative financial models do not yield true representation of the market behavior while 9.1% felt that they do yield true representation of the market behavior.

Table 3: We use our personal judgment and experience to predict the market behavior

Response	Frequency	Percent
Yes	9	81.8
Others	2	18.2
Total	11	100.0

From the analysis 81.8% of the fund managers who felt that quantitative financial models do not yield true representation of the market behavior reported that they use their personal judgement and experience to predict the market behavior for them to make optimal decisions. 18.2% on the other hand were indifferent on this question.

4.2.1 Anchoring

In order to discern whether past history of portfolio performance influence investment decision making by unit trust companies, question one, question four, and question twelve were asked.

Table 4: Does the past history influence your present investment decisions?

Responses	Frequency	Percent
Yes	7	63.6
Somehow	3	27.3
No	1	9.1
Total	11	100.0

63.6% of respondents reported that they are influenced by historical performance of their investments when making present investment decisions. 27.3 % reported that they are somehow affected by historical performance while 9.1% are not affected.

Table 5: In the selection of investment options, do you base decision on the past performance of various investments?

Response	Frequency	Percent
Yes	9	81.8
No	2	18.2
Total	11	100.0

To further discern the effect of anchor, question four was asked and 81.8% of the unit trusts reported that they are influenced by the past performance of their portfolios while 18.2% are not. These results are consistent with the outcomes of question one suggesting the effect of anchor in decision making.

Table 6: For an investment whose historical performance has been consistently excellent, how do you treat it in the subsequent selection?

Response	Frequency	Percent
Retain it as part of your portfolio	9	81.8
Others	2	18.2
Total	11	100.0

Question twelve sought to elicit how fund managers treat excellently performing portfolios in their subsequent selection decisions. The response rate was 81.8% all of whom indicating that they would include it in their next portfolio choices. 18.2% were indifferent to this question. This indicates that, unit trusts are not exempted from the influence of anchor in decision making.

4.2.2 Overconfidence

To establish whether overconfidence influence investment decisions in unit trusts, questions were asked relating to the effect of overconfidence.

Table 7: Based on your expertise you do not need advice from investment experts

Response	Frequency	Percent
Yes	5	45.5
No	5	45.5
Total	10	91.0

In question thirteen a statement was made for unit trust managers to indicate whether they still seek advice from other investment experts given their expertise. The response rate was 91.0% out of which 45.5% reported that they consult other experts while 45.5% do not.

Table 8: Does your institution consult experts before investing in particular options?

Response	Frequency	Percent
Yes	6	54.5
On a few options	5	45.5
Total	11	100.0

Question five was a direct question that was meant to complement question thirteen by finding out whether unit trusts managers consult experts before investing in any option. 54.5% reported that their institutions consult experts while 45.5% reported they do not. This appears to support the theory that investors both individuals and institutions are at times overconfident of themselves when making decisions depending on the kind of information they possess. Some unit trust managers also tend to be overconfident in their decisions, which can partly be attributed to their skills and expertise as well as their ability to digest and understand financial information.

Table 9: Where do you get information for your investment decisions?

Response	Frequency	Percent
Advice from market analysts	4	36.4
Own assessment of financial markets	7	63.6
Total	11	100.0

Regarding the source of information for investment decisions, most managers (63.6%) prefer their own assessment and analysis of the financial market instead of relying on advices from market analysts. This can be attributed to the effect of overconfidence by fund managers arising from their knowledge and expertise.

4.2.3 Herd Behavior

Table 10: Some unit trusts make decisions based on information available to others

Response	Frequency	Percent
True	4	36.4
False	6	54.5
Total	10	90.9

To establish whether unit trust managers follow the masses in investment decision, a question was asked to that effect. 36.4% of the managers felt it is true some unit trusts make decisions based on information available to others, while 54.5% disagreed. This suggests some level of herd behavior among unit trust managers in decision making though the majority would prefer to take their own course.

Table 11: Portfolio performance for the last four years

Response	Frequency	Percent
Excellent	1	9.1
Good	6	54.5
Fair-	4	36.4
Total	11	100.0

to the light of the behavioral factors, the study sought to establish the portfolio Performance of the unit trusts for the last four years. 54.5% registered good performance, 36.4% registered fair performance while 9.1% registered excellent performance.

4.3 Analysis of the relationships

To establish the relationships between the variables under study, correlation analysis was used to measure both the strength and direction of the relationships.

Table 12: Relationship between overconfidence and herd behavior

		Q8	Q16
Q8	Pearson Correlation	1	.736(**)
	N	11	11
Q16	Pearson Correlation	.736(**)	1
	N	11	11

The first correlation analysis was done between questions eight and sixteen. This was aimed at establishing the nature of the relationship between overconfidence and herd behavior witnessed in the study. A correlation coefficient of 0.736 was obtained suggesting a strong positive relationship between the two variables. This indicates that those managers who are overconfident are most likely to follow the mass in their investment decisions.

Table 13: Relationship between herd and anchoring behavior

		Q12	Q16
Q12	Pearson Correlation	1	.368
	N	11	11
Q16	Pearson Correlation	.368	1
	N	11	11

In order to understand the relationship between herd and anchoring behavior, questions twelve and sixteen were correlated. A correlation coefficient of 0.368 was obtained suggesting a weak positive relationship between the two variables. This implies that those managers who follow the mass are likely at minimal to have anchoring tendencies in their decision making.

Table 14: Relationship between anchoring and overconfidence

		Q12	Q13
Q12	Pearson Correlation	1	-.480
	N	11	11
Q13	Pearson Correlation	-.480	1
	N	11	11

The study also sought to establish the relationship between anchoring and overconfidence by correlating question twelve and thirteen. A correlation coefficient of -0.480 was **obtained** suggesting a weak negative relationship between the two variables. This implies that fund managers with anchoring tendencies in their decision making are not likely to be overconfidence.

Table 15: Relationship between overconfidence and portfolio performance

		Q2	Q13
Q2	Pearson Correlation	1	-.480
	N	11	11
Q13	Pearson Correlation	-.480	1
	N	11	11

The study analyzed the relationship between portfolio performance and the heuristics. A correlation between question two and thirteen sought to establish the relationship between overconfidence and portfolio performance. A correlation coefficient of -0.480 was obtained suggesting a weak negative relationship. This implies that overconfidence of the fund managers which could be attributed to the strong belief in their own skills can easily lead to the underestimating of the likelihood of bad outcomes thus resulting in poor returns for the companies.

Table 16: Relationship (between herd behavior and portfolio performance

		<u>Q2</u>	<u>Q16</u>
	Pearson Correlation		.307
	N	11	11
	Pearson Correlation	<u>-.307</u>	
	N	11	11

. j... i-

When question two was correlated with question sixteen, a correlation coefficient of -0.307 was obtained suggesting a weak negative relationship between herd behavior and portfolio performance. This implies that fund managers that follow the herd are most likely to record poor performance in their portfolio. This could be attributed to misinformed decisions due to lack of accurate and most current information. ,

Table 17: Relationship between anchor and portfolio performance

		Q2	Q3
Q2	Pearson Correlation	1	.700(*)
	N	11	11
Q3	Pearson Correlation	.700(*)	1
	N	11	11

The study also established the relationship between portfolio performance for the past years and the present decisions of fund managers. Question two was intended to discern the fund managers' view of their performance in the last four years while question three was meant to establish what would be their action currently based on the past performance. To establish the relationship, a correlation analysis was done between the two questions. A correlation coefficient of 0.700 was obtained suggesting a strong positive relationship between the past performance and current investment decisions. This implies that unit trust managers' current decisions are affected by their past experience with portfolios performance.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS, POLICY RECOMMENDATIONS, LIMITATIONS OF THE STUDY, & SUGGESTIONS FOR FURTHER RESEARCH

5.1 Introduction

This chapter summarizes the results of the analysis and conclusions drawn from the findings. Policy recommendations have also been suggested to the relevant parties for consideration in decision making. The chapter has further highlighted the limitations encountered in the study and suggested areas for further research.

5.2 Summary of the findings

The purpose of this study was to establish the effects of behavioral factors on investment decision-making processes of unit trust companies in Kenya. More specifically, the objective was to study the effects of heuristics, namely; overconfidence, anchoring, and herd behavior on investment decisions of unit trust managers. Behavioral finance, which seeks to supplement the standard theories of finance by introducing behavioral aspects to the decision-making process, provided this theoretical framework for the study.

From the analysis fund managers have some doubt on the robustness of the standard financial models in addressing the market inefficiencies arising from anomalies and irrational investor behavior. Indeed this view backed by the 90.9% of fund managers who felt that quantitative financial models do not yield true representation of the market behavior. This is also supported by 72.7% of the managers who agreed that though they are experts, their investment decisions are affected by emotional and psychological factors.

When examining the effect behavioral factors on investment decisions, all the three Juristical factors were reported to have a contributing effect on the decisions. Herd behavior was observed to have an influence on a few fund managers (36.4%) while 54.5% are not affected. 36.4% reported that they follow the decisions made by other unit

fa, ...

trusts with reliable information. Overconfidence was also reported to influence the unit trusts investment decisions. When asked about their source of information for decision making purposes, 63.6% of the managers reported that they use their own information from markets assessment while 36.4 reported that they obtain advices from market analysts.

When asked whether they consult experts before making decisions, 45% reported that they don't while 45% reported they do. This clearly shows that some fund managers are overconfident about themselves as a result of their knowledge and skills prompting them not to seek advices from other experts. 81.8% of the fund managers reported that they are influenced by historical performance of their portfolios when making current investment decisions. Also 81.8% of the fund managers reported that when selecting their current portfolios, they would include their past best performing portfolios. This suggests that fund managers are not immune from anchor where they tend to keep the history of their investment performance to be used in the current decision making.

From the correlation analysis between the variables, it was observed that there exist a strong positive relationship between herd behavior and overconfidence of fund managers. This was depicted by a correlation index of 0.736 which suggests that fund managers who are overconfident are most likely to follow the herd in their investment decisions. To understand the relationship between herd and anchoring behavior, the two were correlated and a correlation index of 0.368 was obtained suggesting that fund managers who follow the herd are likely at minimal to have anchoring tendencies in their decision making. A correlation between anchoring and overconfidence was done and revealed a weak negative correlation coefficient of -0.480 suggesting that overconfident fund managers are not likely to be affected by anchor in their decision making.

Regarding the effects of heuristics on portfolio performance, it was observed that there is a strong positive relationship ($r=0.700$) between portfolio performance and anchoring. This implies that the performance of unit trusts is strongly affected by anchor. From the analysis, most unit trusts are affected by anchor in their investment decisions (81.8%).

UNIVERSITY OF NAIROBI!

LOWER KABETE
LIBRARY

Most of them also registered good performance for the last four years (54.5). From this analysis, it can be inferred that good performance was partly attributed to anchoring behavior of unit trust managers who chose to stick to their best selling portfolios. However such a strategy might be short lived as changes in the market would require new information for optimal investment decision making.

i

The weak negative relationship between herd behavior and portfolio performance as measured by a correlation index of -0.307 suggests that there is very minimal relationship between the performance of unit trusts and herding tendency of its managers in making investment decisions. With such a weak relationship it can be inferred that unit trusts that follow the mass are most likely to record poor performance in their portfolio performance which could be attributed to misinformed decisions due to lack of accurate and most current information. Good performance on the other hand would be attributed to serendipity.

From the analysis, weak negative relationship (-.480) between portfolio performance and overconfidence was registered indicating that the unit trusts whose managers are likely to be influenced by overconfidence in making decisions are most likely to register poor performance. Overconfidence would be attributed to self attribution effect of the managers which is a strong belief in their own skills. This can easily lead to the underestimating of the likelihood of bad outcomes thus resulting in poor returns for the companies.

5.3 Conclusion

From the findings, the study concludes that investment decisions in unit trusts are influenced by behavioral biases of individual fund managers. Specifically, heuristics, a process by which people find things out for themselves usually by trial and error significantly influence investment decisions in unit trust companies. Overconfidence, herd, and anchoring behavior affect fund managers' portfolio choices. Anchor and overconfidence are found to be the most dominant factors affecting fund managers' investment decisions.

Fund managers chose to retain the best performing portfolios in their current investments in anticipation of continuous better returns suggesting the effect of anchor in their decisions. This also implies that after forming an opinion about a particular investment option on the basis of information available, fund managers are unlikely to change as long as they do not receive any new relevant information. This suggests a status quo effect on investment decisions in unit trusts.

The study also concludes that overconfidence affects investment decisions in unit trusts companies. This can be inferred from the fund managers' decision not to consult other experts in the market when making investment decisions. The study also established that unit trusts prefer information gathered from their own assessment of the market rather than seek advice from experts. Overconfidence of the fund managers can be attributed to strong belief in their own knowledge and skills. With special experience and information available to them, fund managers are persuaded to think that they have an investment edge in the market. However, this information may not be adequate to develop an accurate forecast in uncertain situations. Overconfidence can easily lead to the underestimating of the likelihood of bad outcomes thus resulting in poor returns for the company. Studies have even shown that in reality most of the so called knowledgeable investors do not outperform the market consistently.

54 Policy Recommendations

From the analysis, it is evident that behavioral finance models supplements the standard Models of investment analysis for decision making by unit trust companies. These models are not empirically supported and therefore subject to the influence of behavioral biases on an individual. They should not be used in isolation for investment analysis by fund managers. Investors on the other hand should be cognizant of the fact that fund managers are not immune from behavioral biases while making investment decisions, they should closely monitor their investments' performance and actions of fund managers to ensure that these biases are eliminated. The regulators should establish a regulatory framework that will help to eliminate fund managers' behavioral biases in

investment decisions and closely monitor the actions of unit trust to ensure investors' interests are well protected.

5.5 Limitations of the study

However, some limitations were encountered during the study. The study could not investigate all the heuristics other than the three covered due to time and resource constraint. It was assumed that the questionnaires were filled by the right persons since drop and pick later method were used to distribute.

5.6 Suggestions for further research

Further research should be done on the remaining heuristic factors i.e. representativeness, aversion to ambiguity, and innumeracy to establish their effects on investment decision making by unit trusts. The study also recommends that the effect of prospect theory on investment decisions making by unit trusts companies should be researched.

REFERENCES

Arthur, W.B. (1995). *Complexity in Economic and Financial Markets*. Journal of Complexity, Vol. 1

Barber, B., Odean, T. (2001). *Boys will be boys: gender, overconfidence and common stock investment*, Quarterly Journal of Economics, Vol. 116.

Barberis, N., Shleifer, A. (2003). *Style investing*, Journal of Financial Economics, Vol. 68.

Brigham, E.F., Ehrhardt, M.C. (2005). *Financial Management: Theory and Practice*, 11th ed., International Student Edition. Thomson South-Western.

Benartzi, S., Thaler, R.H. (2001). *Naive diversification strategies in defined contribution saving plans*. American Economic Review, Vol. 91, pp. 79-98.

Bernstein, P.L. (1996). *Against the Gods: The Remarkable Story of Risk*. John Wiley and Sons, New York

Barberis, N., Thaler, R. (2003). *A Survey of Behavioral Finance*. Handbook of the Economics of Finance

Bodie, Z., Kane, A., Marcus, A.J. (2008). *Investments*. 4th Edition, McGrawHill.

Brown, C. K., Reilly, F.K. (2009). *Analysis of Investment and Management of Portfolio*: 9th Edition. South Western, Cengage Learning.

Carhart, M. M. (1997). *On Persistence in Mutual Fund Performance*, Journal of Finance, Vol. LII, 57-82.

Capital Markets Authority (2008). *Investor Education; Collective Investment Schemes (CIS) Regulations: What you should know*. Retrieved from <http://www.cma.or.ke>.

Chandra, A. (2008). *Decision Making in the Stock Market: Incorporating Psychology with Finance*. New Delhi-110025.

Cohen, A.J. (2005). *Aristotle on Investment Decision Making*. Financial Analyst Journal 61:29-41

Copeland, F.E., Weston, J.F. (1988). *Financial Theory and Corporate Policy*. 3rd Edition, Addison-Wesley Publishing Company

Coval, J. D., Moskowitz, T. J. (1999). *Home bias at home: local equity preference in domestic portfolios*. Journal of Finance, Vol. 54.

De Bondt, W.F.M., Thaler, R.H. (1994). *Financial Decision-Making in Markets and Firms: A Behavioral Perspective*, National Bureau of Economic Research, Working Paper No. 4777.

Doulcas, J. A., Petmezas, D. (2005). *Acquisitions, overconfident managers and self-attribution bias*, Working Paper (Old Dominion University).

Davidson, P. (1978). *Money and the Real World*, 2nd ed. New York: John Wiley and Sons.

Davidson, P. (2002). *Financial Markets, Money and the Real World*. Cheltenham, UK. Edward Elgar.

Elton, E.J., Gruber, M.J. (1995). *Modern portfolio theory and investment analysis*, John Wiley and Son, Inc.

Fischer, E.D., Jordan, J.R. (1995). *Security Analysis and Portfolio Management*. 6th Edition. Prentice Hall of India, New Delhi.

Ure, A.P. (1987). *An Overview of the South African Financial System, the Securities Markets*. Johannesburg Securities. No 3 pp 17-25

Fromlet, H. (2001). *Behavioral Finance-Theory and Practical Application*. Business Economics, Vol 36, Issue 3.

Griffiths, H. (1990). *Financial Investment*, London; McGraw-Hill Book Company

Grinblatt, M., Linnainmaa, T.J. (2011). *Jensen's Inequality, Parameter Uncertainty and Multi-period Investment*. Journal Review of Asset Pricing Studies, Vol. No. 1.

Grinblatt, M., Keloharju, M. (2001). *HOM' distance, language and culture influence stockholdings and trades*, Journal of Finance, Vol. 56.

Goetzmann, W. N., Kumar, A. (2003). *'Why do individual investors hold under diversified portfolios?'* Working Paper (Yale ICF).

Gounaris, K.M., Prout, M.F. (2009). *Repairing Relationships and Trust: Behavioral Finance and the Economic Crisis*. Journal of Financial Service Professionals.

Gwily, M. R., (2009). *Can behavioral finance model account for historical asset prices?'* Cardiff Economics Working Papers

Hong, H., Kubik, J., Stein, J. C. (2005). *Thy neighbor's portfolio: Word-of-mouth effects in the holdings and trades of money managers*. Journal of Finance, Vol. 60, pp. 2801-24.

Huberman, G. (2001). *Familiarity breeds investment*. Review of Financial Studies, Vol. 14, pp. 659-680.

Hirshleifer et al (2011). *Limited investor attention and stock market misreaction to counting information*. Review of Asset Pricing Studies, Vol. 1:2011.

Erring, J.R., Santomero, M.A. (1991). *The role of the financial sector in economic Performance*. Wharton Financial Institutions Center. Vol. 95, Issue 8

Sen C.M. (1968). *The performance of Mutual Funds in the period 1955-1964*. Journal of Finance.

Johnson, M., Lindblom, H., Platan, P. (2002). *Behaviora Finance: And the change of investor behavior during and after the speculation bubble at the end of the 1990s*. Master's Thesis in Finance, Lund University.

Kahneman, D., Tversky, A. (1974). *Judgment under Uncertainty: Heuristics and Biases*. Science, vol. 185.

Kahneman, D., Tversky, A. (1979). *Prospect Theory: An Analysis of Decision under Risk*. Econometrica. Vol.47, No 2.

Keynes, J.M. (1936). *The General Theory of Employment, Interest and Money*, London: Macmillan.

Lofthouse, S. (2001). *Investment management*. 2nd Edition, John Wiley and Sons Ltd

March, .), Sharpira, Z. (1987). *Managerial Perspective on Risk Taking*. Management Science No. 33

Markowitz, H.M. (1952). *Portfolio selection*. Journal of finance, Vol. 7 No.1, pp.77-91

Moore, G.H. (1983). *Business Cycles, Inflation, and Forecasting*, 2nd ed. Ballinger

Muthama, M.K. (2011). *Determinants of Local Retail Investors Behavior for Companies Quoted in the Nairobi Stock Exchange*. (Unpublished master's thesis). University of Nairobi

Mugenda, M. O., Mugenda, G.A. (1999). *Research methods: quantitative and Qualitative approaches*. African Centre for Technology Studies.

^sen, R.A. (1998). *Behavioral Finance and its Implications for Stock-Price Volatility*, Financial Analyst Journal 54, No.2.

•ftdey, J. m. (2008), *Financial Management*. Ninth Edition, Vikas Publishing House, h08.

Raines, J.P., Leathers, C.G. (2011). *Behavioral Finance and Post Keynesian-Institutional Theories of Financial Markets*, Journal of Post Keynesian Economics.

Ritter, R.J. (2003). Behavioral Finance: Pacific Basin Finance Journal, Vol. 2, No. 14.

Ross, L. (1987). *The Problem of Construct in Social Inference and Social Psychology*, Hillsdale, NJ: Erlbaum

Samal, N. (1995). *Factors Affecting Investors Preference for Mutual Funds in India*. Summer Internship Program Report.

Subrahmanyam, A. (2007). *Behavioral Finance: A Review and Synthesis*. European Financial Management, Vol. 14:12-29.

Statman, M. (1999). *Behavioral Finance: Past Battles and Future Engagements*. Association for Investment Management and Research. Financial Analyst Journal, Vol. 55, No.6, P. 18-27.

Sliiller, R.J. (2000). *Irrational Exuberance*. Princeton University Press.

Sliiller, R.J. (1997). *Human Behavior and the Efficiency of the Financial System*. Princeton University Press.

Sharpe, W.F. (1966). *Mutual Fund performance*. Journal of Business

Sharpe, W.F. (1964). *Capital Asset prves- A Theory of Market Equilibrium under Conditions of Risk*. Journal of Finance pp 31-47.

Sewell, M. (2005). Behavioral Finance. Retrieved from

!%://inlroduction.behaviouralfinance.net/

thaler, R. (1993). *Advances in Behavioral Finance*. Journal of Political Economy, Vol. No 4.

dialer, R. H. (1999). *Mental accounting matters*. Journal of Behavioral Decision Making, 12(3), 183-206

Winchester, D.D., Huston, S.J., Finke, M.S. (2011). *Investor Prudence and the Role of Financial Advice*. Journal of Financial Service Professionals, July 2011.

Zimele Asset Management Company Ltd (n.d): *A guide to Unit Trusts*. Retrieved from <http://www.zimele.co.ke>

Appendix I

COLLECTIVE INVESTMENTS SCHEMES (UNIT TRUSTS) OPERATIONAL IN KENYA

1. African Alliance Kenya Unit Trust Scheme
2. Old Mutual Unit Trust Scheme
3. British American Unit Trust Scheme
4. Stanbic Unit Trust Scheme
5. Commercial Bank of Africa Unit Trust
6. Zimele Unit Trust Scheme
7. Suntra Unit TrustScheme
- 8.1CEA Unit Trust Scheme
9. CFC Unit trust
10. Dyer and Blair unit trust
11. Standard unit trust

Source: CMA, 2008

Appendix II:

Questionnaire

I am a student at the University of Nairobi and am writing my MBA research project on behavioral factors that affect investment decisions in unit trusts. I kindly request you to take part of your time to complete this questionnaire and return it back. I assure you that all the information provided will be treated with strict confidentiality. In each question provide the response that best reflects your own experiences. Your cooperation will greatly contribute to the success of this study.

1) Does the past history influence your present investment decision?

- 1. Yes ()
- 2. Somehow ()
- 3. No** ()

2) How would you describe your portfolio performance in the financial market for the last 4 years?

- 1. Excellent ()
- 2. Good ()
- 3. Fair** ()
- 4. Poor ()

3) Based on the above performance, would you invest in the same portfolios today?

- 1. Yes ()
- [I 2. No** ()
- 3. Others. Explain.

) In the selection of investment options, do you base decision on past performance of the various investments?

- 1. Yes ()
- 2. No ()

^oes your institution consult experts before investing in a particular option?

- 1. Yes ()
- 2. No ()
- 3. On a few options ()

6) Do you evaluate all your investment decision using quantitative financial models and statistical models?

- 1. Yes ()
- 2. No ()

7) If the answer in (qn.7) above is no, what other factors influence your choice for a particular investment?

- 1.
- 2.
- 3.
- 4.
- 5.

8) Where do you get information that informs your investment decisions?

- 1. Advice from market analysts ()
- 2. Own assessment of the financial market ()
- 3. Others (specify)

9) Which of the following factors do you consider most important for your investment decisions making?

- 1. Information from the company as a basis for a fundamental analysis. ()
- 2. Recommendations, advice and forecasts from professional investors. ()
- 3. The overall past performance of the market seen from a historical perspective. ()
- 4. Information from newspapers/TV. • ()
- 5. Information from the Internet. ()
- 6. Discussion with personal friends. ()
- 7. Information from colleagues at work. ()
- 8. Own intuition of future performance. ()

10) Unit trusts build their investment portfolios based purely on quantitative analysis of risk and returns of individual asset within the portfolio without the influence of

emotional and psychological factors.

Strongly Agree

Strongly Disagree

11) How would you describe the performance of your institution with regard to returns?

- 1. Excellent ()
- 2. Very good ()
- 3. Good ()
- 4. Fair ()
- 5. Poor ()
- 6. Very poor < ()

12) For an investment whose historical performance has been consistently excellent for your institution, how do you treat it in the subsequent selections?

- 1. Retain it as part of your portfolio ()
- 2. Replace it with others ()
- 3. Others. Explain

13) Based on your skills and expertise, you do not need to seek the advice of financial and investment analysts.

- 1. Yes ()
- 2. No ()

14) To what extent do you agree with the following statement?

"Though we are experts, at times our investment decisions are affected by our emotional and psychological factors"

- 3. Strongly agree

- 4. Agree ()
- 5. Disagree ()
- 6. Strongly disagree ()

15) Sometimes the quantitative financial models do not yield the true representation of the market behavior:

- 1. Yes ()
- 2. No ()

If the answer is No, skip to Qn.16.

As a result, we use our personal judgment and experience to predict the market behavior and thus make optimal decision.

- 1. Yes ()
- 2. No ()

16) Unit trust companies are managed by highly professional individuals. Consequently when a few companies get the right information for their investment decision making and it is proved to work in the market, the rest can reliably utilize the same for their decision making.

- 1. True ()
- 2. False ()

THANK YOU.