BEHAVIORAL FACTORS AND INVESTMENT DECISIONS BY TRADERS IN KIBUYE MARKET, KISUMU TOWN, KENYA

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DECLARATION

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

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Supervisor's Declaration

This research project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

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ABSTRACT

Investment decisions are influenced by many factors depending on individual investor's state of mind and investment environment. Many theories have been advanced to explain how markets function and focus on rational human beings to explain how investors make their investment decisions. Sultana (2010), posit that traditional finance theory rely on two key assumptions under condition that investors make rational decisions; and that they are unbiased in their predictions about future returns of the securities. In contrast to these traditional finance theorists, Peters (1996) notes that it is not the question of rationality in making investment decisions but it can be said that how investors make their decisions is a subject matter of behavioral psychology. This implies that there are irrational behaviors that tend to shape the decision processes of traders on how, where and when to invest that go beyond rational market fundamentals. Heuristics and Prospect theories that emerged from the studies by Kahneman&Tversky (1974, 1979) conclude that investors do not always behave rationally. Some investors are overconfidence of their skills and knowledge of the market and hold the belief that any success is due to their talents and failure is due to "bad luck". This is what Gervais and Odean (2001) refer to as self-attribution which causes them to overestimate their talents as (Brown and Reilly, 2009). Thus, there are behavioral factors that tend to influence investment decisions in different market set up. This study aimed at establishing behavioral factors that influence investment decisions by investors trading in Kibuye market, Kisumu Town. A descriptive survey design was adopted to help address study objective. The study populations were 400 traders who subscribe for annual trade licenses to operate in Kibuye market. This is according to the Kisumu County, Ministry of Trade Registry data (2015). A sample size representative of the population for the study consisted of 196determined using Krejcie& Morgan (1970) predetermined table of sample sizes for different population sizes. The study employed stratified random sampling technique to select the sample members. Purposive sampling was also used to identify the traders (respondents) of the selected businesses in the market during data collection. The study collected primary data using questionnaires containing a mixture of structured and a 5-point likert scale questions. Descriptive statistics and factor analysis were used to analyze the collected data with the help of SPSS 20.0 software. The findings are presented in tabular forms and complemented by discussions. The findings showed that investment decisions of traders in Kibuye market is significantly influenced by: over-confidence and market information (at mean of 4.01 each), availability/ anchoring bias (mean of 3.72), loss-aversion and mental accounting (mean of 3.60), representativeness bias (3.37), risk-aversion (3.06) and herd behavior (3.00) in that order. The study recommends investor education to the investing population in Kibuye market in order to help avert a possible unfavorable investments outcomes caused by behavioral biases. In order to manage the excesses of behavioral influences to investment decision making, training programs that create investor awareness and ability to identify and guard against behavioral biases that lead to poor investment choices should be offered to both potential and existing traders in the Kibuye market. For this, the County Government of Kisumu should undertake to formulate and implement these programs given the importance of Kibuye market in generation of revenue.

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

EMH: Efficient Market Hypothesis

CAPM: Capital Asset Pricing Model

KICOMI: Kisumu Cotton Manufacturing Industries

DOWA: Day of-the-Week Anomaly

NSE: Nairobi Securities Exchanges

SPSS: Statistical Packages for Social Sciences

LIST OF TABLES

CHAPTER ONE: INTRODUCTION

1.1 Background

The understanding of how investors make their decisions of investing in a particular product is key in explaining how markets operate.Sultana (2010),hold that traditional finance theory rely on two key assumptions under condition that investors make rational decisions; and that they are unbiased in their predictions about future returns of the securities. Thus, individuals attempt to maximize their utility based on classic wealth criteria to make a choice between consumption and investment through time (Merikas, Merikas, Vozikis& Prasad, 2004). Naturally, rational traders will refrain from risk unless the decision yields more returns.People make investment decisions based on market factors and purely on risk-return trade-off models. As observed by Waweru, Munyoki&Uliana (2008), market information has very high impact on investors' decision-making.

This view of rationality is being challenged. Efficient Market Hypothesis (EMH), which holds that market prices reflect fundamental market characteristics and that excess returns on the average are leveled out in the long-run, is being challenged by behavioral finance. Peters (1996) noted that it can be said that the question about how people in general and investors in particular make their decisions is a subject matter of behavioral psychology. The implication is that there are irrational behaviors that tend to shape the decision processes of traders on how, where and when to invest that go beyond rational market fundamentals. Heuristics and Prospect theories that emerged from the studies by Kahneman&Tversky (1974, 1979) conclude that investors do not always behave rationally.Statman (1999) find that noise traders tend to follow newsletter writers, who in turn tend to "follow the herd". These writers and "the herd" are almost always wrong, which contributes to excess volatility.Thestudy

sought toestablish the behavioral factors influencing personal investing activities in Kibuye market, Kisumu town, Kenya. The objects of the research are individual investors in Kibuye open-air market. They have the knowledge about the market and make investment decision by themselves.

1.1.1 Behavioral Factors

Many standard finance theories assume that every investor takes careful account of all available information before making investment decisions. On the contrary, Behavioral Finance holds that investors are not rational and are under some influence (Matthew, 1998). These psychological pressures impact investors' decisions under conditions of uncertainty in predictable ways both in the marketplace and other spheres of lives. These psychological pressures are what behavioral finance refers to as behavioral factors which cause biases in decision-making. Pompian (2012), refer to behavioral biases as the tendency of decision making that result in irrational financial decisions caused by faulty cognitive reasoning and or reasoning influenced by emotions. That is, behavioral biases are the human factors that tend to influence investor’s decision processes and choices on how, when and where to invest disregarding market fundamentals and without due diligence and care.

The prospect theory which emerged from the study of Kahneman and Tversky (1979) indicates that loss-aversion occurs when people tend to strongly prefer avoiding losses as opposed to gratification of gains. Loss aversion leads people to hold their losers even if an investment has little or no chance of going back. Investors may as a result hold investments in a loss position longer than justified by fundamental analysis. This confirms the argument by Razek (2011) that, consistent with prospect theory, people do not always behave rationally. Schinckus (2011) posit

that prospect theory is a descriptive theory of choice under uncertainty based on the outcome of numerous experimental psychological studies.

There is a tendency by traders to believe that they can control or influence outcomes, when in reality they cannot. This is what Pompian(2012) call illusion of control. Much arbitrages and speculative activities and task familiarity can inflate confidence and generate illusion of control. Closely related to this behavioral influence is self-attribution in which traders hold the belief that any success is due to their talents and failure is due to "bad luck". This is what Gervais and Odean (2001) refer to as self-attribution which causes them to overestimate their talents (Brown and Reilly, 2009).Overconfidence creates aggressive speculative events in the market pushing prices of the commodities high. Sewel (2005) caution that overconfidence is particularly seductive when people have special information or experience-no matter how insignificant-that persuades them to think that they have an investment edge. The thought of I could have done it better had I taken decision A, given this situation, is pervasive sentiment among many market players. According to Pompian hindsight bias occurs when people see past events as having been predictable and reasonable to expect. Thus people view things that have already happened as being relatively predictable. This may cause investors to take on excessive risk, leading to future investment mistakes.

Availability bias tends to influence certain investing decisions. Traders may easily recall outcomes that are often perceived as being more likely than those that are harder to recall or understand. This is the heuristic approach to estimating the chances of outcomes based on how easily they register into the mind. As a result, an individual investor may choose an investment based on advertising rather than on a thorough analysis of the options. When faced with complicated judgments or decisions, they

simplify the task by relying on heuristics or general rules of thumb. This is almost similar to "anchoring" which is the tendency to attach or "anchor" our thoughts to a reference point, even though it may have no logical relevance to decision at hand (Meir, 2010). Thus, traders tend to base their current decisions on some reference past events that is familiar to them. For instance, you may find traders at Kibuye market holding on a basket of commodities that yielded profits previously for too long even if they have no prospect of yielding profit any more. The phenomenon is fairly prevalent in market situations where people are dealing with unfamiliar concepts.

The study therefore aimed to find out the behavioral factors on investment decision by investors in Kibuye market, Kisumu town, Kenya.

1.1.2 Investment Decisions

Investment decisions are derived from complex models of finance (Harper, 2002). These models include those based on expected risk and return associated with an investment, and risk-based asset pricing models like CAPM (Capital Asset Pricing Model), EMH, Modern Portfolio etc. Decision-making is a process by which an individual responds to the opportunities and threats that confront him/her by analyzing the options and making determinations or decisions about specific goals and course of action (Akintoye, 2006).The investment decision-maker goes through a decision making process consisting of problem recognition, information search, evaluation of alternative purchase decision and post purchase behaviors (Wamae 2013). So, investors in open-air markets also go through similar decision making process. Investing decisions depend on personal preferences and other factors. Winchester, Huston & Finke (2011) observed that investment decisions should be guided by predefined asset allocation decisions that incorporate an acceptable level of risk for the overall portfolio consistent with the goals and time horizon of the investor.

A rational individual investor would attempt to maximize return to his/ her wealth based on axioms of expected utility.

According to Bodie, Kane & Marcus (2009) investment is the current commitment of wealth in the expectation of reaping future benefits. Investing decisions are based on available information that presents economically viable opportunities. This is the rational and ideal way to make investment decisions as postulated by many traditional finance theories. Bodie et al. (2009) note that people accumulate a pool of their wealth in a number of different forms for use in the future through personal investing. Kibuye market provide many viable investment opportunities to the local population ranging from running a small food kiosk, fresh fruits vending, fresh horticulture and vegetable groceries, cereals vending, retail shops and clothes vending, artisans among others.

1.1.3 Effect of Behavioral Factors on Investment Decisions

There are many divergences to the tenets of rationality in investment decision-making as held by traditional finance theorist. Olsen (1998) noted that 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. Behavioral factors cause excessive optimism, over-confidence and herd instinct in investment decisions leading to systematic errors in judgment. A study by Mishra (2008) showed that advice from close relatives, friends and colleagues, experts, advertisement regarding investments and owns perceptions significantly influenced the employed women to make their investment decisions.

Luong' & Ha (2011), in their study found five behavioral factors affecting the investment decisions of investors in a stock exchange in China. These were: herding, market prospect, overconfidence and anchoring bias. Also, certain decisions can be

made without due considerations to the available options. Thus, most of the decisions that consumers make daily are made without conscious involvement, which implies the importance of implicit consumer decisions as an integral part of the overall decision making process. Numerous empirical studies show that behavioral factors can inflate over-confidence leading to excessive trading and illusion of control. Razek (2011) holds that people do not always behave rationally. Investors do not rationally evaluate market factors, but tend to base their decisions on some reference point and closely available options.

1.1.4 Investors in Kibuye Market

There are many non-professional investors, about 400 who transact business at Kibuye on a daily basis for profit motives. The large number of traders selling almost similar goods makes the trade and market very competitive. Kibuye is an open-air market and continuous every day with much arbitrages taking place, with Sunday as the publicly known "call day". The market offers a lot of highly liquid products that encourage risk-taking among small investors and traders in all time frames, from intra-day to monthly market time. A survey by Gitau, Ogolla&Poulton (2003) on traders operating in three Kisumu markets (Jubilee, Kibuye and Kondele) and opportunities for farm producers from neighboring markets of Luanda, Siaya and Vihiga, observed that whilst all markets contain both wholesalers and retailers, Kibuye market functions primarily as a wholesale market during weekdays. This finding shows that there are volumes being traded at the market. Kibuye market is under the management of the County Government of Kisumu. A survey conducted by Onyango et al. (2013) on markets within Kisumu City showed that the traders in the market serve over 15,000 customers on average per day.

Kibuye market is composed of shops, stalls and open-air traders operating businesses with close competition depending on the location within the market and the day. The market is very efficient in terms of information availability thus encouraging financial decisions of investing. The expectation would be to see a sensible investment practices guided by market fundamentals and reinforced by tenets of efficient market hypothesis for a sustainable growth of businesses. It offers investing opportunities, trading in cereals, green groceries, metal and wood works, shoes vending, textile retail, transport, second-hand clothes ("mitumba") and general merchandise.

The market is situated about 3km from Kisumu Central Business District, Kisumu Town, Kisumu Central Sub-County off Kisumu-Kakamega road. It is surrounded by Tom Mboya, Kibuye, Shauri-Moyo, PembeTatu and Police Dog estates. Other institutions and places around the market include: Kibuye Catholic Cathedral Church, Jaramogi Oginga Odinga Teaching and Referral Hospital, High Way secondary and Primary Schools, Avenue Hospital, KICOMI 1.2 km and Kisumu International Airport 4.9 km to the West; Kisumu Polytechnic 2.1 km South East and Kisumu Impala Park 3.8 km South West. The approximate coordinates of the market is 0° 5′ 34″ N, 34° 46′ 6″ E. Kibuye market was selected for the study due to its inherent nature of providing potential, vibrant and viable personal investing opportunities to local and regional investors. It was also chosen for its accessibility of the assorted traders in the region.

1.2 Research Problem

In modern financial theory, investors are assumed to be rational wealth-maximizers, following basic financial rules and basic investment strategies purely on the risk-return trade-off as the factors expected to influence investment decisions (Baker,

Hargrove &Haslem, 1977). However on the contrary, many documented literature on behavioral finance show that people make errors in the way they think and make decisions; they are over-confident and put much weight on most recent experiences. According to Subrahmanyam (2007), behavioral finance attempts to investigate the psychological and sociological issues that influence investment decision making process of individuals and institutions.

Luong' & Ha (2011), carried out a survey on behavioral factors influencing individual investors' decision-making and performance in a stock exchange in China.A study by Kimani (2011) on behavioral factors influencing individual investor's choices of securities at Nairobi Securities Exchanges showed that there were five behavioral factors (herding, market, prospect, anchoring, over-confidence) that were at play shaping investors' choices. Kwenga (2012) carried out a survey on investors' attitudes towards investment in financial securities. Kalunda and Mbaluka (2012) studied the decision making process of individual investors at Nairobi Securities Exchanges. The essence of these related behavioral studies cannot be overemphasized. The studies were all focused on securities' markets as the investment environment with little or no known attention to individual investor's decisions in open-air markets like Kibuye.

Much speculative and arbitrages' activities has been observed at Kibuye market resulting to price volatility of essential commodities as traders rush to make abnormal profits. However, this price volatility and abnormal profit could be attributed to the existence of brokers or unscrupulous traders in the market which act to dilute operations of free market mechanism and the tents on Efficient Market Hypothesis. Gitau et al (2003) posited that brokers at Kibuye market have their tactics to exploit "new" farmers trying to sell into the market. The survey by Gitau et al also concluded

that price volatility of groundnuts is generally low, whilst that of maize and beans is intermediate and that of tomatoes and onions is high. The survey suggest research into the composition of (and possible justification for) the existence of price differential in the three Kisumu markets to explore whether the differential include a significant "supernormal" profit element arising from cartel-like practices. Another observation is the trend of past and present licensed traders in the market. Records at the trade registry, County Government of Kisumu there were 387 licensed traders in fiscal year 2013. In 2014, there was a decline in the number of traders to 361 as some traders closed down and did not renew their operating licenses. In 2015, there has been influx of traders up to about 400. The cause of this trend remains unclear.

To the researcher's knowledge, no much studies have addressed the behavioral biases on individual investment decisions by investors in open-air market like Kibuye. It was against this background that the study sought to fill the gap by finding out the behavioral factors that tend to influence personal investing activities in Kibuye market, Kisumu Town. It sought to answer the research questions on what are the behavioral factors that tend to drive personal investing activities in Kibuye market.

1.3 Objective of the Study

The objective of the study was:

i. To establish the behavioral factors that drive personal investing activities at Kibuye market in Kisumu town.

1.4 Value of the Study

The study findings will contribute towards policy development, enhance investment practices and towards theory advancement.

The findings will be shared with the County Government of Kisumu to assist in awareness creation for the potential investing population in the County. This will enhance growth and development in the County and increase the multiplier effects. It will contribute towards policy formulation on awareness creation and investor education by the County Government of Kisumu.

The findings will also be shared with the investing population at the market to empower them on decision making skills in order to eliminate biases that may drive them to loss making ventures. The research findings would help create awareness to the individual investors on behavioral biases that affect their decisions.

Lastly, the findings will contribute towards empirical evidence of the existence of behavioral factors influencing investment in open-air market that either confirms or contest proposed theories that explain behavioral finance.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to review the work that other scholars and researchers have done concerning behavioral finance. First it reviews the theories underpinning the concept of behavioral finance and determinants of individual investment decisions. Secondly, it presents an empirical review of behavioral biases that affect individual investor decisions. Finally, it gives the summary of the literature and the research gap is identified for the study.

2.2 Theoretical Review

Behavioral finance considers how various psychological traits affect how individuals or groups act as investors, analysts and portfolio managers (Brown & Reilly, 2009). They noted that behavioral finance advocates recognize that the standard finance model 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. According to Barberis & Thaler (2003), some financial phenomena can be better explained using models which recognizes that some investors are not fully rational or realize that it is not possible for arbitrages to offset all instances of mispricing.

A study by Brown (1999) examined the effect of noise traders on the volatility of closed-end mutual funds. When there is a shift in sentiment, these traders move together which increases the prices and the volatility of these securities during trading hours. Most of these traders hold the belief that any success is due to their talents and failure is due to "bad luck". This is what Gervais and Odean (2001) refer to as self-attribution which causes them to overestimate their talents. The following are the

general basic theories within behavioral finance that tend to explain investor behavior in the concept of irrationality.

2.2.1 Investor Behavior in Regard to Prospect Theory

Prospect theory was developed by Kahneman and Tversky in 1979.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. According to Ritter (2003), prospect theory is a descriptive theory under uncertainty that focuses on changes in wealth. It is a departure from the expected utility theory that focuses on the level of wealth.Kahneman and Tversky (1979) argue that investors value gains/losses according to an S-shaped utility function. The experimental studies by Laver (1997), showed that the decision making process is not a completely rational process and individuals are more inclined to take risks to avoid losses rather than to attain higher returns.

Prospect theory used cognitive psychological techniques to explain a number of documented divergences of economic decision making from neo-classical theory. Kahneman and Tversky asserted that people are risk lovers for losses. 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. According to Kahneman & Tversky(1979),an important implication of prospect theory is that the way economic agents subjectively frame an outcome or transaction in their mind affects their level of satisfaction derived from the returns. Prospect theory appraises three emotional biases that impact on investors' decision-

making processes including loss/ regret aversion, cognitive dissonance and mental accounting.

Loss and regret aversion 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. Regret is a strong emotional situation related to an information about the past regarding a decision in the past leading to a worse result than an alternative decision or than a decision of someone else (Sevil, Sen &Yalama, 2007, p.76). The investors avoiding the pain of regret would tend to decrease their share of personal responsibility in their investment decisions (Sevil et al, 2007, p.77).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, Lindblom & Platan, 2002). In an attempt to avoid pain of regret, investors tend to decrease their share of personal responsibility in their investment decisions. This can also be expressed as the phenomena in which people will tend to gamble in losses, that is, traders will tend to hold on to losing positions in the hope that prices will eventually be rewarding. 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. Regret theory may apparently help explain the fact that investors defer selling stocks that have gone down in value and accelerate the selling of stocks that have gone up in value.

Cognitive dissonance is the mental conflict that people experience when they are presented with evidence that their beliefs or assumptions are wrong. It refers to the psychological conflict resulting from incongruous beliefs and attitudes held

simultaneously. It might be classified as a sort of pain of regret stemming from wrong beliefs. 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 or avoiding the new information or by convincing themselves that no conflict really existed (Chandra, 2008). Since traders are reluctant to change their decisions, they convince themselves that they made rational decisions.

Mental accounting theory was developed by Thaler in 1980 and postulates that individuals divide their current and future assets into separate non-transferable portions. It purports that individuals assign different levels of utility to each asset group, which affects their consumption decisions and other behaviors. According to Shiller (1997), mental accounting describes the tendency of people to place particular events into different mental accounts based on superficial attributes. Mental accounting affects not only the personal finances but is common phenomenon in the complex world of investment. Investors tend to stagger the sale of winners over time to prolong the favorable experience and they often have an irrational preference for stocks paying high dividends because they don't mind spending the dividend income, but are not inclined to sell a few shares and dip into the capital. People may tend to place their investments into arbitrarily separate mental compartments, and react separately to the investments based on which compartment they are in. When interaction among assets in different accounts are overlooked, this mental process can adversely affect investor wealth (Chandra, 2008)

2.2.2 Investor Behavior in the framework of Heuristics

Heuristics, which expresses that individuals have tendency to make judgments quickly, are simplifying strategies used to approach complex problems and limit

explanatory information. The concept was developed by Kahneman & Tversky in 1974. Individual investors tend to take decisions usually by trial and error method thus developing rules of thumb. In simple, investors make hasty investment decisions which might result to either favorable or unfavorable outcomes. The interpretation of new information may require heuristic decision-making rules, which might later have to be considered (Johnson, Simmons, LeBoeuf & Nelsons, 2002). In the framework of heuristics, six behavioral biases can be identified including: (a) herd behavior; (b) overconfidence; (c) representativeness; (d) self-attribution; (e) belief perseverance; and (f) anchoring.

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. According to Gounaris & Prout (2009), 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. This trend can mislead investors. Shiller (2000) asserts that in everyday life we have learned that when a large group of people is unanimous in its judgments they are certainly right. People are influenced by their social environment and they are often pressured to conform eg lifestyle and fashion are forms of herd behavior that people are always pressured to conform to or copy. 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). For instance, people of same age, gender, experience, education and peer may exhibit similar pattern of making investment decisions generally.

Representativeness is a situation whereby investors rely on a best-fit approximation to determine which category should provide a frame of reference from which to understand the new information. In the stock market, for example, investors might classify some stocks as growth stocks based on a history of consistent earnings, 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 descriptions of the companies but ignoring the reliability of those descriptions results in overreliance 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. Agrawal (2012) explains that when people are under the influence of the representativeness bias, events are categorized by them as being representative of a well-known class. The result of such a tendency is that probability estimates are made in a way that overemphasizes the significance of the categorization without adequate attention to the evidence about the underlying probabilities.

Over-confidence makes individual overestimate their abilities or overestimates an outcome of a process or event. 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. 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 & Petmezas (2005) find support for self-attribution hypothesis in the market for corporate control.

In experimental setting, Johnson et al. (2002) observes that people tend to show excessive confidence about their own judgments. Overconfidence can lead to illusion of control. According to Pompian (2012), illusion of control bias is a bias in which people tend to believe that they can control or influence outcomes when, in fact, they cannot. A review by the author indicated that choices, task familiarity, competition and active involvement can all inflate confidence and generate such illusions. This may lead investors to either trade more than is prudent or inadequately diversify portfolios, for instance, because of familiarity due to having worked in the company. Another manifestation of overconfidence is self-attribution bias. Pompian (2012) explained this bias as the tendency of individuals to ascribe their successes to innate aspects such as talent or foresight, while more often blaming failures on outside influences such as bad luck. Therefore, self-attribution investors can, after a period of successful investing, believe that their success is due to their talents as investors rather than to factors out of their control and failure is due to "bad luck". These groups of investors tend to believe that they can make good predictions based on the past events. Thus people view things that have already happened as being relatively predictable.

According to Brown & Reilly (2009), belief perseverance means that 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 (Shiller, 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. Anchoring is closely related to availability bias. At times, investors tend to be over-optimistic about outcomes. Optimism is about expecting a favorable outcome irrespective of the actual effort or skills devoted by the individual to bring about the outcome (Agrawal, 2012). Ramnath, Rock & Shane, (2008) explain over-optimism as the tendency to overvalue the possibility of desired outcomes and undervalue the occurrence of unfavorable events. The authors note that investors' earnings forecast errors are significantly optimistic for buy recommendations and significantly pessimistic for sell recommendations.

2.3 Determinants of Investment Decisions

From the theories in behavioral finance discussed above, some of the determinants of investment decisions, and which this research attempts to assess can be divided into three groups as follows:

Prospect theory describes state of mind (emotional factors) affecting an individual's decision-making processes including loss and regret aversion, cognitive dissonance and mental accounting. The decision to invest will be shaped by the nature

of market prospects. Kahneman and Tversky (1979), hold that 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; and that investors are risk averse for gains and risk lovers for losses. Thus, emotional factors of loss and regret aversion will determine the decision on how, when and where to invest.

Heuristics are defined as the rules of thumb which make decision making easier especially in complex and uncertain environment (Ritter, 2003, p. 431) by reducing the complexity of assessing probabilities and predicting values to simpler judgments (Kahneman & Tversky, 1974, p.1124). Five factors related to heuristics identified from the reviewed theories are: anchoring, availability bias, herding, over-confidence and representativeness. These factors do impact on the volumes traded and how investment decisions are made.

Lastly, market factors do influence investment decisions. Price changes, market information, past trends of stock, customer preferences and fundamentals of underlying stocks are market factors that influence decision making of investors (Waweru et al., 2008, p.36). They are external factors influencing investors' behavior and therefore not part of behavioral factors. They affect both irrational and rational investors in different ways.

2.4 Empirical Review on Behavioral Influence

This empirical review highlights the various types of behavioral biases underpinning investor decisions based on previous researches and literature.

Kahneman & Tversky (1979), present in Prospect Theory the following experimental evidence to illustrate how investors systematically violate the utility theory; when their respondents were asked to choose a lottery offering a 25% chance

of winning 3,000 and a lottery offering a 20% chance of 4,000, 65% of their respondents chose the latter (20%; 4,000). On the contrary, when the respondents were asked to choose between a 100% chance of winning 3,000 and 80% chance of winning 4,000, 80% chose the former (100%; 3,000).

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.

Chandran (2008), studied behavioral factors and their impact on investors' attitude towards risk and behavioral decision making processes. The study concluded that individual investors suffer from heuristics such as representativeness, overconfidence and anchoring, cognitive dissonance, greed and fear, loss and regret aversion and mental accounting within the prospect theory; all influence investor's perception of risk and subsequently his decision making. The author argues that because cognitive errors stem from faulty reasoning, better information, education and advice can often correct for them. Chandra and Sharma (2010), in their study of psychological biases that influence the individual investors' behavior within Delhi and National Capital Region; found that the individual investors' behavior is driven by some psychological factors such as conservatism, under-confidence, opportunism, representativeness and informational inferiority complex. A study by Brahmana, Hooy & Ahmad, (2012) on psychological factors on irrational decision making: case of day-of-the week anomaly (DOWA) and conceptualized a framework that linked the

psychological biases such as attention bias, heuristic bias, regret bias and cognitive bias to individual investor decisions.

Waweru, Munyoki & Uliana (2008) investigated the role of behavioral finance and investor psychology in investment decision making at the NSE with special reference to institutional investors and concluded that behavioral factors do affect the decisions of the institutional investors operating at the NSE. Using a sample of 23 institutional investors, their study showed that behavioral factors affected the decisions of institutional investors at NSE. A survey by Kimani (2011) on behavioral factors influencing individual investors' choices of securities at Nairobi Securities Exchanges show that there are five behavioral factors (Herding, Anchoring, over-confidence, Market and Prospect) at play. A study by Ngode (2012) on the effects of behavioral biases on the mutual fund choices showed that there are behavioral biases in mutual fund choices by investors in Kenya. The study involved 80 mutual fund investors randomly sampled from 16 licensed firms.

2.5 Summary of the Literature Review

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. The literature has reviewed these behavioral biases that potentially influence individual investor decisions. It has discussed biases such as representativeness bias, illusion of control, hindsight, cognitive dissonance, availability and self-attribution bias. It has also discussed loss aversion, regret aversion, overconfidence and over-optimizing biases. It has further highlighted the role of peer influence on investment decisions.

The literature suggests that cognitive biases stem from faulty reasoning that can be corrected by education and advice. However, this is not supported by empirical evidence. Instead, there exist contradictory literature which suggests that financially literate investors are not immune from the effects of the popular investing culture observed in individual investors, and many of the factors no doubt influence their thinking as well. Studies have however shown that both individuals and institutional investors are affected by emotions and cognitive influences when making investment decisions. From the foregoing, it is evident that most of the studies were done in reference to financial markets. To the researcher's knowledge, no much local studies have addressed the behavioral factors on individual investment decisions by traders in open-air market like Kibuye. These are gaps which this research proposes to study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter has four sections. First, it explains the research design that wasused for the study. This is followed by population, data collection and data analysis and presentation.

3.2 Research Design

The study employed a descriptive survey to examine behavioral factors influencing investment decisions of traders in Kibuye market, Kisumu Town. According to Garg & Kothari (2014), descriptive survey are those studies which are concerned with describing the characteristics of a particular individual or a group. The authors assert that the descriptive survey is the best research design for accurately describing a situation or an association between variables that minimizes biases and maximizes the reliability of evidence. Mugenda & Mugenda (1999) holds that descriptive research 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 Population

The study targeted formal and informal traders investing in Kibuye market, Kisumu Town. The accessible populations were the traders who subscribe for annual trade licenses to operate in Kibuye market. There are nine sections or clusters of businesses in Kibuye with a composite of 400 traders who subscribe for annual licenses. This is according to the Kisumu County, Ministry of Trade Registry data (2015).This was the

accessible population that the researcher targeted for the study. They consist of vendors in cereals, food stuff, metal works, wood works, shoes, textile, transport services, second-hand clothes and general merchandize. This is illustrated in table 3.1.

3.4 Sample Design

The sample size representative of the population for the study consisted of 196 out of 400 traders who subscribe to annual licenses in Kibuye market as indicated in table 3.1.This is determined using Krejcie & Morgan (1970) predetermined table of sample sizes for different population sizes as shown in appendix II. The study employed stratified random sampling technique in coming up with a representative sample size from each trade category. Stratification of the population ensures homogeneity within each stratum (Sekaran, 2003, p. 272). The 196traders (respondents) from sections of cereals, food stuff, metal & wood works, shoes, textile, transport services, second-hand clothes and general merchandize were included proportionately for the study as shown in table 3.1. The sample size in each stratum was determined by:

$n_i = (S_i \div N) \times n$

Where: n_i = sample size of $_i$th stratum

S_i = Population size of $_i$th stratum

N = the accessible population

n = Desired sample size for the study

Purposive sampling was used to identify the traders (respondents) of the selected businesses in the market during data collection. This is a technique that select only those who happen to be available on first- meet first-served basis. The first trader met per section was interviewed and a referral sought from him/ her to the next trader until

the number per section was met. This technique was intended to save time since the traders are scattered in the market.

Table 3.1: Licensed Traders inKibuye Market by 2015

Section/ Business Category	No. of traders	Sample size
Cereals	47	23
Food stuff	58	28
Metal Works	31	15
Shoes	50	25
Wood Works	37	18
Textiles	39	19
Transport Services	30	15
General Merchandise	53	26
Second-Hand Clothes Vending	55	27
Total	**400**	**196**

Source: Trade Registry, County Government of Kisumu (2015)

3.5 Data Collection

The study used primary data. The data was collected using questionnaires containing a mixture of structured and a 5-point likert scale questions. Structured questions are preferred for the study for they are easier to analyze since they are in an immediate usable form. The questionnaires were delivered to the respondents (selected traders) by research assistants at the respondents' premises. The research assistant assisted in the interpretation and translation of the questionnaire contents to the respondents into appropriate languages. This was to ensure that both literate and illiterate respondents correctly understand the questions and give appropriate responses. It also ensured completeness of the questionnaires. For the reliability and validity of the

questionnaire, a pre-test was done at Jubilee market in Kisumu for 10 traders to determine its accuracy, completeness and appropriateness to gather data that would sufficiently address research objectives. The questionnaire was then adjusted with the comments from the pre-test for completeness. The selection of the pilot sample was done using purposive sampling.

3.6 Data Analysis

The completed questionnaires were edited for completeness and consistency before processing. This was a preliminary analysis stage that involved checking for completeness of questionnaires from the field. As noted by Muganda (2010), data preparation is the preliminary data analysis phase that ensures information collected from the respondents is accurate and also is converted from some raw format to an appropriate reduced format that is amenable for analysis. The collected quantitative data was coded, entered into SPSS and analyzed using descriptive statistics and factor analysis. Descriptive statistics of frequency tables, percentages, proportions, means and standard deviation were used. According to Sekaran (2003), tables help organize empirical data and identify interesting patterns.

The researcher also used factor analysis. A factor is an underlying dimension that account for several observed variables (Garg & Kothari, 2014, p.349). Factor analysis is a multivariable statistical method which aim at defining the core structure in a matrix of data. It helps to analyze the structure of correlations among many variables by identifying a set of core dimensions, called factors (Ghauri & Gronhaug, 2010, p.189). In factor analysis, variables (or items) of the questionnaire are included in homogeneous domains which represent the similar characteristics (O'brien, 2007, p.143).Factor-loadings were generated to show the accepted variables of the

questionnaire for analysis. The findings were presented in tabular forms and complemented by narratives in prose.

CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents analysis of the study findings. The objective of the study was to establish the behavioral factors that drive investing activities at Kibuye market in Kisumu town, Kenya. The chapter has four sections. First, it begins with descriptive analysis of the respondents' characteristics/ general information. Secondly, factor analysis on the behavioral variables affecting investment decisions is performed. Thirdly, it presents the discussions on the accepted factor variables. Lastly, it presents summary of the study findings. Descriptive statistics (mean and standard deviation) and factor analysis were used to summarize the results and presented in tabular forms.

The study administered 182 questionnaires successfully out of 196 sampled respondents accounting to 92.86% response rate on aggregate as shown in table 4.1

Table 4.1: Response Rate per stratum

Market sections/ units	Sample	Response	Percent
Cereals	23	22	95.7
Food Staffs	28	24	85.7
Transport	15	15	100.0
Metal works	15	15	100.0
Wood Works	18	18	100.0
Mitumba Clothes	27	22	81.5
General Merchandize	26	26	100.0
Shoes	25	21	84.0
Textile	19	19	100.0
Total	**196**	**182**	**92.86**

Source: Primary Data (2015)

The response rate varied from stratum to stratum with the lowest stratum registering 81.5% and the highest response rate at 100%. The response rate of 92.86% is very good and it conforms to assertion by Garg & Kothari (2014) that a response rate greater than 70% is very good. The participation rate (response rate) was dependent on the availability of the business owners (investors) and their willingness to participate in the study by completing the questionnaires. List of actual respondents is attached in appendix IV.

4.2 Respondents' General Information

The general information sought from the respondents included gender, age and period of time in terms of years engaged in business at Kibuye market. Though this is not key to the study, but it is useful in contextualizing the study findings.

4.2.1 Gender of the Respondents

Table 4.2 gives the distribution of respondents by gender. It shows that the number of female respondents was 73 (40.1%) and male respondents were 109 (59.9%). The questionnaire distribution was based on the individual investors who subscribe for annual licensing to operate at Kibuye market and his or her availability and willingness to participate in the study. Therefore, the issue relating to gender domination is not relevant.

Table 4.2: Gender of the respondents

Gender	Frequency	Percent
Male	109	59.9
Female	73	40.1
Total	**182**	**100.0**

Source: Primary Data (2015)

4.2.2 Age of the Respondents

In Kenya, an individual is considered by Law to be in the majority age at 18 years and able to make informed decisions. The respondents were classified into five age groups and were asked to indicate their age category. The responses are presented in table 4.3.

Table 4.3: Age of the respondents

Age Bracket	Frequency	Percent
Between 18 to 20 years	1	0.5
Between 21 to 30 years	40	22.0
Between 31 to 40 years	91	50.0
Between 41 to 50 years	35	19.2
Over 50 years	15	8.2
Total	**182**	**100.0**

Source: Primary Data (2015)

Study findings show that majority (50%) of the respondents are aged between 31 to 40 years. This is followed by 22.0% of the respondents in the age bracket 21 to 30 years, 19.2% of respondents in 41 to 50 years, 8.2% of the respondents are aged over 50 years and 0.5% are between 18 to 20 years of age. The mean age of the respondents is about 40 years. It can therefore be said that the respondents were old enough to provide valuable responses that pertain on influence of behavioral factors on the investment decisions by traders in Kibuye market.

4.2.3 Years engaged Investing in Kibuye Market

The respondents were asked to indicate the number of years they have been engaged investing in Kibuye market and the responses are presented in table 4.4

Table 4.4: Number of years engaged in trading

Period investing	Frequency	Percent
Between 1 to 3 years	26	14.3
Between 4 to 7 years	44	24.2
Between 8 to 10 years	50	27.4
Over 10 years	62	34.1
Total	**182**	**100.0**

Source: Primary Data (2015)

The results indicate that majority (34.1%) of the respondents have invested in Kibuye for over 10 years, 27.4% have invested in Kibuye for about 8 to 10 years, 24.2% have invested for about 4 to 7 years while 14.3% have invested in Kibuye for about 1 to 3 years. From the findings, majority have invested for over 3 years in Kibuye market and therefore were good candidates for the study.

4.3 Factor Analysis on Variables Determining the Investors' Behavior

The essence of factor analysis was to help in variable/ data reduction using principal component analysis method. The questions from 14 to 23 of the questionnaire have been coded Q14 to Q23 and designed to explore the levels of behavioral variables determining the investment decisions by traders in Kibuye market. Factor analysis has been used for behavioral variables (Q14 to Q23) to identify the factors which these variables belong to. Table 4.5 presents the communalities in the variables generated from factor analysis.

Communalities indicate the amount of variance in each variable that is accounted for. From table 4.5, initial communalities in column 3 gives estimates of the variance in each variable accounted for by all components or factors. For principal component

extraction, this is always equal to 1.0. Column 4 gives extraction communalities which are estimates of the variance in each variable accounted for by the components.

Table 4.5: Communalities in the variables

Code	Communalities	Initial	Extraction
Q14	Familiar and well-known goods in the market are less risky than unfamiliar goods	1.000	.625
Q15	You forecast changes in commodity prices in the future based on the recent prices	1.000	.493
Q16	You believe that your skills and knowledge can help you outperform at Kibuye market	1.000	.742
Q17	Whenever you incur losses in the market, you become more risk-averse in subsequent buying and selling	1.000	.656
Q18	You avoid selling goods whose prices have decreased and readily sell goods that have increased in price	1.000	.662
Q19	You tend to treat each basket of your goods separately	1.000	.727
Q20	You tend to consider carefully the price changes of commodities that you intend to invest in	1.000	.713
Q21	Market information is important for your personal investing activities in Kibuye market	1.000	.762
Q22	Decisions by other investors in the market have impact on your investment decisions	1.000	.742
Q23	You usually react quickly to the changes of other investors decisions and follow their reactions to buy and sell in the market	1.000	.662

Source: Primary Data (2015)

The communalities in table 4.5 are all high indicating that the extracted components represent the variables well. The variance explained by the initial solution, extracted components and rotated components is displayed in table 4.6 with eigenvalues greater than 1.0.

Table 4.6: Total Variance Explained of Factor Variables

Factor Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Var.	Cum. %	Total	% of Var.	Cum %	Total	% of Var.	Cum %
1	2.346	23.462	23.462	2.346	23.462	23.462	1.997	19.973	19.973
2	1.858	18.575	42.037	1.858	18.575	42.037	1.904	19.041	39.014
3	1.321	13.209	55.245	1.321	13.209	55.245	1.473	14.726	53.740
4	1.258	12.576	67.822	1.258	12.576	67.822	1.408	14.082	67.822
5	.937	9.370	77.192						
6	.691	6.910	84.102						
7	.512	5.120	89.222						
8	.465	4.654	93.877						
9	.400	3.998	97.875						
10	.213	2.125	100.000						

Source: Primary Data (2015)

From table 4.6 and with eigenvalues requested greater than 1.0, so the first four (4) factor components form the extracted solution. The four components explain nearly 67.822% of the variability in the original 11 variables (Q14 to Q23), so the complexity of the data set can considerably be reduced by using these components.

4.3.1 Criteria for Mean Values Range of Factor Variable Acceptance

The influence of behavioral variables on the investment decisions are identified by calculating the values of the sample mean of each variable. The variables which meet the requirements of the indicated factor analysis are picked to demonstrate their scores. With the use of a 5-point scale to measure the influence of

the factor variables, the mean values of these variables can determine their influence on the investment decision making based on the following criteria:

Table 4.7: Mean Values Range of Factor Variables and their Interpretation

Mean Values Range	Interpretation
Mean < 2	Very Low Variable Influence
2 < Mean < 3	Low Variable Influence
3 < Mean < 4	Moderate Variable Influence
4 < Mean < 5	High Variable Influence
Mean = 5	Very High Variable Influence

Source: Primary Data (2015)

After elimination of unsuitable variables, the analysis results of the variables are grouped into their respective factors, all the factor loadings exceed 0.5. These indexes attest to the fact that the factor analysis for these variables is suitable and accepted.

Table 4.8 shows that variables of prospect are grouped into F_1 and F_2, variables of heuristics belong to F_2 and F_4, variables of market belong to F_1 and F_3; whereas variables of herding belong to F_3 and F_4. Thus, there are eight behavioral factors (grouped into prospect, heuristics, herding and market) that influence the investment decisions of individual investors in Kibuye market, Kisumu town, Kenya.

Table 4.8: Factor Loadings of Behavioral Variables and Investment Decisions

Factor	No.	Variable	Factor Loadings			
			1	2	3	4
Heuristics-Availability/ Anchoring Bias	Q14	Familiar and well-known goods in the market are less risky than unfamiliar goods		.692		
Representativeness Bias	Q15	You forecast changes in commodity prices in the future based on the recent prices				.684
Over-Confidence/ Self-Attribution Bias	Q16	You believe that your skills and knowledge can help you outperform at Kibuye market				.608
Prospect-Loss-Aversion Bias	Q17	Whenever you incur losses in the market, you become more risk-averse in subsequent buying and selling	.796			
Prospect-Regret Aversion Bias	Q18	You avoid selling goods whose prices have decreased and readily sell goods that have increased in price		.755		
Prospect-Mental Accounting	Q19	You tend to treat each basket of your goods separately		.824		
Market	Q20	You tend to consider carefully the price changes of commodities that you intend to invest in	.817			

Market	Q21	Market information is important for your personal investing activities in Kibuye market			.662	
Herd Behavior	Q22	Decisions by other investors in the market have impact on your investment decisions				.666
Herd Behavior	Q23	You usually react quickly to the changes of other investors decisions and follow their reactions to buy and sell in the market			-.765	

Source: Primary Data (2015)

4.3.2 Prospect Variables Influencing Investment Decisions

There are three accepted variables of prospect factors, questions 17 to 19 coded Q17 after factor analysis. Loss aversion, regret aversion and mental accounting have moderate level of influence on investment decision. However, loss aversion and mental accounting have higher mean of 3.60, whereas regret aversion has 3.06. This means that investors are highly risk averse (3.60) after prior loss, moderately apportion their wealth into arbitrary compartments (3.60) and moderately risk lovers (3.06) as shown in table 4.9.

Table 4.9: Prospect Variables Influencing Investment Decisions in Kibuye Market

Factor Component	No.	Variable	Min	Max	Mean	Std. Dev.
Loss-Aversion Bias	Q17	Whenever you incur losses in the market, you become more risk-averse in subsequent buying and selling	1	5	3.60	1.185
Regret Aversion Bias	Q18	You avoid selling goods whose prices have decreased and readily sell goods that have increased in price	1	5	3.06	1.371
Mental Accounting	Q19	You tend to treat each basket of your goods separately	1	5	3.60	1.104

Source: Primary Data (2015)

4.3.3 Heuristic Variables Influencing Investment Decisions

In the heuristics factor, 3 variables from questionnaire, questions 14 to 16 coded Q14 to Q16 are kept after the factor analysis. The heuristic variables are grouped into over-confidence/ self-attribution, availability/ anchoring bias and representativeness bias. The level of influence of these factors on investment decisions are presented in table 4.10. It shows that over-confidence bias have the highest influence on investment decision making in Kibuyemaket with a mean of 4.01. This is followed by availability/ anchoring bias (3.75) and finally representativeness at 3.37. The investors have high tendency of believing that their skills and knowledge can help them outperform in Kibuye market. The results here is in agreement with Johnson et al. (2002) observations that people tend to show excessive confidence about their own judgments leading to illusion of control.

Table 4.10: Heuristic Variables Influencing Investment Decisions

Factor Component	No.	Variable	Min	Max	Mean	Std. Dev.
Availability/ Anchoring Bias	Q14	Familiar and well-known goods in the market are less risky than unfamiliar goods	1	5	3.72	1.289
Representativeness Bias	Q15	You forecast changes in commodity prices in the future based on the recent prices	1	5	3.37	1.316
Over-Confidence/ Self-Attribution Bias	Q16	You believe that your skills and knowledge can help you outperform at Kibuye market	1	5	4.01	1.046

Source: Primary Data (2015)

4.3.4 Market Variables Influencing Investment Decisions

Two variables of market, questions 20 and 21 are all accepted by factor analysis. Prices changes and other market information do influence investment decision making processes in Kibuye market. The results of market variable analysis are presented in table 4.11.

Table 4.11: Market Variables Influencing Investment Decisions in Kibuye Market

Factor Component	No.	Variable	Min	Max	Mean	Std. Dev.
Market	Q20	You tend to consider carefully the price changes of commodities that you intend to invest in	1	5	3.75	1.118
Market	Q21	Market information is important for your personal investing activities in Kibuye market	1	5	4.01	1.090

Source: Primary Data (2015)

In table 4.11, market information have relatively high influence on investment decisions at a mean of 4.01 as compared to price changes with a mean of 3.75. This implies that market information is important for your personal investing activities in Kibuye market. Equally important to note is that price changes is fundamentally an element of market information and therefore at its moderate influence (3.75), it complement the finding that market information is essential for investors in Kibuye market.

4.3.5 Herd Behavior Variables Influencing Investment Decisions

In the herd behavior dimension, two variables of the questionnaire (question 22 and 23) are accepted after factor analysis. The results from the herding variables are presented in table 4.12. It shows that "decisions by other investors in the market have impact on your investment decisions" has moderate influence at a mean of 3.00; whereas "you usually react quickly to the changes of other investors decisions and follow their reactions to buy and sell in the market" has low influence at a mean of 2.65.

Table 4.12: Herd Behavior Variables Influencing Investment Decisions

Factor Component	No.	Variable	Min	Max	Mean	Std. Dev.
Herd Behavior	Q22	Decisions by other investors in the market have impact on your investment decisions	1	5	3.00	1.317
Herd Behavior	Q23	You usually react quickly to the changes of other investors decisions and follow their reactions to buy and sell in the market	1	5	2.65	1.433

Source: Primary Data (2015)

4.4 Behavioral Factors and their Influence on Investment Decisions

This section presents the analysis and discussion of the behavioral variables as accepted by factor analysis. It begins with the test of rationality in investment decision processes (investors' attitude towards risk) as identified and scored by respondents' answers in questions 11 and 12 of the questionnaire. This is followed by discussion on identified behavioral factors including prospect (regret aversion, loss aversion and mental accounting), heuristics (availability-anchoring bias, representativeness bias and over-confidence/ self-attribution bias), herding and market.

4.4.1 Attitude of Investors towards risk

In an attempt to understand and explain the behavior and decision processes of investors trading in Kibuye market, the respondents were asked the question "What do you think is the role of your unexplained feelings (intuition) when you are deciding to invest at Kibuye market?" and the responses are presented in table 4.13.

Table 4.13: Role of your intuition (unexplained feelings) when deciding to invest

What do you think is the role of your unexplained feelings (intuition) when you are deciding to invest at Kibuye market?	**Frequency**	**Percent**
They are not effective	8	4.4
It depends with individuals and on the situation	94	51.6
They are effective	67	36.8
They are very effective	13	7.1
Total	**182**	**100.0**

Source: Primary Data (2015)

The results in table 4.13 show that 4.4% of the respondents held that intuition are not effective, 51.6% of the respondents held that "it depends with individuals and on the situation" while 43.9% held that they are effective in influencing investment

decisions. The responses here, with only 4.4% agreeing that "they are not effective" shows that decision processes of investors are not entirely rational.

To determine the investors' attitude towards risk, the study sought respondents' answers on the question "During economic hardship when demand is low if you are to sell goods, which basket of goods you have would you sell first?" and the results are presented in table 4.14.

Table 4.14: Basket of goods you would sell first during economic hardship

During economic hardship when demand is low if you are to sell goods, which basket of goods you have would you sell first?	**Frequency**	**Percent**
The ones that yielded a profit	143	78.6
The ones that yielded a loss	39	21.4
Total	**182**	**100.0**

Source: Primary Data (2015)

In table 4.14, majority (78.6%) of the respondents indicated that they would sell the basket of goods that yielded a profit first. Others, 21.4% would sell the ones that yielded a loss first and avoid the risk of losing more. The fact that majority of the respondents would sell profit yielding baskets first during economic uncertainty is an indicated that investors are risk lovers in periods of uncertainty. The results is in conformity with the Kahneman and Tversky (1979) study finding which supports the risk seeking behavior of investors within the framework of the Prospect Theory.

4.4.2 Regret Aversion Bias

The respondents were asked to express their opinion on the statement "You avoid selling goods whose prices have decreased and readily sell goods that have increased in price" aimed at determining the influence of regret aversion biases among investors in Kibuye market. The responses are presented in table 4.15.

Table 4.15: Stagger sale of goods whose price have decreased

You avoid selling goods whose prices have decreased and readily sell goods that have increased in price	Frequency	Percent
I strongly disagree	36	19.8
I disagree	29	15.9
I am neutral	31	17.0
I agree	58	31.9
I strongly agree	28	15.3
Total	**182**	**100.0**

Source: Primary Data (2015)

Responses in Table 4.15 shows that 15.3% of the respondents strongly agreed with the statement, 31.9% agreed, 17.0% were neutral, 15.9% disagreed, whereas 19.8% strongly disagreed. The fact that only 35.7% of the respondents indicated disagreement shows that investors would defer selling goods that have gone down in price and accelerate the selling of goods that have gone up in price to avoid pain of regret. Similarly, investors would avoid the pain of regret by decreasing their share of responsibility in making investment decisions. To determine whether this is so, the respondents were asked the question "what was the most important factor in deciding to invest at Kibuye Market?" and the responses presented in table 4.16.From table 4.16, majority (51.6%) of the respondents relied on the advice from friends and suggestions from media in making investment decisions at Kibuye market. It shows that friends' advice act as major reference information source for many investors at Kibuye market. About 27.5% of the respondents made own analysis of the market factors and information in deciding to invest at Kibuye, whereas 20.9% relied on their own intuitions. This finding agrees with Sevil*et al* (2007) assertion that investors in

avoiding the pain of regret would tend to decrease their share of personal responsibility in their investment decisions.

Table 4.16: Factor that influenced your decision to invest

What was the most important factor in deciding to invest at Kibuye Market?	Frequency	Percent
Your intuitions/ unexplained feelings	38	20.9
Advice from friends	93	51.1
Your own analysis and evaluation of the market	50	27.5
Suggestions from media	1	0.5
Total	**182**	**100.0**

Source: Primary Data (2015)

4.4.3 Loss Aversion Bias

The views of the respondents were sought on the statement "Whenever you incur losses in the market, you become more risk-averse in subsequent buying and selling" aimed at determining the influence of loss aversion bias and responses presented in table 4.17.

From the findings in table 4.17, 48.9% and 23.0% of the respondents agreed and strongly agreed respectively with the statement that whenever they incur losses in the market, they become more risk-averse in subsequent buying and selling. 7.7% of the respondents were neutral whereas 12.1% and 8.2% of the respondents disagreed and strongly disagreed respectively. Thus, majority (71.9%) of the respondents are in agreement that they become more risk-averse in subsequent buying and selling engagement in Kibuye market. This is in agreement with the loss aversion bias as posited by Pompian (2012).

Table 4.17: You become more risk-averse in subsequent buying and selling

Whenever you incur losses in the market, you become more risk-averse in subsequent buying and selling	Frequency	Percent
I strongly disagree	15	8.2
I disagree	22	12.1
I am neutral	14	7.7
I agree	89	48.9
I strongly agree	42	23.0
Total	**182**	**100.0**

Source: Primary Data (2015)

4.4.4 Mental Accounting Bias

Mental accounting describes the tendency of people to place particular events into different mental accounts based on superficial attributes (Shiller, 1997). The study sought the opinion of the respondents on the statement "You tend to treat each basket of your goods separately" aimed at determining the behavior of investors in respect of mental accounting and the responses are presented in table 4.18.

Table 4.18: You tend to treat each basket of your goods separately

You tend to treat each basket of your goods separately	Frequency	Percent
I strongly disagree	10	5.5
I disagree	21	11.5
I am neutral	37	20.3
I agree	76	41.8
I strongly agree	38	20.8
Total	**182**	**100.0**

Source: Primary Data (2015)

In table 4.18, 20.8% of the respondents strongly agreed that they tend to treat each basket of their goods separately. 41.8% agreed with the statement, 20.3% were neutral, 11.5% disagreed whereas 5.5% strongly disagreed. The fact that only 17.0% of the respondents disagreed shows that investors tend to place their investments into arbitrarily separate mental compartments, and react separately to the investments based on which compartment they are in. The findings here confirms similar argument held by Chandra (2008) that people may tend to place their investments into arbitrarily separate mental compartments, and react separately to the investments based on which compartment they are in.

4.4.5 Availability-Anchoring Bias

Availability bias is manifested by the tendency of people to incline into giving higher probability to events that they are familiar with. It happens when people make use of easily available information excessively or show high preference to familiar events. Closely related to availability bias is anchoring. In order to determine the existence of this bias among investors in Kibuye market, the respondents' answers were sought on the statement "familiar and well-known goods in the market are less risky than unfamiliar goods" and the responses presented in table 4.19.

The response in table 4.19 shows that 72.6% of the respondents were in agreement that "familiar and well-known goods in the market are less risky than unfamiliar goods", 20.8% of the respondents were in disagreement and 6.6% were neutral. The findings agrees with assertion by Wawer*u et al* (2008) that availability bias tend to manifest itself through the preference of investing in local companies which investors are familiar with, despite the fundamental principles so called diversification of portfolio management for optimization. It can be inferred that traders in Kibuye prefer investing in goods that they are familiar with and hold on

these goods for long. However, among the heuristic factors it has moderate level influence on investment decision as shown in table 4.10 with a mean value of 3.75.

Table 4.19: Familiar and well-known goods in the market are less risky than unfamiliar goods

Familiar and well-known goods in the market are less risky than unfamiliar goods	Frequency	Percent
I strongly disagree	19	10.4
I disagree	19	10.4
I am neutral	12	6.6
I agree	76	41.8
I strongly agree	56	30.8
Total	**182**	**100.0**

Source: Primary Data (2015)

4.4.6 Representativeness Bias

This variable has moderate level of influence on investment decisions with a mean of 3.37 as presented in table 4.10. It implies that investors in Kibuye market make forecast of changes in commodity prices in the future based on the recent prices. When asked to express their opinions on the statement "you forecast changes in commodity prices in the future based on the recent prices", 48.9% of the respondents agreed with the statement, 28.6% were neutral while 22.5% disagreed as shown in table 4.20.

To verify these views, same group of respondents were asked to the question "in deciding to invest at Kibuye market, do you base decision on your past performance of the various commodities you stock?" and answers presented in table 4.21.

Table 4.20: You forecast changes in commodity prices in the future based on the recent prices

You forecast changes in commodity prices in the future based on the recent prices	Frequency	Percent
I strongly disagree	24	13.2
I disagree	17	9.3
I am neutral	52	28.6
I agree	42	23.1
I strongly agree	47	25.8
Total	**182**	**100.0**

Source: Primary Data (2015)

The result in table 4.21 shows that 81.3% of the respondents answered to the positive indicating that their past performance informs their current decisions; whereas 18.7% answered to the negative disagreeing with the statement. It can therefore be concluded that representativeness has influence on investment decisions in Kibuye market. The finding here is in agreement with Ritter (2003) argument that representativeness bias may result when people put too much weight on recent experience and ignore the average long-term rate.

Table 4.21: Past Performance and Investment Decision in Kibuye market

In deciding to invest at Kibuye market, do you base decision on your past performance of the various commodities you stock?	Frequency	Percent
Yes	148	81.3
No	34	18.7
Total	**182**	**100.0**

Source: Primary Data (2015)

4.4.7 Over-Confidence/ Self-Attribution Bias

Among the heuristic variables, over-confidence has the highest level of influence on investment decisions with a mean of 4.01 as shown in table 4.10. In order to determine this, the respondents were asked of their opinion on the statement "you believe that your skills and knowledge can help you outperform at Kibuye market" and responses presented in table 4.22. From the result, 75.3% of the respondents believe that their skills and knowledge can help them outperform at Kibuye market, 8.7% disagreed with the statement whereas 15.9% are neutral.

Table 4.22: You believe that your skills and knowledge can help you outperform inKibuye market

You believe that your skills and knowledge can help you outperform at Kibuye market	**Frequency**	**Percent**
I strongly disagree	7	3.8
I disagree	9	4.9
I am neutral	29	15.9
I agree	67	36.8
I strongly agree	70	38.5
Total	**182**	**100.0**

Source: Primary Data (2015)

The result in table 4.22 is in agreement with Odean (1998) assertion that overconfident investor's trade more than rational investors. Similar to over-confidence bias is the self-attribution in which most traders tend to believe that any success is due to their talents and failure is due to "bad luck" which causes them to overestimate their talents.

4.4.8 Market Factors

Market factors have both high (mean of 4.01) and moderate (mean of 3.75) level of influence on investment decisions of traders in Kibuye market as shown in table 4.11. The respondents' answers to the statement "you tend to consider carefully the price changes of commodities that you intend to invest in" shows that 25.3% strongly agreed, 45.6% agreed, 13.7% are neutral, 9.3% disagreed and 6.0% strongly disagreed as in table 4.23. This is an indication that investors in Kibuye do also consider carefully price changes of commodities that they intend to invest in as only minority (15.3%) disagreed.

Table 4.23: You tend to consider carefully the price changes of commodities that you intend to invest in

You tend to consider carefully the price changes of commodities that you intend to invest in	**Frequency**	**Percent**
I strongly disagree	11	6.0
I disagree	17	9.3
I am neutral	25	13.7
I agree	83	45.6
I strongly agree	46	25.3
Total	**182**	**100.0**

Source: Primary Data (2015)

Further, the respondents were asked of their opinion on the statement "market information is important for your personal investing activities in Kibuye market" in order to ascertain the results in table 4.23 and the responses are presented in table 4.24.

Table 4.24: Market information is important for your personal investing activities in Kibuye market

Market information is important for your personal investing activities in Kibuye market	Frequency	Percent
I strongly disagree	9	4.9
I disagree	11	6.0
I am neutral	20	11.0
I agree	72	39.6
I strongly agree	70	38.5
Total	**182**	**100.0**

Source: Primary Data (2015)

Table 4.24 shows that 38.5% of the respondents strongly agree, 39.6% agree, 11.0% neutral, 6.0% disagree and 4.9% strongly disagree. The fact that only 10.9% of the respondents are in disagreement shows the importance of market information to the investing population in Kibuye market.

4.4.9 Herd Behavior

From factor analysis, the variables of herding have low (mean of 2.65) to moderate (mean of 3.00) influence on investment decisions making as shown in table 4.12. The study sought the respondents' opinion on the statement "Decisions by other investors in the market have impact on your investment decisions" and the responses presented in table 4.25. The result in table 4.25 shows that 48.9% of the respondents disagreed, 8.2% neutral and 42.9% agreed. The fact that 48.9% of the respondents indicated disagreement affirms the findings in table 4.12 that the variable has moderate to low influence on investment decision making processes. Again, responses to the statement "you usually react quickly to the changes of other investors decisions and follow their reactions to buy and sell in the market" as presented in table 4.26

show that 54.4% disagreed, 15.4% neutral and 30.2% agreed. The findings here is contrary to Shiller (2000)'s assertion that a fundamental observation about the human society is that people who communicate regularly with one another think similarly and that part of the reasons people's judgments are similar at times is that they are reacting to the same information.

Table 4.25: Decisions by other investors in the market have impact on your investment decisions

Decisions by other investors in the market have impact on your investment decisions	Frequency	Percent
I strongly disagree	19	10.4
I disagree	70	38.5
I am neutral	15	8.2
I agree	48	26.4
I strongly agree	30	16.5
Total	**182**	**100.0**

Source: Primary Data (2015)

Interestingly, majority (51.1%) of the respondents on the question "what was the most important factor in deciding to invest in Kibuye market?" indicated "advice from friends" as shown in table 4.16. It could be implied that these group of investors seek advice from friends about investment opportunities in Kibuye market, decide to do their own evaluation before choosing what, where, when and how to invest. This views is ascertained from the responses on the question "what would you do if a friend of yours told you that he/ she is making much profit selling a particular good at Kibuye market?" as presented in table 4.27. Again, the fact that one gets information from friends on investment opportunity does not imply that they will follow what the friend do, a manifestation of peer pressure which translates to herd behavior. Looking

at results in table 4.22, many (75.3%) traders in Kibuye market are over-confidence about their skills and knowledge in realizing exemplary performance which attest to the fact that herd behavior has very little influence in this market.

Table 4.26: You usually react quickly to the changes of other investors decisions and follow their reactions to buy and sell in the market

You usually react quickly to the changes of other investors decisions and follow their reactions to buy and sell in the market	**Frequency**	**Percent**
I strongly disagree	50	27.5
I disagree	49	26.9
I am neutral	28	15.4
I agree	25	13.7
I strongly agree	30	16.5
Total	**182**	**100.0**

Source: Primary Data (2015)

From the result in table 4.27, majority (46.2%) of the respondents would research about the good first and then purchase it, 35.7% would decide according to the trend in the market (anchoring), 9.3% would purchase it immediately (herding), 8.2% would consider similar case (representativeness) and 0.5% would not consider purchasing it. It is therefore evident from table 4.27 that many investors in Kibuye market do not exhibit herd behavior, but are mostly influenced by other behavioral factors.

Table 4.27: Decision-Making Options/ Alternative action

What would you do if a friend of yours told you that he/ she is making much profit selling a particular good at Kibuye market?	Frequency	Percent
I would purchase it immediately	17	9.3
I would research it first and purchase it	84	46.2
I would consider similar case	15	8.2
I would not consider purchasing it	1	0.5
I would decide according to the trend in the market	65	35.7
Total	**182**	**100.0**

Source: Primary Data (2015)

4.5 Summary of the Study Findings

The questionnaire was administered to seek the response of 196 individual investors trading in Kibuye market as representative of population investing in similar markets in Kenya. From the study, the participation rate was 92.86% as only 182 respondents out of 196 were available and willing to participate in the study.

According to the findings male respondents accounted for 59.9% while female constituted 40.1%. In terms of the age of respondents, majority (99.5%) are above 21 years old. This implies that the respondents were of right age to make investment decisions and also relevant in participating in the study. Majority (85.7%) of the respondents have been trading in Kibuye market for over 3 years.

The findings show that decision processes of investors trading in Kibuye market is not entirely rational. Responses to the question "what do you think is the role of your unexplained feelings (intuition) when you are deciding to invest at Kibuye market?" as presented in table 4.13 show that investors are under some

influences. Only 4.4% of the respondents held that intuition are not effective in decision making.

In terms of behavioral factors, heuristic variable (over-confidence/ self-attribution) and market factor take the lead in shaping the investment decision processes of traders in Kibuye market with a sample mean of 4.01 each. This is followed by availability/ anchoring bias with a mean of 3.75. In the third place are two prospect factors (loss-aversion and mental accounting) each with a sample mean of 3.60. Herding variables trail in influencing the investment decisions in Kibuye market with a sample mean of 2.65 and 3.00.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusion and recommendations from the study. It is divided into five sections. First, it gives the summary of the study. This is followed by conclusion based on the findings and discussions in chapter four. It then makes recommendations and highlight limitations of the study. Lastly, it makes suggestions for further research.

5.2 Summary

The background of the study was discussed, followed by the research problem, objectives and value of the study. The objective of the study was to establish the behavioral factors that drive investing activities in Kibuye market in Kisumu town, Kenya. Descriptive research design was employed to help achieve study objective. The target populations of the study were 400 individual traders who subscribe for annual licenses to operate businesses in Kibuye market. The study sampled 196 respondents through stratification based on the line of products or market sections/ segments. Kibuye market has nine (9) sections/ segments specializing in different line of products. These include cereals, food staffs, transport, metal works, wood works, "mitumba" clothes, general merchandize, shoes and textile.

In terms of section participation, transport, metal and wood works, general merchandize and textile registered 100% response rate. "Mitumba" clothes section recorded the least participation rate at 81.5%. Overall, there was 92.86% participation rate having administered 182 questionnaires successfully out of 196 sampled respondents. The respondents were targeted using purposive sampling technique and

with a referral to the next trader until a desired sample per section is reached. Data was collected using a mix of structured and a 5-point likert scale questionnaire. Descriptive statistics of mean, standard deviation and frequency tables and factor analysis were used for data analysis. Factor analysis was used to reduce the data/ variables into acceptable factors for further analysis. The study used SPSS version 20.0 for data analysis. The findings were presented in tabular forms.

The findings showed that investment decisions of traders in Kibuye market is significantly influenced by: over-confidence and market information (at mean of 4.01 each), availability/ anchoring bias (mean of 3.72), loss-aversion and mental accounting (mean of 3.60), representativeness bias (3.37), risk-aversion (3.06) and herd behavior (3.00) in that order.

5.3 Conclusion

A combination of seven behavioral biases (loss-aversion, mental accounting, risk-aversion, representativeness, availability/ anchoring, over-confidence/ self-attribution and herd behavior) and market factor were in play in influencing investment decision making processes in Kibuye market. The results showed that investors are never entirely rational in making decisions. The most prevalent factor among the traders is in the form of over-confidence/ self-attribution, leading to the traders believing that their skills and knowledge about the market can help them outperform in Kibuye. Others are availability/ anchoring bias, loss-aversion, mental accounting and representativeness bias. However, herd behavior had very low level of influence on individual investor decisions.

5.4 Recommendations

The study would recommends investor education to the investing population in Kibuye market in order to help avert a possible unfavorable investments outcomes caused by behavioral biases. In order to manage the excesses of behavioral influences to investment decision making, training programs that create investor awareness and ability to identify and guard against behavioral biases that lead to poor investment choices should be offered to both potential and existing traders in the Kibuye market. For this, the County Government of Kisumu should undertake to formulate and implement these programs given the importance of Kibuye market in generation of revenue.

The study further recommends that the County Government makes the annual licensing fee affordable for the investors in Kibuye and other open-air markets to ensure reduced leakages in revenue collections. This will also enable better tracking of performance in the market.

The study also recommends establishment of a body or authority to monitor market performance and provide best investment advice to both potential and actual investors in the market as a best practice going forward.

5.5 Limitations of the Study

Some of the limitations of the study include:

The research targeted only 196 sampled traders in Kibuye market as a representative of many traders investing in such open-air market in Kenya. This was limited due to financial constraints. More objective findings would be possible given an extension of the research to include such markets in other Counties.

The study was also constrained by time as the researcher had to balance between the research undertakings and other work related commitments. The researcher relied entirely on primary quantitative data. This means that the benefits associated to using qualitative research had to be forgone.

Level of literacy among traders allowed for interpretation of the questionnaire contents to some respondents. This might have generated certain level of biasness in responses.

5.6 Suggestions for further Research

Further researchers can improve on this research in the following areas:

A correlation study on the behavioral factors and investment performance by traders in Kibuye market is highly suggested for further researchers.

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

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Appendix I: Transmittal Letter

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P.O Box 19134-40123
Kisumu, Kenya

Date: 8th September, 2015.

TO WHOM IT MAY CONCERN

The bearer of this letter Ojwang' Paul Oracha

REGISTRATION NO: D61/61068/2011

The above named student is in the Master of Business Administration degree program. As part of requirements for the course, he is expected to carry out a study on **"behavioral factors and investment decisions by traders in Kibuye Market in Kisumu Town, Kenya."**

He has identified your organization for that purpose. This is to kindly request your assistance to enable him complete the study.

The exercise is strictly for academic purposes and a copy of the final paper will be availed to your organization on request.

Your assistance will be greatly appreciated.

Thanking you in advance.

Sincerely,

CO-ORDINATOR
08 SEP 2015
KISUMU CAMPUS
UNIVERSITY OF NAIROBI

MR. CHARLES DEYA
ADMINISTRATOR, SOB, KISUMU CAMPUS

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Appendix II: Sample Sizes for different population sizes (Krejcie& Morgan 1970)

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Appendix III: Questionnaire for individual investors

Dear respondent,

My name is Paul Ojwang'. I am an MBA student at The University of Nairobi. Currently, am undertaking a research on behavioral factors and investment decision by traders at Kibuye market in Kisumu town. I kindly request you to take part of your time to complete this questionnaireand hand it back. Theinformation provided will be treated with strict confidentiality. In each question provide the response that best reflects your own experiences. Your honest feedback is of highest importance in the course of my academic research.Tick your answer in the brackets ( ) provided.

1) Code: ----------

SECTION A: GENERAL INFORMATION

2) **Gender:** Male ( ) Female ( )

3) Age in Years:

i. 18 - 20 ( ) ii. 21-30 ( ) iii. 31-40 ( ) iv. 41-50 ( ) v. Over 50 ( )

4) Number of years engaged trading

i. 1-3 ( ) ii. 4-7 ( ) iii. 7-10 ( ) iv. Over 10 ( )

5) Trading name (Name of the Business): _____

6) Section/ Unit of Kibuye market: _____

i) Cereals ii) Foodstaffs iii) General Merchandize iv) Metalworks
v) Transport vi) Woodworks vii) "Mitumba" clothes viii) Shoes
ix) Textile

7) What type of investing activities do you undertake here at Kibuye market?

_____

8) Do you keep proper records of your trading performances?

i) Yes
ii) No

9) If yes in number (8) above, what average profit do you expect to get from your goods in the next three months?

i) About Kes 1,000 to 5,000
ii) About Kes 5,000 to 15,000
iii) About Kes 15,000 to 20,000
iv) OverKes 20,000

10) In deciding to invest at Kibuye market, do you base decision on your past performance of the various commodities you stock?

1. Yes ( ) 2. No ( )

SECTION B: BEHAVIORAL INFLUENCES

11) During economic hardship when demand is low if you are to sell goods, which basket of goodsyou have would you sell first?

i) The ones that yielded a profit ( )

ii) The ones that yielded a loss ( )

12) What do you think is the role of your unexplained feelings when you are deciding to invest atKibuye market?

i) They are not effective ( )
ii) It depends with individuals and on the situation ( )
iii) They are effective ( )
iv) They are very effective ( )

13) What was the most important factor in deciding to invest at Kibuye market?

i) Your Intuitions or unexplained feelings ( )
ii) Advice from friends ( )
iii) Your own analysis and evaluation of the market ( )
iv) Suggestions from Media ( )
v) Others. Explain
……

In questions 14 and 23, choose the option that best fit your situation.The responses are 1= I strongly disagree 2= I disagree 3= I am neutral 4= I agree 5= I strongly agree

No.	Statement	1	2	3	4	5
14	Familiar and well-known goods in the market are less risky than unfamiliar goods.					
15	You forecast changes in commodity prices in the future based on the recent prices					
16	You believe that your skills and knowledge can help you outperform at Kibuye market					
17	Whenever you incur losses in the market, you become more risk-averse in subsequent buying and selling					
18	You avoid selling goods whose prices have decreased and readily sell goods that have increased in price					
19	You tend to treat each basket of your goods separately					
20	You tend to consider carefully the price changes of commodities that you intend to invest in					
21	Market information is important for your personal investing activities in Kibuye market					
22	Decisions by other investors in the market have impact on your investment decisions					
23	You usually react quickly to the changes of					

	other investors decisions and follow their reactions to buy and sell in the market					

24) What would you do if a friend of yours told you that he is making much profit selling a particular good at Kibuye market?

i)I would purchase it immediately ( )
ii) I would research it first and purchase it ( )
iii) I would consider similar cases ( )
iv) I would not consider purchasing it ( )
v) I would decide according to the trend in the market ( )

THANK YOU.

Appendix IV: List of the Respondents/ Traders in Kibuye Market

S/ No.	Trading Name(s)	Product Traded	Market Section
1	Mama Hillary	Cereals	Cereals
2	Mama Max	Cereals	Cereals
3	Ugenya	Cereals	Cereals
4	Ba Joy	Cereals	Cereals
5	Bon Akoko	Cereals	Cereals
6	DelilaNyanchama	Cereals	Cereals
7	Erick Otieno	Cereals	Cereals
8	Fred Otieno	Cereals	Cereals
9	George	Cereals	Cereals
10	Jane	Cereals	Cereals
11	LonaAkello	Cereals	Cereals
12	Mama Adhiambo	Cereals	Cereals
13	Monica Akoth	Cereals	Cereals
14	Norah Juma	Cereals	Cereals
15	Pamela	Cereals	Cereals
16	Paul Onyango	Cereals	Cereals
17	Perez Laja	Cereals	Cereals
18	Quinter	Cereals	Cereals
19	Rose Moraa	Cereals	Cereals
20	Rose Olum	Cereals	Cereals
21	RoselineAkumu	Cereals	Cereals
22	Wanyama	Cereals	Cereals
23	Ayora	Burchary	Food staff
24	Baraka	Fishmonger	Food staff
25	Barnabas Ochieng	Cabbages	Food staff
26	ByPass	Burchary	Food staff
27	ChrisphineAludha	Cabbages	Food staff
28	Eating Room	Chicken	Food staff
29	Foodstaff	Green Maize	Food staff
30	Fredrick Omondi	Spices	Food staff
31	Imperials	Chicken	Food staff
32	Jamii Bora	Groceries	Food staff
33	Joseph Wainaina	Potatoes	Food staff
34	Ken Alusala	Spices	Food staff
35	Manyatta Fresh Group	Chicken	Food staff
36	Ondiek	Onions	Food staff
37	Pamela Ongele	Fishmonger	Food staff
38	Philip Ouma	Green Maize	Food staff
39	Rhoda Awiti	Fresh Fruits	Food staff
40	RoselineAnyango	Sukumawiki	Food staff

41	Rosemary Anyango	Tomatoes	Food staff
42	Royal	Fresh Fruits	Food staff
43	The Point	Fishmonger	Food staff
44	Groceries Vendor	Groceries	Food staff
45	William Otieno	Onions	Food staff
46	Jire Enterprises	Groceries	Food staff
47	Joseph Amollo	Hardware	General Merchandize
48	DorineAtieno	Retailshop	General Merchandize
49	Mombasa shop	M-Pesa shop	General Merchandize
50	Retailer	Retailshop	General Merchandize
51	SMN shop	Retailshop	General Merchandize
52	Annointed	Scrap metals	General Merchandize
53	Babes	Saloon	General Merchandize
54	Carban Enterprise	Saloon	General Merchandize
55	Digital Genre	Movies shop	General Merchandize
56	Esther Mokaya	Hotel	General Merchandize
57	GensonGumbe	M-Pesa shop	General Merchandize
58	Henry Owino	Kinyozi	General Merchandize
59	Jared Ouma	Hotel	General Merchandize
60	Jim Nyanjwa	Hotel	General Merchandize
61	John	Kinyozi	General Merchandize
62	Michael Otieno	Pharmacy & Stores	General Merchandize
63	Music	Movies shop	General Merchandize
64	Otih	Kinyozi	General Merchandize
65	Rose Obonyo	Makaa	General Merchandize
66	Sekina Beauty	Saloon	General Merchandize
67	Steve Ochieng	Electronics	General Merchandize
68	Tyson	Retailshop	General Merchandize
69	Violet Achieng	Malimali	General Merchandize
70	Warembo	Saloon	General Merchandize
71	WicklifeOkoth	Magunia	General Merchandize
72	Daniel Okal	Retailshop	General Merchandize
73	Asumbi Workshop	Wheelbarrow	Metal works
74	Big Three Workshop	Welding	Metal works
75	Collins ogoyo	Welding	Metal works
76	Daniel Odido	Feeders & Gutters	Metal works
77	Daniel Okoth	Karaya	Metal works
78	Daro	Wheelbarrow	Metal works
79	Erick Auma	Metal Boxes	Metal works
80	James Ouma	Karaya	Metal works
81	Jaringa Engineering	Garage	Metal works
82	John OmolloNyakol	Karaya	Metal works

83	Kocham Workshop	Welding	Metal works
84	Peter K'Obunga	Wheelbarrow	Metal works
85	Peter Ogana	Jiko	Metal works
86	Adwera Workshop	Doors and Windows	Metal works
87	Samwel Onyango	Metal Boxes	Metal works
88	Colly attires	Mtumba	Second-Hand Clothes
89	Ing'anade	Mtumba	Second-Hand Clothes
90	Mwalimu	Mtumba	Second-Hand Clothes
91	New Gen	Mtumba	Second-Hand Clothes
92	Nyamalo	Mtumba	Second-Hand Clothes
93	Nyar Chief Odero	Mtumba	Second-Hand Clothes
94	Philip Ochieng	Mtumba	Second-Hand Clothes
95	PMC Member	Mtumba	Second-Hand Clothes
96	Vendor 1	Mtumba	Second-Hand Clothes
97	Vendor 10	Mtumba	Second-Hand Clothes
98	Vendor 11	Mtumba	Second-Hand Clothes
99	Vendor 12	Mtumba	Second-Hand Clothes
100	Vendor 13	Mtumba	Second-Hand Clothes
101	Vendor 2	Mtumba	Second-Hand Clothes
102	Vendor 3	Mtumba	Second-Hand Clothes
103	Vendor 4	Mtumba	Second-Hand Clothes
104	Vendor 5	Mtumba	Second-Hand Clothes
105	Vendor 6	Mtumba	Second-Hand Clothes
106	Vendor 7	Mtumba	Second-Hand Clothes
107	Vendor 8	Mtumba	Second-Hand Clothes
108	Vendor 9	Mtumba	Second-Hand Clothes
109	Wakily	Mtumba	Second-Hand Clothes
110	Abdala	Shoes	Shoes
111	Agidho	Shoes	Shoes
112	Alpha	Shoes	Shoes
113	Angeline	Shoes	Shoes
114	BerNeno	Shoes	Shoes
115	Bonke	Shoes	Shoes
116	Eunice	Shoes	Shoes
117	Gikonyo	Shoes	Shoes
118	Isaac	Shoes	Shoes
119	Lilian	Shoes	Shoes
120	Lydia	Shoes	Shoes
121	Millien Mood	Shoes	Shoes
122	Oyuga	Shoes	Shoes
123	Papa	Shoes	Shoes
124	Peneric Mini shop	Shoes	Shoes

125	Ruth	Shoes	Shoes
126	Silver Wears	Shoes	Shoes
127	Steve	Shoes	Shoes
128	Susana	Shoes	Shoes
129	Ulizi street	Shoes	Shoes
130	Zablon	Shoes	Shoes
131	African Fashions	Ladies Wear	Textile
132	Agape	Bed covers	Textile
133	AL-tameed	Ladies Wear	Textile
134	Bakari Investment	Table matts	Textile
135	Dubai Fashions	Men & Women	Textile
136	Imani Fitings	Ladies Wear	Textile
137	Japolo Designers	Men & Women	Textile
138	Kolando Garments	Bed covers	Textile
139	Mama Steve	Snacks shop	Textile
140	Modern Designs	Men Wear	Textile
141	Papermill Garments	School Uniforms	Textile
142	Rachuonyo Tailoring	School Uniforms	Textile
143	Retailshop	Children Wears	Textile
144	Seka Garments	Men Wear	Textile
145	SK Fashions	Children Wears	Textile
146	Sulwe Garments	Curtains	Textile
147	Superior Sewing Machines	Tailoring accessories	Textile
148	Tesata Enterprises	Pillows	Textile
149	Yogi Enterprises	School Uniforms	Textile
150	AmedaMercel	BodaBoda	Transport Services
151	BenardOmondi	TukTuk	Transport Services
152	ChrisphineOchieng	Trucks	Transport Services
153	Daniel Oduor	Pick up	Transport Services
154	Deere Suspens	Trucks	Transport Services
155	Elijah Omollo	BodaBoda	Transport Services
156	Hauliers	Trucks	Transport Services
157	JogursGuya	BodaBoda	Transport Services
158	John Differential	Pick up	Transport Services
159	John Owenje	BodaBoda	Transport Services
160	Moses Seda	BodaBoda	Transport Services
161	Mouris Onyango	TukTuk	Transport Services
162	Paul Ouma	BodaBoda	Transport Services
163	Sunday Nyonj	Trucks	Transport Services
164	TT	Trucks	Transport Services
165	NyarMisando	Hardware	Wood works
166	Nema	Hardware	Wood works

167	Asembo Designers	Carpentry	Wood works
168	Covenant Furnitures	Carpentry	Wood works
169	Dan Furnitures	Carpentry	Wood works
170	Goodwill	Carpentry	Wood works
171	Kajwang Designers	Carpentry	Wood works
172	KambogoFurnitures	Carpentry	Wood works
173	KanyogolaFurnitures	Carpentry	Wood works
174	KonyandoFurnitures	Carpentry	Wood works
175	Moonlight Furnitures	Carpentry	Wood works
176	Olmach	Carpentry	Wood works
177	Samsung Furnitures	Carpentry	Wood works
178	Storm Furnitures	Carpentry	Wood works
179	TekteFurnitures	Carpentry	Wood works
180	TemboFurnitures	Carpentry	Wood works
181	Victory Furnitures	Carpentry	Wood works
182	Yenga Wayside	Carpentry	Wood works