THE EFFECT OF INVESTOR HERDING BEHAVIUOR ON SECURITIES RETURNS AT THE NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

This research project is my original work and has not been presented for any academic award in any other institution.

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D61/84128/2015

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

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DEDICATION

I dedicate this research project to my parents for giving me the foundation in education that has allowed me reach where I am today. To my wife Roselyne and my sons Teddy and Ian thank you for your love and understanding during the entire period of my project.

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ABSTRACT

The aim of the study was to establish whether investor herding behaviour has an effect on securities returns at the Nairobi Securities Exchange. This seeks to bridge the gap that exists in the Kenyan securities markets where there is limited financial knowledge, filling the knowledge gap in the field of behavioural finance understanding. The main objective of the study is to inform stakeholders like the policy makers, investors and the academic on the relationship between investor's behaviour and the securities returns at the exchange. The study used descriptive research design. The population was estimated at 1.2 million individual investors as at June 2017. A sample of 115 individual investors was used in the study. Data was collected using a structured questionnaire and secondary data obtained from the NSE on quarterly time series for a period of five years. The study found that most individual investors make investment decisions based on mass buying and selling of securities. It found that majority of the individual investors believe that investments bear positive returns even where there is evidence to the contrary. It found that that amongst most individual investors, subjective decision making played a significant role in investment decisions in the securities market. It also showed that relying on one piece of information had a great influence on decision making in securities market amongst individual investors. The study concluded that the effect of herding may also not be felt in emerging markets because of the rare nature of trading in securities due to such factors like limited capital or little information regarding the securities. The process of obtaining data for the study was tedious and costly. The cost of purchase of the data was pegged on the number of years therefore the unavailability of enough funds was an obstacle to the scope of my study therefore the higher the number of years, the higher the cost. The study recommends that trainings should be conducted to guide investors on the pros and cons associated with the trading activities at the NSE. Further studies should be done on the effect of herding behaviour on the determination of the entry and exit of a company in the NSE 20 Share Index.

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LIST OF ABBREVIATIONS

APT	Arbitrage Pricing Theory
BF	Behavioural Finance
CAPM	Capital Asset Pricing Model
CMA	Capital Markets Authority
CSAD	Cross Sectional Absolute Deviation
ECM	Error Correction Model
EMH	Efficient Market Hypothesis
JB Test	Jarque Bera test
MPT	Modern Portfolio Theory
NSE	Nairobi Securities Exchange
STDEV	Standard Deviation

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Economists and finance scholars relied on Fama (1965) Efficient Market Hypothesis for many years and have come to the realisation of the fact that investors poses irrational features in decision making in matters investment. This came to be after Daniel Kahneman was awarded with the Nobel Memorial Price in the year 2002 for his findings challenging the assumption of human logic prevailing in current day economic theory.

According to Paul (2009), successful stock investing is more than choosing a particular stock; it is also how you go about doing it. Successful investors go beyond picking good stocks and watching the financial news but proceeding on to implement techniques and strategies that help them either minimize losses or maximize gains.

Belsky & Gilovich (1999) observe behavioural finance as behavioural economics. This brings together the two disciplines of psychology and behavioural economics to elaborate why and how individuals settle on unreasonable choices when it comes to borrowing, saving and spending money in either the securities exchanges or somewhere else. Most of the theories in the field of finance and economics believe that individual's actions are rational and consider all the accessible information when settling on the investment choices. Bernstein (1996), however, found that there is evidence to propose that irrationality, inconsistency and incompetence in the way individuals make choices and in arriving at decisions when confronted with uncertainty. Behavioural finance thus takes a gander at how investors' activities impact their determination of investment options (Rattner, 2009).

Bikhchandani & Sharma (2001) recognized possible reasons for the rational herding behaviour. Blemish information is the most frequently, and the herding behaviour caused by this is referred to as "information cascade". For example, ten financial speculators faced with a difficulty

whether to invest or not on the Romanian stock exchange. Subsequent to assessing the potential investment on the stock exchange, four of them consider that the Romanian stock exchange is profitable, while the other six consider that it isn't. At the point when the investors from the first cluster will put resources into the Romanian stock exchange, a few people from the second group may change their opinions since they trust that the investors from the main classification have information with respect to the performance of the investment, data that is reflected by their activities. The second reason emerges when a supervisor and his representatives are indecisive of the directors' capacity to pick a project. So as to "keep the mystery" verses his expertise where the team leader could embrace a conduct that is in accordance with different experts, which would prompt herding behaviour. Lastly, the third cause relates to the compensatory structures of the fund managers. If remuneration of a manager depends on his performance compared with the performance of the others or set benchmarks, then that manager might be tempted to follow the set benchmarks.

1.1.1 Investor Herding Behaviour

Herding refers to action or activity without prior rational thinking because of influence from others (Banerjee, 1992). Herding occurs when investment behaviour tend to converge to the average even when market information analysis is to the contrary (Hirshleifer & Teoh, 2003). Herding has been identified as the commonality of illogicality of investors, resulting to mispricing of financial gains (Shiller, 2005). However, since little is known about the key part taken by structural changes and other economic processes in the generation of bubbles and crashes, one may interrogate the factual influence "herding behaviour" points to those events (Rachel, 2013)

The influence from others makes one believe that many cannot be wrong hence their decisions are equally right therefore easy to follow than making one's own informed decision given the information available in the market (Banerjee, 1992). Explanations as to why investors herd may include the fact that market players may collect data on performances of prior partakers, traders might respond to the receipt of vital reports in a similar manner, the traders possibly will

be illogical and herd behaviour is capable of happening due to mental and social conventions (Spyrou, 2013).

Several elements that impact herding by investors includes: overconfidence, volume of investment, knowledge of the investment environment and many more. Higher confidence in traders leads to more reliance on own confidential knowledge for the investment choices. In such scenarios, investors become disinterested with herding. When investors put in huge outlays into a project, they adopt the conduct of peers of minimising exposures. Inclination to herding poses a bearing on categories of traders; individual ones have affinity to follow as the masses in undertaking purchasing and selling resolutions more than institutional traders (Good fellow, Bohl & Gebka, 2009).

The obvious outcome of herding is inefficient markets. Market participants' trade in similar manner regardless of factual analysis and informed predictions. Prices are destabilized leading to bubble-like episodes in financial markets (Ombai, 2010). Accumulations of unproductive counters by market participant against expert analysis, skewed market return are some of the indications of herded counters.

1.1.2 Securities Returns

Davis (2001) defined securities yields as the gain or loss of a security in a specific period consisting of proceeds in dividends form and the capital gains comparative to a share, ordinarily quoted as a percentage. The theory of securities price behaviour was started by Markowitz in the year 1952. The technique is a single period one in which case investors develops a pool of investments at the beginning of the period. The intention of the investors will be to take full advantage of the expected return from the portfolios, based on a reasonable risk level or lessen risk based on favourable anticipated gains. The hypothesis of a solitary day and age, combined with assumptions in regards to financial specialist's approach to risks accommodates estimation of volatility using variance or standard deviation of the portfolio return.

While reinforcing on Markowitz model, Sharpe (1964), Lintner (1965) and Mossin (1966) separately, thought of a model alluded to as Capital Asset Pricing Model (CAPM) that gives the assumption that investors use the reasoning of the founder of the theory in designing portfolios. Additionally, it presupposes the existence of a government security which offers a certain return and it is risk free.

Return consists of income and capital gains relative on an outlay which is usually quoted as a percentage. Securities market returns can vary from investor-to-investor subject to the amount of risk one is ready to absorb and the quality of securities market analysis. Securities market returns are subject to risk.

1.1.3 Herding and Securities Returns

When investors converge to the same securities, the resultant effect is over or under pricing of securities, general over and under trading in the securities markets and lower or higher bond yields (Nofsinger & Sias, 1999). If securities are under-priced, arbitrage pricing theory stipulates supply and demand factors equalize at equilibrium as the securities adjust to correct pricing. In the case of herding market, supply outnumbers the demand when the securities open for trading hence prices will plummet. This causes the capital gains and dividend returns to fall sharply. Whilst there are abundant cases of similar behaviours in the stock market, the passive investment strategy of buy and hold approach by bondholders has over the years protected the fixed income market from fluctuations.

Hirshleifer, Subramanian and Titman (1994) observe that when herding, investors give attention simply to a subsection of a portfolio while overlooking other portfolios with similar exogenous features, this leads to overall securities market inefficiencies thus securities returns not based on fundamentals. Herding results in securities price volatility and consequently returns volatility. Hong, Kubik, and Stein (2005) establish that herding is also observed in fund managers in the securities they trade in a given period. Garvey and Murphy (2004) reveal indications of the nature effect the inclination to sell winners and hold losers which diminishes the trader gains

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1.1.4 Nairobi Securities Exchange

This is Kenyas principal bourse exchange which opened in 1954. It is located in Westlands. The Nairobi Securities Exchange (NSE) currently hosts: 62 equities, 57 government bonds, and 28 commercial ones. It is a demutualized exchange in line with best practices separating membership, direction, and management of the exchange. It made an Initial Public offer of its shares in 2014(NSE website, 2015)

The NSE comprise of the following: Nairobi all shares index (NASI), NSE 20 share index, NSE 25 share index, FTSE NSE Kenya 15 share index, FTSE NSE Kenya 25 share index, FTSE NSE Kenya Govt. Bond index and FTSE ASEA Pan African Index (NSE 2017). The Local investors hold share totaling 52.39% of shares trading at the NSE with the balance allocated as follows: Local corporate 25.39%, foreign corporate 20.44%, East African Individuals 0.13% and East African Corporate 0.62% (CMA Bulletin Q 2, 2015).

Securities returns at the NSE have exhibited an upward trend with slump in returns only occurring during extreme market conditions such as, election period and also at the global economic crunch and collapse of major securities brokerage Firm (Nairobi Securities Exchange, 2017).

1.2 Research Problem

The Efficient Market Hypothesis by Fama (1970) elaborates its efficiency in weak, semi-strong and strong types which means that the securities prices reflect fully the available information. If the prices do not reflect the available information, investors may decide to purchase the undervalued securities causing an increase in the demand of those securities and eventually equilibrium is achieved. This occurrence tends to bring about the under trading of overvalued securities and over trading of the undervalued securities.

Mokua (2003) States that it is important for investor to understand the securities market imperfections to be able to take advantage of them. Nairobi Securities Exchange has depicted various patterns with respect to herding in securities and their returns. This implies that herding

has a direct link to future prices of the securities and their consequent returns. It is therefore critical to study what effect herding has on future prices and returns of securities to inform the steadiness and its capability in order to attain briefing competence of Nairobi Securities Exchange market.

Several studies have been done at the NSE in relation to Herding. Ombai (2010), set to find out the herding effects at the NSE during the global financial crisis. Behavioural finance provided a fundamental theoretical framework for this study. Carrying out a cross sectional study for the period between 2005 and 2009 on firms listed in the NSE he found out that the general dip in returns of securities comprising the NSE 20 share index coupled with the decline in returns in the Nairobi bourse 20 share index itself this was a pointer to existence of herding behaviour. Subsequently, regression analysis undertaken indicated that the coefficient y2 was significant and negative in the period after the global financial crisis only, thus giving strong indication that herding behaviour was prevalent at the NSE as a psychological response by securities investors to the global financial crisis.

Kimani (2011), set to find out behavioural aspects impacting traders selection of securities at the Nairobi Securities Exchange. The aim was to establish intensity of behavioural persuasions like herding on the personal traders selections of securities at Kenya bourse. Waweru et al. (2008) studied actions of collective traders at the Nairobi Securities Exchange in an effort to ascertain actions of behavioural finance and shareholder psychology in the selection of investment alternatives. The research found out that the behavioural factors impacts on the investment choices of traders the organized exchange.

Practical market experiences have shown that investors are not always rational and that their actions are not always independent. Therefore, lack of consensus in studies on the effect of herding on securities return, necessitated this study to find out if herding behaviour concept apply in the securities market (NSE) and the effects that it has on prices and the net returns. The other researches looked at the effect herding has on equity performance while this study has

taken a notch higher by looking into the secondary market holistically by factoring in all the securities.

1.3 Objective of the Study

The objective of the study is to find out whether investor herding behaviour has an effect on securities returns at Nairobi Securities Exchange.

1.4 Value of the Study

It seeks enriching the existing literature to help investors in their routine investment decisions. This will guide them bridge the gap that exists in the Kenyan securities markets where there is limited financial knowledge, filling the knowledge gap in the field of behavioural finance understanding. It will also open a new field of research and understanding of behaviour influences specific to herding on the local primary capital market.

The study is aimed at enlightening policy makers such as the government, Capital Markets Authority, and NSE management on the effects of herding on future returns of securities for policy formulations and implementation. Such information is crucial in policy formulation to protect investors from self-damage, through measures aimed towards mitigating the effects of herding especially in a developing capital market like the NSE where in the extreme herding can lead easily lead to market bubbles and crashes.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter concentrates on impact herding cause on the securities returns at the NSE. This part has a purpose to provide readers with the insight on the theories and scholarly work done on the studies related to this subject. This chapter will look into the theories and empirical studies done and in the end conclude on the literature review summary.

2.2 Theoretical Framework

2.2.1 Efficient Market Hypothesis

The study developed by Fama (1970) states that securities prices depict the available information to the participants in the market. Every rational buyer and seller is seen to possess the goal of maximizing their profits among other expectations. Competition among investors is seen when they try to gain from prediction of values of the securities in the future. It is equally of essence to point out that in an efficient market, one can make abnormal profits by setting a higher price than the one set by the market forces of demand and supply since information about securities is usually widely available. For an efficient market, the intrinsic value is best estimated by the security's actual price. (Fama,1965).

The proponents of this theory further argue that securities repeatedly deal at their market price in the market, and hence hard for traders to buy underestimated securities or trade on overpriced securities. If stock was to be undervalued, all investors would shift counters, creating more demand .The market forces will thus regularize price to equilibrium.

Market efficiency was further classified as follows; the weak, semi strong and strong form. They have been differentiated in terms of information available to the market participants. The weak form efficiency which depicts markets efficiency refers to full incorporation of past information in the stock prices. The past information may be obtained from sources like the financial statements. When the current market prices reflect information available publicly together with the past and present information, the market efficiency is said to be in the semi strong efficiency.

Market prices are seen to adjust whenever relevant information is released making it difficult to make abnormal profits from the published data and analysis of published financial statements. To finalize on the efficiency forms, the strong form efficiency occurs when past, present and privately held information are reflected by the prices of securities. Insider information distinguishes the strong form from the semi strong form (Fama, 1991).

2.2.2 Behavioural Finance Theory

Behavioural finance theory developed by Kahneman & Tversky (1974) has attained popularity to investors recently. It attempts to explain the causes of anomalies observed and those reported in the finance literature. Psychologists proposed this model arguing that people often suffer from cognitive biases as well as emotional biases leading them to act in an irrational manner. The traditional finance model clings to the rational behaviour of human beings as one of the assumptions.

Heuristics are straightforward ideal principles, which have been recommended in describing how individuals conduct choices, arrive at conclusions, and give solutions when facing challenging or inconsistent signals. These principles work out in many situations, though in some scenarios direct to orderly cognitive biases (Daniel Kahneman Parikh, 2011).

2.2.3 Signaling theory

A financing decision is a way in which a company can inadvertently signal its prospective investors. Choice of capital structure signals information to the market the signals will be validated in a competitive market (Ross, 2008). In efficient markets, the market offers truthful signal for asset distribution as bourse prices signify each assets true value. Market prices can at times depart from the securities net worth, though such departures tend to be arbitrary and distinct (Chang, Kumar and Sivaraakishnn 2006).

Managers decide on the capital structure of their company in a way that a positive signal will be sent to the market to increase the firms value. This is only achieved if management issue debt

securities in a way that the market will not perceive the issue as too large to invite possibilities of financial distress as this may pose a negative signal (Sharfstien and Stein, 1990). Indicators for or not to inject funds in a security can be ignored by an investor in favour of the observation that there are prior investors that did or did not invest in the securities This leads to a situation where a price spike can be viewed as a positive signal thus it is perceived as a good value investment by investors. Investors will follow the signal and purchase the securities, further driving the price higher. When share prices decline abruptly, a negative signal is sent to investor that signifies that the respective security is a poor investment and should be sold.

2.2.4 Modern Portfolio Theory

Harry Markowitz (1952) explains how portfolio returns can be maximized in consideration of the risk involved in the chosen portfolio. Risk can be minimized while considering the expected return level through the choice of assets proportions that form the portfolio. This involves the diversification of investments via the choice of assets collections with consideration and comparison of the collections risk with the individual assets risk. This theory views an assets return as an elliptically distributed random variable or as a normal distribution function. It suggests on the minimizing the total variance of a portfolio returns which are not positively correlated (Markowitz, 1952).

Andrew Brennan (1956) advanced the idea on the limitation of variance through portfolio theory. The efficient frontier was another concept introduced by Markowitz in the Modern Portfolio theory. Under this concept, an efficient portfolio is deemed to be one which yields high returns given a lower or same level risk when compared to a different type of investment. The efficient portfolios plotted relative to their risk and return form an efficient frontier. An investors profile can be illustrated by indifference curves where plotting of combinations of risky assets is done which leads to defining the combination of possible portfolios in the space region. The boundary formed on the left side of this region is a hyperbola which is positively (upwardly) sloped. The opportunity set for which a certain amount of risk offers expected return that is highest is represented by the efficient frontier (Merton, 1972).

2.3 Determinants of Securities Returns

These are connected with herding, risk, liquidity, price-level, foremost equity markets of the world. De Bondt and Thaler (1985), Jegadeesh and Titman (1993), Chopra, Lakonishok and Ritter (1992), and Jegadeesh (1990) argue that a security past yield holds vital information in predicting comparative yields. Fama and French (1992), Lakonishok, Shleifer, and Vishny (1994) and Davis (1994) confirm promised yields forecasted by comparative proportions of the prevailing market values of securities. These include market capitalization, market price per share, trading volume.

2.3.1 Investor Herding

Lakonishok et al. (1992) and Liao, Huang, and Wu (2010) believe emotions may have bearings on the investors choices. Studies in human behaviour have established the significance in feelings on individual judgements. Schwarz (2002), content individuals decision making procedure will be impacted by feelings and opinions. Hwang and Salmon (2004, 2009) establish close connections between market reactions and herding.

2.3.2 Liquidity

Lee (2009) contends that herding in illiquid markets go a long with growths in trading movements, whereas in the liquid markets leads to reductions in trading activities. This means that, a bubble signature has a higher chance of being identified in a stock market known to be illiquid than in a developed security exchange. Strength of financial structure draws benefits from liquidity (Black, 1971), (OHara, 1995) and (Harris, 1990) identifies several proportions of market solvency. Harris (1990) found the following structures; the first is width, these means the offer and ask spread for a certain number of equities, fees and charges, payable per share. The second one alludes to a higher market capitalization. Thirdly, immediacy meaning, how quick exchanges of a given size should be possible at a given cost. The last perspective is strength, which discuss how first prices can be changed over to past standards after they changed in light of substantial request stream awkward nature started by clueless buyers and sellers. These distinctive measurements don't autonomously remain solitary yet may cooperate with each other.

OHara (2004) summarizes two different sides of liquidity namely; the dark view and the bright view. The dark view talks of the threats of liquidity as a source of volatility in markets. Liquid markets focus more on short term and investors less focus on essentials when making investment alternatives. The ensuing unsteadiness can affect other markets and contagion might lead to instability in the financial system as a whole. Bright view gives credence to substance and the fruits of liquidity for a many agents in financial markets, including traders, securities exchanges and listed firms.

2.3.3 Risk

Brigham, Gapenski, and Daves (1999) describe risk as the chance of an unfavourable event occurring. There are two types of volatilities. Systematic risk is the risk which is un-diversifiable and commonly measured by beta with a higher beta indicating a higher risk. Unsystematic risk is a risk where a security may loss value, in isolation of the securities market as a whole. This risk may be reduced through diversification.

Investors ideally would prefer less volatile investments which are regarded as better than those with higher risk (Kinder, 2002). Brigham et al. (1999) observe that the risk declines when a portfolio of assets is held than when an asset is a standalone. Based on the risk appetite of an investor, there is an increase in number of investment avenues available for investors. Thus high risk securities offer greater yields to reward investors for higher risk assumed and lower risk investments will have a lower yield as investors will readily accept this return in lieu of the less risk they are absorbing.

2.4 Empirical Literature Review

Cipriani & Guarino (2008) considered herding behaviour in a financial market with experts. The investigation consolidates the advantages of the controlled experiment with that of focusing on things with that of observing the conduct of experts who are occupied with the day by day action of exchanging, valuing, and breaking down financial assets.

This examination analyses two alternatives, one in which the value changes with the request stream so herding ought never to happen, and one in which occasion question makes herding conceivable. In the first treatment, subjects herd once in a while as per both the theory and past test prove on understudy subjects. In the second treatment, the extent of herding choices increments however not as much as the theory proposes.

Spyrou (2013) studied herding in Greece where his study focused in providing criticism of philosophy and experiential findings pertaining herding behaviour in an economy fashioned to re-look into and deliberate on the works presented on herding, the major findings were that several years of empirical and theoretical study have offered an important insight on investor herding behaviour.

Salamouris and Muradoglu (2010) in a survey appraising experts forecast on precision using behavioural procedures (Herding) in the Great Britain, set to recognise it on commercial markets and assess influence it has on the legitimacy of experts returns estimates.

 The two possible measures of herding behaviour on professional forecast on returns can be used. The first perceives herding as the propensity of experts to come to an agreement. The other measure considers herding to be the propensity of analysts to adopt the most correct indicator. They established that in the two techniques used, a positive and key correlation is identified in the accuracy of professional's earnings estimates and herding behaviour. As per the first valuation, analysts demonstrate herding behaviour by predicting nearer to the agreed figures, the other herding measure points to the fact that analysts herd in the direction of the highest ranked forecaster at the time. In conclusion, they find precision of experts' projections rises as herding increases which prompts anxieties for additional exploration in the demonstration of the experts predicting behaviour.

Hsieh (2013) analysed the presence of herding activities in investors at Taiwanese securities exchange. Findings proved that substance financial specialists tend to display a progress herding

behaviour than that of individual investors. The two groups of dealers crowd more in circumstances of organizations with low market capitalization.

Despite the fact that the literature in this field is liberal, the empirical researches for the European money markets are few. Khan et al. (2011) examined the presence of herding behaviour on the capital markets from Great Britain, France, Germany and Italy, as far as three variables: performance, size and the book value. The outcomes acquired by applying the model proposed by Salmon and Hwang (2001, 2004, 2008) gives confirmation of herding behaviour in all the capital markets. Lindhe (2012) have connected the approach proposed by Chiang and Zheng (2010) on account of Finland, Denmark, Norway and Sweden and have found that every one of the financial specialists from this part of Europe, other than from Finland, have an inclination to take after the pattern of the market. Mobarek and Mollah (2013) have utilized a relative investigation of group conduct between the Northern Europe, Continental and PIIGS nations. Their experimental outcomes have accentuated the nearness of herding in developing nations, as well as in developed ones. Different types of cognitive biases have been documented. Kahneman and Tversky (1974) posit that representativeness; availability, Herd behaviour, and overconfidence are among the common forms of heuristics. Ogilo (2012) describes representativeness as a lateral thinking wherein people adopt unity amongst objects of interconnected forms. One looks at an occurrence and makes conclusion as to how narrowly it relates to other events as established in the overall population.

Tversky and Kahneman (1974) notes that convenience is a thinking in which a statement architects relies on updates easily accessible rather than other options, proofs or dealings. Persons herding emanates from spontaneous rational actions in persons responding to indications from the behaviour of others, individuals mimic actions of a superior group when on a personal level they would not essentially make a similar choice. When people are faced with a decision of a larger group they lean to alter their " wrong" solutions and adopt those of the larger group.

Shiller (2000) suggested that people by nature do not like wasting time in exercising judgment hence follow the decisions of others. Reliance on the behaviour of others most easily replaces careful analysis when knowledge is deficient. In areas, for example, investing, where few individuals are learned, or in a territory of trends and design, where rationale is unseemly and the general purpose is to awe other individuals, the inclination toward reliance is inescapable. Banerjee (1992), argue herding as behaving in a similar manner, even in circumstances when their confidential knowledge advises undertaking the direct opposite. He further argues that reliance on information adopted by others in making decisions makes each person's to deviates from their own information.

Experts normally carefully consider the presence of herding, since investors dependence on gathered intelligence more than undisclosed insight can bring about variations of the securities from true value; therefore, numerous great probabilities for speculation at the present can be affected. Scholars additionally centre their consideration regarding herding; as its effect on securities value fluctuations can influence the components of volatility and return models affecting for the position of theories measuring pricing (Tan, Chiang, Mason and Nelling, 2008). Herding generates a series of disingenuous information stimulating the irregularities on stock markets which causes a multiplying effect that has proved hard to stop (Welch, 2000). Christian Hott (2009) argues that securities speculative manias are largely triggered by herding behaviour.

Noise Traders are saver or borrowers who partake in choices concerning buy and sell trades without reliance of key statistics. They trade based on underlying emotions and psychological aspects unrelated to asset value they base their investing decisions on the underlying emotions and psychological biases. These investors in totality have a misinformed timing in following developments and overreacting to bad and good news.
Fisher & Statman (2004) separate between data dealers and commotion broker in the following way; Information exchanging is persuaded by basic costs of securities while clamour exchanging is propelled by emotions (Shefrin and Statman 1994).

Werah (2006) sought to find effects of these aforementioned features on investors' action at the Nairobi Securities Exchange. It mainly explored the role played by behavioural factors on investors' decisions. The results obtained suggested that the behaviour of investment market participants was to some extent irrational.

Numerous fundamentals have been identified that stimulates herding by an investor like; self-confidence, amount of investment etc. Waweru et al. (2008) recognise securities investment alternatives that a saver can be wedged by the others: buying, selling, selection of securities, duration to hold securities, and amount of securities to invest. He concluded that trading choices of an investor are drastically swayed by selections and herding behaviour of others. The alternative of securities, holding period of securities, and number of securities to trade, investors herding behaviour impact reduces.

Mwimali (2012) studied the existence of herd behaviour evidence in the Kenya principal Exchange. This research paid attention on the returns effects in herding by examining if equity returns revealed the existence of herd behaviour. Information asymmetry in capital markets could explain the existence of herding. It happens either when investors are having the same information within their disposal or facing comparable situations and rationally making similar decisions or in situations investors purposely copy cut the behaviour of one another. Consequently, investors may perhaps not optimize their choices on their own but take into consideration other investor's choices.

Nyamute, Lishenga, Oloko (2015) Study found out that investor behaviour does influence portfolio performance. Although herding was found to have a positive effect on performance, it will also requires a good cue for an investor to herd and gain sufficient returns.

2.5 Conceptual Framework
The concentration of this exploration is the effect of investor herding behaviour on returns of the securities in the securities market. Securities return is the dependent variable in this research.

We used market capitalization to quantify NSE market returns. The independent variable is investor behaviour which is herding. The first indicator is the turnover which is the total value of traded shares during a given time period. The second indicator is the volume of shares traded during a given time period. Turnover and volume of shares traded are analogous and interrelated in the sense that they both represent the level of interest and amount of liquidity in the securities market. Cross sectional absolute deviation of returns (CSAD), is used to investigate the existence of herding behaviour. It based on findings of Christie and Huang and Chang et al., which is the following:- $CSAD_t = \alpha + \gamma_1 + R_m, t + \gamma_2 R_m, t^2$

The academic basis of this study is based on Calderon-Rossell (1991) behavioural model of securities market returns. The methodology is based two proxy measures of investor herding against market capitalization as an indicator of securities market returns. The two proxies for investor herding include the volume of shares traded and value of shares traded. Herding measure will be based on the factor sensitivity to volume.

Figure 2.1: Conceptual Framework

Independent Variable   **Dependent Variable**

| Investor herding behaviour | $\Longrightarrow$ | Securities Return |
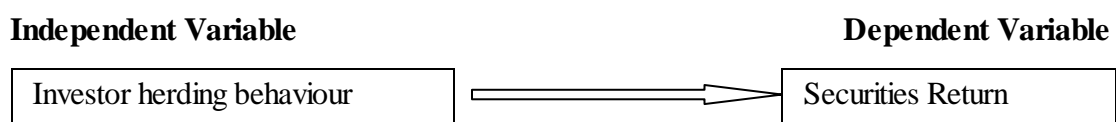
2.6 Summary of Literature Review

The study checked on both cognitive errors and emotional biases that possibly impact individual investor's choices. It has additionally talked about loss aversion, regret aversion, overconfidence and over optimizing biases. Additionally it investigated contribution of age, sex, experiment, training and peer influence in making choices. In entirety, the literature has proposed that cognitive biases emanates from poor reasoning that can be corrected by education. In any case, this isn't bolstered by empirical prove. Rather, there exist contradictory literature which proposes that financial knowledge from investors are not immune from the impacts of the

majority investment culture in individual investors, and many of the elements no doubt influence their reasoning also. What's more, while there is measurable proof for different biases, for example, representativeness, biases argument, it isn't apparent how investors are affected by these biases for speculative choices.

Herding as a behavioural heuristic has been extensively studied at the Nairobi Securities Exchange, there have also been studies of herding during extreme market situations such as during global financial crisis and specific investor analysis.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter focuses on the methods to be applied in the study and adopts a structure as follows: Section 3.2 highlight research design to be used on the study, part 3.3 gives the population, part 3.4 sample size, part 3.5 explains the methods that will be used for data collection while section 3.6 provides for the data analysis indicating the models that would be used on the study.

3.2 Research Design

Gravetter & Forzano (2010) suggest that descriptive research design deals in determining a set of existing variables. Houser (2011) notes that it is designed to provide in-depth knowledge on the features of subjects within a particular field of study, thus, it can help identify relationships between variables. According to Sekran (2003), such a research design provides the researcher with a profile to describe important aspects of the phenomena of interest for an individual, organization or other perspectives.

3.3 Target Population

All items in a field of study comprise the population (Kothari, 2004). According to the CMA Q2 Bulletin (2017), All investors at the Nairobi Securities Exchange (NSE) are 1,255,371 of which 1,213,076 are individual investors as at end of Quarter two 2017 making it 96.63% of the total investors. The individual investors formed the population of the research study.

3.4 Sample Design

A sample is a subset from a larger population and examining it includes any technique that makes determination in view of estimates of the population (Zikmund et al, 2010). The sampling design deals with the technique of selecting things to be watched for a given study (Kothari, 2004). The sample was obtained by presenting 5 questionnaires each to 23 active stock brokerage firms. This sample was considered appropriate as the variability of retail investors is

usually deemed to be low. This sample helped to reduce the time of study as it facilitated faster collection and analysis of data. The sample also significantly reduced the research costs as it was confined to a smaller manageable sample. The study adopted a probability sampling technique whereby systematic sampling technique was used to randomly select 5 respondents from each of the 23 brokerage firms. A respondent was selected after every three customers had been served in a brokerage firm in a given day. Similar studies have adopted the same sample size (Jaguice 2013); (Kimani, 2011). The investors will be identified with the assistance of stock brokers within Nairobi City County.

3.5 Data Collection

This research relied on both primary data collected using structure questionnaires that were administered to respondents and secondary data from old reports on quarterly time series for the period 1st January 2012- 30th June 2017 obtained from the NSE. The questionnaires were administered to the individual investors through the drop and pick later technique at offices of the 23 active stock brokers for assistance in reaching the individual investors. The questionnaire was used because it is economical, even when the universe is large and respondents who are difficult to approach can be reached conveniently (Kothari, 2004).

3.6 Data Analysis

The academic basis of this study is based on Calderon-Rossell (1991) behavioural model of securities market performance. In the model, market capitalization is defined as follows:

MC = NV

Where:

MC = Market capitalization

N = Number of quoted companies in the securities market

V = Average value of quoted companies

Our methodology is based two proxy measures of investor herding against market capitalization as an indicator of securities market performance. The two proxies for investor herding include the volume of shares traded and value of shares traded. Herding measure will be based on the

factor sensitivity to volume. To begin we will apply the security market line against the trading volume which can be expressed as:

$V_i = \alpha_i + \beta_i V_m + \varepsilon_i$.

Where: V_i = security trading volume i,

V_m = market trading volume.

Where herding exists, there is an extreme irrational change of the investor's behaviour and beliefs in order to follow and act in the same direction as other investors towards the market portfolio. This affects the equilibrium relationship and leads to betas and the securities trading volumes to become biased. Then, in equilibrium we write: $V_{i,t} = \beta_{i,m,t} * V_{m,t}$. Where:

$V_{i,} = t$ volume of securities i at time t ,

$V_m =, t$ volume of market at time t.

Where herding exists towards the market portfolio, the relationship between the equilibrium beta ($\beta_{i,m,t}$) and its behaviourally biased equivalent, is the following: ,

$V_{ibt}/V_{bmt} = \beta_{bi,m,t} — h_{m,t} (\beta_{i,m,t} - 1)$

Where: $V_{ibt}/$: herding biased volume of security *i* on period *t*.

V_{bmt} : herding biased volume of market at time *t*.

$h_{m,t}$ is a time variant herding parameter ($,h_{m,t} \leq 1$).

Where, h_{mt} *is equal to* 0 and β_{bimt} is equal to = β_{imt} Means that herding is non-existent.

Where, h_{mt} *is equal to* = $\beta_{bimt} -= 1,$ means that there exist herding in the market

Where, some herding exists, it is examined by the magnitude of *h_{mt}*

The equation is expanded as follows;

Let, δ_{mt} and, δ_{it} represent herding and asset *i* respectively. Then the investor's irrational expectation in the presence of herding is:

$V_{ibt} = V_{it} + \delta_{it}$ *and* $V_{bmt} = V_{mt} + \delta_{mt}$

We therefore have;

$\beta_{bi,m,t} = \{ \beta_{i,m,t} + \delta_{it}\} / \{1 + \delta_{mt} \}$

Where = δ_{mt} and δ_{it} represent herding in the market and asset *i* relative to the market trading volume.

So, the degree of beta herding is given by:

$Hm,t = 1/N \Sigma Nt \{ \beta bi,m,t — 1\}2$

Where **Nt** is the number of securities at time t

The relationship of the variables used in the study can be explained by considering the following model; $MC = \alpha + \beta 1 Hm,t + \mu$

Where; MC represents securities performance, which is the market Capitalization of the NSE securities market where; α represents the intercept form.

Hm,t represents herding at time t.

μ shows the error term.

Hence, we estimated the following model:

$Log MCt = \beta 0 + \beta 1 \log Herding t + \varepsilon$... (2)

Where: $\beta 0$=Intercept form

MCt = Market Capitalization of the NSE securities market

Herdingt =Investor Herding in the NSE securities market which is a factor of volume traded and value traded.

ε = the Error Term

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

The chapter presents results from the empirical estimation and gives the economic interpretations of the results. It includes the descriptive statistics of the variables in the estimated model, the co-integration test results, the error-correction, the post-estimation diagnostics and discussion of the results.

Table 4.1: Response Rate

Response rate	Distribution	
	Frequency	**Percent**
Responded	100	87%
Did not respond	15	13%
Total	**115**	**100%**

The questionnaire response rate was 87%, as 100 questionnaires were collected and used. This was possible since the questionnaires were administered by research aides who directed administered questionnaires, waited for respondent to finish and gather.

4.2 General Information

The general data obtained from the respondents incorporated their sex, age, level of education, amount of investment in shares, training on securities trading.

4.2.1 Gender of Respondents

The study sought to find out the sex of the respondents and the findings are as shown below.

Table 4.2: Gender of the Respondents

Gender of respondents	Distribution	
	Frequency	Percent
Male	66	66%
Female	34	34%
Total	**100**	**100%**

The findings indicated that (66%) of the respondents were male while (34%) of the respondents were female. It was observed that the ratio of male investors were much higher than the female investors. This scenario gives a picture that male investors were the dominantly involved in the study on the effect of investor herding behaviour on securities returns at the Nairobi Securities Exchange.

4.2.2 Age of respondents

The interviewers were requested to indicate their ages from among choices of age group shown. The adoption of these groups reduced size of individual responses and provided an easy classification and analysis of the information. The respondent's feedback is shown in Table 4.3.

Table 4.3: Age of the Respondents

Age of respondents	Distribution	
	Frequency	Percent
18-25	8	8%
26-35	40	40%
36-45	26	26%
46-55	14	14%
Over 55	12	12%
Total	**100**	**100%**

The findings show that 40 respondents (40%) were in age bracket of 26-35 years and 26 respondents (26%) were in 36-45 years. The findings also indicated that 14 (14%) of the

respondents were aged between 46-55 years old, 12 (12%) of the respondents were above 55 years while 8 (8%) of the respondents were 18-25 years. Therefore, the research findings show that majority of the respondents were in age bracket of 26-35 years. This indicates that majority of the respondents are in their middle age and therefore most considered investing in Nairobi Securities Exchange as significant.

4.2.3 Education Level

The respondents were asked to indicate their levels of education achieved. The study sought to establish the level of formal schooling completed by the respondent at the time of the study. Table 4.4 shows the results.

Table 4.4: Respondents' Education Level

Education Level	Distribution	
	Frequency	Percent
High school to Lower	4	4%
Undergraduate	9	9%
Graduate	21	21%
Master	44	44%
PHD	22	22%
Total	**100**	**100%**

Table 4.4 shows that 44% of the respondents had achieved a master degree as their highest education level, 22% had PHD as their highest education level, 21% had achieved graduate degree as their highest education level, 9% and 4% had achieved undergraduate and highschool to lower as their highest education level. The findings indicated that majority of the respondents had a master degree as their highest education level. The high level of education enabled the individual investors to acknowledge if investor herding behaviour has an effect on securities returns at the Nairobi Securities Exchange.

4.2.4 Number of years of investing at the NSE

The respondents were asked to indicate the duration they had been investing at the NSE. The findings are illustrated in Table 4.5.

Table 4.5: Investing Duration

Number of years invested at NSE	Distribution	
	Frequency	Percent
Less than 1	7	7%
1-2	30	30%
3-5	20	20%
6-8	9	9%
Over 8	34	34%
Total	**100**	**100%**

According to the data analysed in Table 4.5, 34% of the respondents that they had been investing at the NSE for over 8 years, 30% of the respondents had been investing at the NSE for a period between 1-2 years, 20% of the respondents had been investing at the NSE for between 3-5 years. Furthermore, 9% and 7% of the respondents had been investing at the NSE for a period between 6-8 years and less than 1 year respectively. Thus, the findings imply that majority of the respondents had been investing at the NSE for over 8 years. This indicates that most of the individual investors had experience in matters relating to investor herding behaviour and how it affects securities returns.

4.2.5 Attendance of courses on Security Market

The respondents were asked to state whether they had attended any course on securities market. The findings are shown in Table 4.6.

Table 4.6: Attendance of courses on Security Market

Course attended at NSE	Distribution	
	Frequency	**Percent**
Yes	56	56%
Not yet	44	44%
Total	**100**	**100%**

From the data in Table 4.6, most of the respondents (56%) indicated that they had attended any course on securities market while 44% of the respondents gave contrary opinion. This imply that most of the individual investors had attended courses on securities market and thus had more knowledge in regard to the influence of investor herding behaviour on securities returns.

4.2.6 Amount of Money Invested

The study sought to further establish the amount of money in Kenya Shillings the respondents had invested at the NSE over the years. Table 4.7 shows the distribution.

Table 4.7: Amount of Money Invested

Amount of Money Invested	Distribution	
	Frequency	**Percent**
Kes. 100,000 and Below	11	11%
Kes 100,001-200,000	16	16%
Kes. 200,001- 400,000	25	25%
Kes. 400,001-600,000	21	21%
Over 600,000	27	27%
Total	**100**	**100%**

The findings show that 27 respondents (27%) indicated over 600,000 as the amount of money in Kenya Shillings they had invested at the NSE over the years, 25% indicated Kes. 200,001-400,000 as the amount of money in Kenya Shillings they had invested at the NSE over the years, 21% of the respondents indicated Kes. 400,001-600,000 as the amount of money in

Kenya Shillings they had invested at the NSE over the years, 16% of the respondents indicated Kes 100,001-200,000 as the amount of money in Kenya Shillings they had invested at the NSE over the years, whereas 11% of the respondents invested below 100,000 Kenya Shillings at the NSE over the years. This is a clear indication that most of the respondents invested large sums of money (over 600,000 Kenya shillings) at NSE.

4.3 Investors Information

4.3.1 Investment Decisions

The study sought to establish whether respondents make investment decisions based on masses buying and selling of securities. The findings are reflected in table 4.8.

Table 4.8: Investment Decisions

Investment Decisions	Distribution	
	Frequency	Percent
Yes	69	69%
No	31	31%
Total	**100**	**100%**

The findings in Table 4.2 depicts that 69% of the respondents make investment decisions based on masses buying and selling of securities whereas 31% of the respondents did not make investment decisions based on masses buying and selling of securities. This implies that most individual investors make investment decisions based on masses buying and selling of securities.

4.3.2 Behaviours

The respondents were asked to indicate the behaviours they experienced when investing at the NSE. Table 4.9 presents the findings.

Table 4.9: Behaviours

Behaviours	Distribution	
	Frequency	Percent
I Believe investments bear positive returns even where there is evidence to the contrary	38	38%
Reluctance to accept hard facts that are unpleasant	36	36%
Making investments decisions that seems influenced by others	19	19%
Unable to make investment decision due exhibiting conflicting positions	7	7%
Total	**100**	**100%**

Table 4.9 posit that most of the respondents (38%) indicated the believe that investments bear positive returns even where there is evidence to the contrary as the behaviours they experienced when investing at the NSE, 36% of the respondents experienced reluctance to accept hard facts that are unpleasant. Moreover, most of the respondents (19%) indicated making investments decisions that seem influenced by others as the behaviours they experienced when investing at the NSE while 7% of the respondents stated inability to make investment decision due exhibiting conflicting positions as the behaviours they experienced when investing at the NSE. This shows that majority of the individual investors believe that investments bear positive returns even where there is evidence to the contrary.

4.3.3 Statements on Investment Decision Making

The study further sought to find out the level of agreement of the respondents in regard with the following statements on investment decision making in securities market. The responses were placed in a five point Likert scale of 1-5 as follows; 1-Strongly Disagree, 2- Disagree, 3-Neutral, 4-Agree and 5 - Strongly Agree. Table 4.10 presents these findings

Table 4.10: Investment decision making in securities market

Statements	Mean	Std. Deviation
I invest base on the masses' decisions of buying or selling securities	4.09	1.105
I am informed and rational	3.77	1.054
I act the same way and rely on information gathered in groups to buys or sell securities(Securities or bonds)	2.87	1.034
I am less interested in following masses on investing at securities market	2.90	1.155
Following masses causes a state of inefficient market, which is usually recognized by speculative bubbles	3.08	1.033

The study findings in Table 4.10 shows that majority of the respondents were in agreement with the statements that I invest base on the masses' decisions of buying or selling securities as shown by a mean score of 4.09, and I am informed and rational as shown by a mean score of 3.77. Nevertheless, most of the respondents were neutral with the statements that following masses causes a state of inefficient market, which is usually recognized by speculative bubbles as shown by a mean score of 3.08, I am less interested in following masses on investing at securities market as indicated by a mean score of 2.90 and I act the same way and rely on information gathered in groups to buys or sell securities (Securities or bonds) as shown by a mean score of 2.87. This depicts that most individual investors invest based on the masses' decisions of buying or selling securities and that they are informed and rational.

4.3.4 Influence of Masses on Investment Decisions

The respondents were asked to indicate the extent to which they thought the masses influence their investment decisions in securities market. The findings were as indicated in Table 4.11.

Table 4.11: Influence of Masses on Investment Decisions

Influence of Masses on Investment Decisions	Distribution	
	Frequency	Percent
To a very great extend	9	9%
To a greater extend	23	23%
To moderate extend	46	46%
To a little extend	18	18%
To a very little extend	4	4%
Total	**100**	**100%**

The findings in Table 4.11 revealed that most of the respondents were in agreement that masses influence their investment decisions in securities market to a moderate extent as indicated by a percentage of 46%. In addition, 23% of the respondents indicated that masses influence their investment decisions in securities market to a greater extent, 18% of the respondents indicated that masses influence their investment decisions in securities market to a little extent, 9% of the respondents indicated that masses influence their investment decisions in securities market to a very great extent while a small proportion of the respondents insinuated that masses influence their investment decisions in securities market to a very little extent. The findings revealed that masses influence their investment decisions in securities market to a moderate extent, hence did not affect individual investor's decisions to a large extent.

4.3.5 Investment Expectations

Furthermore, the study asked the respondents whether they base their investment on gains they expect from an investment. The summary in table below shows the findings.

Table 4.12: Investment Expectations

Investment Expectations	Distribution	
	Frequency	**Percent**
Yes	100	100%
Total	**100**	**100%**

From the findings, all respondents (100%) depicted that they base their investment on gains they expect from an investment.

4.3.6 Market Sector

The study further asked the respondents to indicate the market sector they usually participate in. The findings are as tabulated in Table 4.13.

Table 4.13: Market Sector

Market Sector	Distribution	
	Frequency	**Percent**
Agricultural sector	6	6%
Commercial Services	31	31%
Finance & investment	38	38%
Alternative Market Segment	2	2%
Industrial & Allied Sector	23	23%
Total	**100**	**100%**

According to the findings, majority of the respondents (38%) indicated finance and investment as the market sector they usually participate in, 31% of the respondents indicated commercial services as the market sector they usually participate in, 23% of the respondents indicated industrial and allied sector as the market sector they usually participate in. In addition, 6% and 2% of the respondents indicated agricultural sector and alternative market segment as the market sector they usually participate in respectively. This implies that individual investors mostly participate in finance and investment.

4.3.7 Type of Investor

The researcher also sought knowledge from the respondents as to the kind of an investor they were. Table 4.14 presents revelations.

Table 4.14: Type of Investor

Type of Investor	Distribution	
	Frequency	Percent
Speculative (short-term)	29	29%
Capital Long (long term)	63	63%
Both	8	8%
Total	**100**	**100%**

Table 4.14 revealed that most of the respondents were Capital Long (long term) investor as shown by a percentage of 63%, 29% of the respondents were Speculative (short-term) while only 8% of the respondents were both Capital Long (long term) investor and Speculative (short-term). This is a clear indication that most of the individual investors were Capital Long (long term) investor.

4.3.8 Influence of Uncertainty

The respondents were also required to specify the extent to which they felt uncertainty influences their investment decision in the securities market. The findings are presented in Table 4.15.

Table 4.15: Influence of Uncertainty

Influence of Uncertainty	Distribution	
	Frequency	Percent
To a very little extend	1	1%
To a little extend	1	1%
To a moderate extend	10	10%
To a great extend	66	66%
To a very great extend	22	22%
Total	**100**	**100%**

According to the study findings, 66% of the respondents detailed that uncertainty influences their investment decision in the securities market to a great extent, 22% of the respondents insinuated that uncertainty influences their investment decision in the securities market to a very great extent, 10% of the respondents designated that uncertainty influences their investment decision in the securities market to a moderate extent, whereas only 1% of the respondents detailed that uncertainty influences their investment decision in the securities market to a little and very little extent. The findings discovered that individual investor's investment decision is greatly affected by uncertainty.

4.3.9 Investing in Securities Markets

The researcher sought to find whether they invest in securities markets with specific expectations. The findings are indicated in Table 4.16.

Table 4.16: Investing in Securities Markets

Investing in Securities Markets	Distribution	
	Frequency	Percent
Yes	100	100%
Total	**100**	**100%**

From the findings, it was evident that all respondents (100%) invest in securities markets with specific expectations.

4.3.10 Stock Broker Advice

The study required the respondents to indicate whether they were offered advice by their stock broker when investing. The findings are as tabulated in Table 4.17.

Table 4.17: Stock Broker Advice

Stock Broker Advice	Distribution	
	Frequency	Percent
Yes	79	79%
No	21	21%
Total	100	100%

The study findings in Table 4.17 revealed that majority of the respondents (79%) were offered advice by their stock broker when investing while 21% of the respondents indicated that they were not offered advice by their stock broker when investing. The results show that individual investors were offered advice by their stock broker when investing since it is vital in decision making during investment.

4.3.11 Influences of Subjective Decision Making on Investment Decisions

The respondents were asked to indicate the extent to which they felt subjective decision making influences their investment decisions in the securities market. The responses are indicated in Table 4.18.

Table 4.18: Subjective Decision Making and Investment Decisions

Subjective Decision Making and Investment Decisions	Distribution	
	Frequency	Percent
To a very little extend	2	2%
To a little extend	4	4%
To a great extend	67	67%
To a very great extend	27	27%
Total	100	100%

From the results of the study, the majority of respondents (67%) revealed that subjective decision making influences their investment decisions in the securities market to a great extent, 27% indicated that subjective decision making influences their investment decisions in the

securities market to a very great extent. Moreover, 4% of the respondents indicated that subjective decision making influences their investment decisions in the securities market to a little extent whereas 2% of the respondents stated that subjective decision making influences their investment decisions in the securities market to a very little extent. The results showed that amongst most individual investors, subjective decision making played a significant role in investment decisions in the securities market.

4.3.12 Piece of Information

In addition, the study sought to establish the respondents' knowledge in regard to the extent to which relying on one piece of information influence their decision making in securities market. The findings are insinuated below.

Table 4.19: Piece of Information

Piece of Information	Distribution	
	Frequency	Percent
To a little extend	5	5%
To a moderate extend	13	13%
To a great extend	37	37%
To a very great extend	45	45%
Total	**100**	**100%**

From the results of the study, the majority of respondents (45%) posited that relying on one piece of information influence their decision making in securities market to a very great extent, 37% of the respondents indicated that relying on one piece of information influence their decision making in securities market to a great extent, 13% indicated that relying on one piece of information influence their decision making in securities market to a moderate extent while 5% of the respondents indicated that relying on one piece of information influence their decision making in securities market to a little extent. This showed that relying on one piece of information had a great influence on decision making in securities market amongst individual investors.

4.3.13 Application of Subjective Judgment over Objective Judgment

Furthermore, the study sought to establish the extent to which respondents apply subjective judgment over objective judgment in buying securities. The responses are as follows.

Table 4.20: Application of Subjective Judgment

Application of Subjective Judgment	Distribution	
	Frequency	Percent
To a little extend	31	31%
To a moderate extend	23	23%
To a great extend	18	18%
To a very great extend	28	28%
Total	**100**	**100%**

The findings of the study indicate that most (31%) of the respondents agreed that they apply subjective judgment over objective judgment in buying securities to a little extent, 28% of the respondents indicated that they apply subjective judgment over objective judgment in buying securities to a very great extent, 23% of the respondents indicated that they apply subjective judgment over objective judgment in buying securities to a moderate extent, whereas 18% of the respondents indicated that they apply subjective judgment over objective judgment in buying securities to a great extent.

4.3.14 Purchase of Securities

The respondents were also asked to indicate the time when they buy securities mostly. The findings of the study are as presented in Table 4.21.

Table 4.21: Purchase of Securities

Purchase of Securities	Distribution

	Frequency	Percent
When securities prices fall	39	39%
When the price is constant	4	4%
When the security price is announced	57	57%
Total	**100**	**100%**

This analysis indicates that 57% of the respondents buy securities mostly when the security price is announced, 39% of the respondents buy securities mostly when securities prices fall while only 4% of the respondents buy securities mostly when the price is constant. The fact that majority of the respondents agreed that they buy securities mostly when the security price is announced is a clear indication that individual investors' decision is affected by investment security procedures.

4.3.15 Statements on Investment Decisions

The respondents were asked to state their level of agreement with the statements below relating to your investment decisions. A Likert scale of 5 was used to rate the responses where; 1-Strongly Disagree, 2- Disagree, 3-Neutral, 4-Agree and 5-Strongly Agree. The responses are as follows.

Table 4.22: Statements on Investment Decisions

Statements	Mean	Std. Deviation
I invest basing my decision on a successful investor	4.31	1.154
I have regretted of investing in securities market due to mistake that I did	3.27	1.162
I sell my securities once on realization that they earn low returns at early stage	2.91	1.051
I lose hope to invest in securities market when I experienced loss during initial investment	4.41	1.106

From the study findings in Table 4.22, majority of the respondents were in agreement that I lose hope to invest in securities market when I experienced loss during initial investment, and I invest basing my decision on a successful investor as indicated by mean scores of 4.41 and 4.31 respectively. Nevertheless, most of the respondents were neutral with the statements that I have regretted of investing in securities market due to mistake that I did as shown by a mean score of 3.27 and I sell my securities once on realization that they earn low returns at early stage as shown by a mean score of 2.91. This depicts that in overall, individual investors lose hope to invest in securities market when they experienced loss during initial investment, and they invest basing their decision on a successful investor.

4.3.16 Level of Agreement

Furthermore, the respondents were asked to state their level of agreement with the following statements. A Likert scale of 5 was used to rate the responses where; 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree and 5-Strongly Agree. The responses are indicated in Table 4.23.

Table 4.23: Level of Agreement

Statements	Mean	Std. Deviation
Do you consider sentiments from peers when choosing securities to invest in?	4.09	1.105
Does other investors' decision on security type choice have an impact on your investment decision?	3.77	1.155
Does other investor's decision on the securities volumes to buy/sell influence your volume of trade?	3.53	1.088
Do you react quickly to the changes of other investors' decisions and follow their reactions to the securities market?	3.08	1.033

The study findings in Table 4.23 shows that majority of the respondents were in agreement with the statements that do you consider sentiments from peers when choosing securities to invest in as shown by a mean score of 4.09, does other investors' decision on security type choice have an impact on your investment decision as shown by a mean score of 3.77 and does other investor's decision on the securities volumes to buy/sell influence your volume of trade as shown by a mean score of 3.53. All in all, most of the respondents were neutral that do you react quickly to the changes of other investors' decisions and follow their reactions to the securities market as shown by a mean score of 3.08. This depicts that most individual investors consider sentiments from peers when choosing securities to invest in, other investors' decision on security type choice have an impact on your investment decision and other investor's decision on the securities volumes to buy/sell influence your volume of trade.

4.4 Graphical Data Analysis

In this study, data was analysed to find out the trend amongst study variables and responses indicated as follows.

Figure 4.1: Market Capitalization Trends
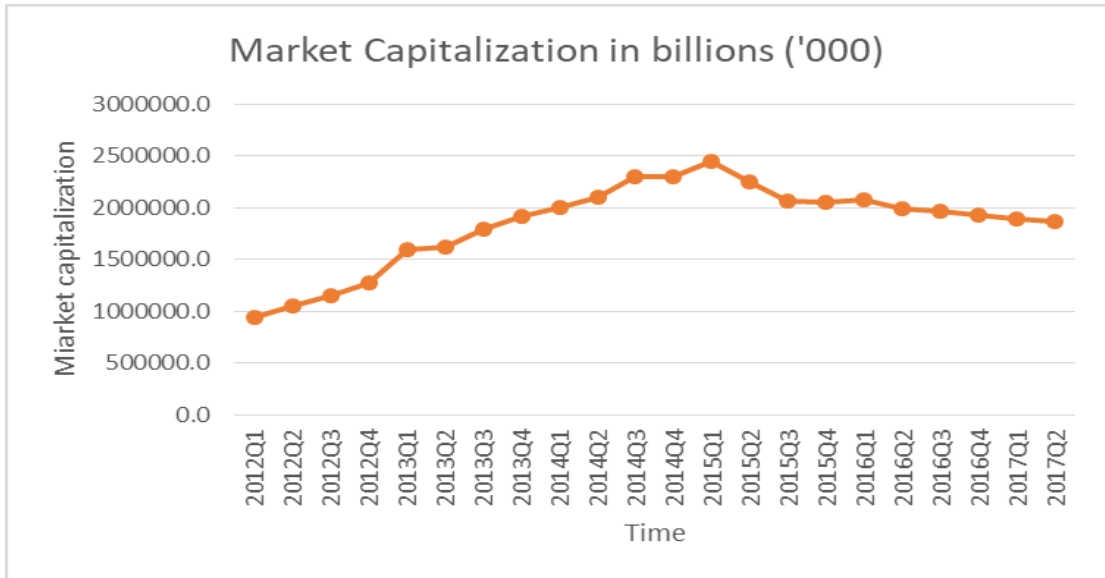
Source: Nairobi Securities Exchange (NSE)

The findings in figure 4.1 revealed that market capitalization has been increasing as from the first quarter of 2012 to first quarter of 2015. However, there has been a progressive decrease in market return from first quarter of 2015 to first quarter of 2017.

Figure 4.2: Volume of Equities Traded

Source: Nairobi Securities Exchange (NSE)

From the findings in Figure 4.2, it is clear that there was an upward trend movement oscillation with regard to the volume of equities traded.

Figure 4.3: Trend of the NSE 20 share Index
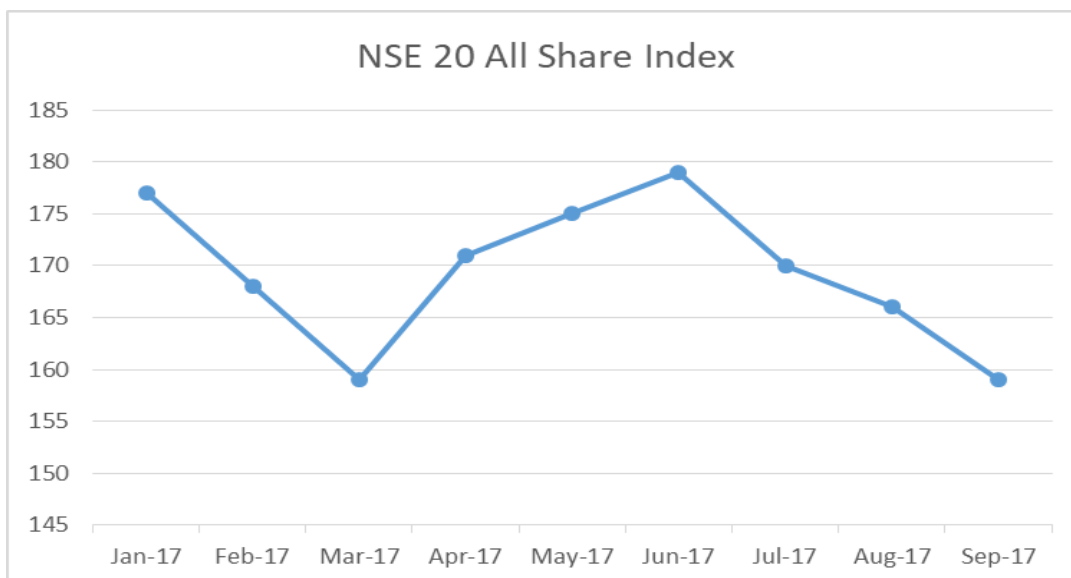
Source: Nairobi Securities Exchange (NSE)

The graphical presentation of the variables revealed an upward trend in most of the variables apart from the NSE 20-share Index which has not shown any particular trend. However, trend of volume and value of shares traded showed a trend which is not smooth. It implies that these variables are sensitive to shocks. In some years volume and value of shares traded shot-up rather quickly and this could have been as a result of the negative sentiments amongst the investors who resorted into panic selling. This explains the possible shoot-up of the turnover and total volume of shares traded at the NSE during this period. This is attributed to the run-away sentiments following the global financial crisis. During this period, investors largely kept out of the market as there were no enough buyers to support the market and hence stock prices dipped as reflected in the trend of market capitalization in figure 4.3.

4.5 Relationship between herding and securities Return

The regression summary is shown in the table below.

Table 4.24: Model Summary

	Coefficient estimate		Student test		Residual Normality		
	Alpha	Beta	t Alpha	t Beta	Skewness	Kurtosis	Jarque Bera
R m, t	-0.01	4	-1.6	2.3	-0.3	3.5	2.5
V m, t	0	0.2	22.7	5.1	0.1	0.3	0.1
Vol m, t	0	-0.1	14.1	-5.6	0.7	1.7	78.6

The Jarque-Bera test is a goodness of fit test of whether the sample data have the skewness and kurtosis matching a normal distribution. The JB statistics show that the data is normally distributed.

4.6 Correlation Analysis

Having established that the variables (Volume and Value) included, are integrated in the same order, the next procedure involves testing the possibility of co-integration among the variables used. If the residuals are stationary then it means that the independent and dependent variables are co-integrating. If the variables under investigation are found co integrated, there exists a long-run and equilibrium relationship between the variables. In presence of co-integration, the theorem of Engle– Granger (1987) can be used to show an error correction model (ECM) to reconcile the short run and long run behaviour of the variables. Table below shows the results of the co - integration test.

Table 4.25: Co - integration test

Variables	Trends	Test Statistics value	1% critical value	5% critical value	10% critical value	p- Value
Residuals	Trend	-2.2	-3.6	-2.5	-2.7	0.1
Residuals	No trend	-2.2	-2.5	-1.9	-1.6	0.01

The results presented in Table show that the ordinary least square residuals without a trend are stationary at 5% and 10% critical values and the p-value of 0.01 is less than the 0.1 significance level. Therefore, the variables in the model are co-integrated, indicating a long run relationship between measures of equity proxy variables of investor sentiment and the performance of quoted equities in Kenya, represented by market capitalization.

Estimating a model with non-stationary variables could lead to spurious regression. To solve for non-stationarity, the variables are first differenced and then the short-run relationship is estimated. But estimating a model with first differenced variables leads to a loss of long-run information. Therefore, an error-correction model is used to bridge both the long-run and short run relationships within the context of a single equation. Table 4.4 presents the error correction models estimations.

Table 4.26: Error-Correction Model Estimates

Variables	Coefficient	Std Error	T statistic	P value
LDlnMCt	0.2359788	0.569331	0.85	0.008
LDlnVoltradedt	0.2135472	0.056721	2.55	0.031
LDlnValuetradedt	0.2446547	0.3666578	1.99	0.064
LECM	-0.2147684	0.25689	-0.26	0.055
Constant	0.0231145	0.06587	2.01	0.086

Table 4.26 shows that the volume of shares traded on its part has a positive and significant effect on market capitalization at the 10% level. Similarly, the value of shares traded variable exerts a positive and significant effect on market capitalization at the 5% level. The error-

correction term shows that 45% of the errors are corrected each period and its impact is statistically significant. This is a reasonable result to enable the study conclude that volume and value of shares traded as proxy measures of investor sentiment predict the variations in market capitalization as an indicator of equity market performance. The F statistics shows that the estimated parameters are jointly significantly different from zero.

4.7 Summary and interpretation of findings

The questionnaire was administered with and aim of seeking the response of 115 individual investors being a representation of the population in Kenya. According to the findings, male respondents comprised of 66% and 34% being female respondents. In terms of age of the respondents, majority of them were between the ages of 26-35 translating to 40% of the respondents. This implies that the youth of between the said ages make investment decisions compared to their old counterparts. 44% of the respondents had achieved a master degree while 22% had a PHD as their highest level of education translating to a positive relationship between the level of education and investment decisions.

The respondents were asked on the number of years they have been investing at the Nairobi Securities Exchange and 34% of them have been investing at the NSE for over 8 years. This means that majority of the respondents have invested at the NSE for a long time hence understand the operations and procedure of buying and selling of securities. The respondents were asked if they have attended any course on security market and 56% of them indicated that they had attended a course on securities market .This means that they had more knowledge in regards to the influence of investor herding behaviour on securities returns.

The study sought to establish the amount of money in Kenya shillings the respondents had invested at the NSE over the years. 27% of the respondents indicated that they had invested over 600,000 in Kenya shillings and 25% of the respondents had invested between Kes.200,001- 400,000. This clearly indicated that most of the respondents invested large sums of money at the NSE.

The study went further by seeking to know how investors make investment decisions and 69% of the respondents make investment decisions based on mass buying and selling of securities while 31% did not make investment decisions based on mass buying and selling. This means that sentiments from peers influence investment decisions of most of the investors. The study further asked the respondents the level of influence masses had on their investment decision and the study revealed that most of the respondents were in agreement that masses influenced their investment decision in securities trading to a moderate extent as indicated by a 46%.

According to the research findings, all the respondents depicted that they base their investment on gains they expect from an investment. It also found out that majority of the respondents (38%) indicated finance and investment as the market sector they usually participate in. The researcher also sought knowledge from the respondents as to the kind of an investor they were and most of the respondents (69%) were long term investors. This means that most of the investors have long term goals.

The study asked the respondents whether they invest with specific expectations and the findings were that all (100%) the respondents invest with specific expectations. Majority of the respondent's i.e 79% get advice from their stock brokers since it is vital in decision making during investment. The study also sought to find out if the extent to which subjective decision making influence their decision making, 67% of the respondents revealed that subjective decision making influence their investment decisions in the securities market to a great extent.

The research sought to establish the respondents' knowledge in regards to the extent to which relying on one piece of information influence their decision making in the securities market. 45% of the respondents held that relying on one piece of information influenced their decision making in the securities market to a very great extent. The study additionally wanted to establish the investors' application of subjective judgement over objective judgement when making investment decisions. The findings were that 31% of the respondents agreed that they apply subjective judgement over objective judgement in buying securities to a little extent.

The respondents were asked to indicate the time they buy securities mostly. The findings were that 57% of the respondents buy securities when prices are announced followed by when security prices fall. This implies that investors' decision is affected by investment security procedures. The study findings show that majority of the respondents were in agreement with the statement that do you consider sentiments from peers when choosing securities to invest in.

The study found that investor herding behaviour had an effect on security returns. This finding contradicts one by Ombai (2010), who in his study investigating herding effect at the NSE during the global financial crisis found evidence of herding among investors at NSE who observed a negatively significant y2 coefficient. Kahuthu (2011) whose study on behaviour trading volumes and prices at the NSE Securities Exchange observed that herding instinct among investors have a direct effect on stocks traded and prices. It can therefore be deduced that there is no presence of herding however not to a great extent. Investors should therefore take note of this condition that contributes to volatility of returns among other factors that affect portfolio returns.

The findings were also in agreement with those of Kahuthu (2011) whose study on effects of herd behaviour on trading volume and prices at the Nairobi Securities exchange observed that shown that herd instinct behaviour among investors have a direct effect on stocks traded stock prices. Finally, the findings of Kimani (2011) who listed herding as among the behavioural factors that affect investment decisions of individual investors at the NSE are also contradicted by the findings of this study.

CHAPTER FIVE

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study examined the relationship between investor herding behaviour and securities returns by using data collected from the individual investors by way of questionnaires and quarterly data from NSE for the period between 2012 and 2017. The study found that most individual investors make investment decisions based on masses buying and selling of securities. It found that majority of the individual investors believe that investments bear positive returns even where there is evidence to the contrary. It also found that individual investors invest based on the masses' decisions of buying or selling securities and that they are informed and rational. Furthermore, the study found that masses influence their investment decisions in securities market to a moderate extent, hence did not affect individual investor's decisions to a large extent and that individual investor's investment decision is greatly affected by uncertainty.

The study found that individual investors were offered advice by their stock broker when investing since it is vital in decision making during investment. It found that that amongst most individual investors, subjective decision making played a significant role in investment decisions in the securities market. It also showed that relying on one piece of information had a great influence on decision making in securities market amongst individual investors. The study found that investors buy securities mostly when the security price is announced is a clear indication that individual investors' decision is affected by investment security procedures. It found that most individual investors consider sentiments from peers when choosing securities to invest in, other investors' decision on security type choice have an impact on your investment decision and other investor's decision on the securities volumes to buy/sell influence your volume of trade.

The study adopted pre-estimation tests such as statistical, descriptive, graphical analysis and also tested the properties of the underlying data using the Error Correction model to verify if the data contained a unit root. Data analysis using the formula equation indicated a long-run

connection between the variable of investor sentiments and the returns of quoted companies in Kenya represented by market capitalization.

5.2 Conclusions

Individual investor investment decisions were influenced by sentiments of masses when buying and selling securities hence they are not rational in making investment decisions. Individual investors also held a believe that investments bear positive returns even where there was evidence to the contrary as the behaviours experienced when investing at the NSE. This validates the lack of rational point when investing.

Individual investors confirmed to following masses when making investment decisions however they also believed to be informed and rational. Majority of the respondents depicted that they base their investment on the gains they expect from an investment.

Individual investors are long term investors meaning they make investment decision with an aim of reaping the benefits of their investments in the future. They also happen to rely on one piece of information while making investment decisions to a very great extent. Individual investors purchase securities when the security prices were announced.

Individual investors got advice from the stock brokers when making investment decisions. This helps them in making informed decisions. They however, appeared to be influenced by subjective decision making over being objective in decision making.

The study concluded that the effect of herding may also not be felt in emerging markets because of the rare nature of trading in securities due to such factors like limited capital or little information regarding the securities. It found that investors ideally would prefer less volatile investments which are regarded as better than those with higher risk. Thus high risk securities offer greater yields to reward investors for higher risk assumed and lower risk investments will have a lower yield as investors will readily accept this return in lieu of the less risk they are absorbing.

5.3 Recommendations for Policy

Educating investors will enable them make better decisions with confidence instead of following blindly the actions of others. This will ensure that the investments are widely placed therefore leading to overall participation of investors who are informed. Trainings should be conducted to guide investors on the pros and cons associated with the trading activities at the NSE. This will assist them to embrace their own decisions that they make hence reducing the range of poor investment choices.

We recommend institution of rules to control participants' actions from taking advantage of the illiteracy of investors by giving them wrong suggestions subjecting them to high charges as professional fees. The government hence ought to enact guidelines on how such transactions are carried out.

The study recommends for trainings of the individual investors on how to manage finances this helps build on funds management skills. The study therefore ought to be based on the financial literacy program which can be drafted and executed in the best and cost friendly way that motivates the investors.

It is important for the Kenyan government and the capital markets authority to strengthen institutions of corporate governance for the market intermediaries. Public confidence should be fostered and informational efficiency improved that is consistent with international best practices.

5.4 Limitations of the Study

The process of obtaining data for the study was tedious and costly. The study used quarterly secondary time series data apart from primary data which was costly to purchase since the data

was pegged on the number of years. The unavailability of enough funds was an obstacle to the scope of my study therefore the longer the period, the more expensive it is.

Research time frame was limited. For a longer time frame, then a more comprehensive study would have resulted thereby enabling more testing and tests be done to improve on the conclusions. The data obtained was in a raw state and required to be arranged in a manner that will be efficient for the analysis of the same Data mining also consumed a substantial amount of time that would have been allocated to other tasks.

Analysing an individual security was difficult. The use of estimate figures needed to be applied in situations and this may have compromised the accuracy and validity of the data hence the need to look into the market holistically and not individual security.

Herding is regarded to be an animal spirit and therefore there is no consensus in the literature on how best to measure it. This challenge was also compounded by the fact that there are no best surveys or index to measure investor herding in Kenya.

5.5 Suggestions for Further Research

Further studies can be done on the effect of herding behaviour on the determination of the entry and exit of a company in the NSE 20 Share Index. This research will try to compare the reasons for entry or exit in relation to the herding behaviour hence increasing more knowledge on this area of study.

There is need for a further research on the determinants of herding in Kenya and how it may relate to the stock prices of the specific companies quoted at the NSE. A panel data analysis needs to be carries out in this area in future.

Further research can be undertaken towards the exact mechanism by which it influences performance of individual securities. In this regard, further studies should include other measures

of investor sentiments used in the literature such as direct polling of investors, advance decline ration and warrant trust among other indicators.

We recommend a similar study to be carried out within a larger scale of both individual investors and institutional investors for better understanding of the effects of the securities returns on both clusters of investors.

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APPENDICES

Appendix I: Questionnaire

SECTION A: PRIMARY INFORMATION

1. Indicate the name of your stock broker (Optional)…………………………

2. What is your gender?

   Male   [   ]   Female   [   ]

3. What is your age?

   18-25   [   ]   26-35   [   ]   36-45   [   ]

   46-55   [   ]   Over 55   [   ]

4. Indicate your education level?

   High school to Lower   [   ]   Undergraduate   [   ]   Graduate   [   ]

   Master   [   ]   PHD   [   ]   Other   [   ]

5. For how long have your been investing at the NSE?

   Less than 1 Year   [   ]   1-2 Years   [   ]   3-5 Years   [   ]

   6-8 Years   [   ]   More than 8 Years   [   ]

6. Have your attended any course on securities market?

   Yes   [   ]   Not Yet   [   ]

7. Kindly indicate the amount of money in Kenya Shillings you have invested at the NSE over the years?

   Kes. 100,000 and Below   [   ]   Kes 100,001-200,000   [   ]

   Kes. 200,001- 40,000   [   ]   Kes. 400,001-600,000

         [   ]

   Over 600,000   [   ]

SECTION B: INVESTORS INFORMATION

8. Do you make investment decisions based on masses buying and selling of securities?

    Yes   [ ]   No   [ ]

9. Have you experienced the following behaviours when investing at the NSE? (Tick all that apply)

    a) I Believe investments bear positive returns even where there is evidence to the contrary   [ ]

    b) Reluctance to accept hard facts that are unpleasant   [ ]

    c) Making investments decisions that seems influenced by others   [ ]

    d) Unable to make investment decision due exhibiting conflicting positions

                       [ ]

10. To what extent do you agree with the following statements on investment decision making in securities market?

    Where 1 - Strongly Disagree, 2 - Disagree, 3- Neutral, 4 - Agree, 5- Strongly Agree

	1	2	3	4	5
I invest base on the masses' decisions of buying or selling securities					
I am informed and rational					
I act the same way and rely on information gathered in groups to buys or sell securities(Securities or bonds)					
I am less interested in following masses on investing at securities market					
Following masses causes a state of inefficient market,					

which is usually recognized by speculative bubbles					

11. To what extent do you think the masses influence your investment decisions in securities market?

       To a very little extend   [ ]   To a greater extend   [ ]

       To a little extend   [ ]   To a very great extend   [ ]

       To moderate extend   [ ]

12. Do you as an investor base your investment on gains you expect from an investment?

       Yes   [ ]   No   [ ]

13. Which market sector do you usually participate in?

Agricultural sector [ ]   Commercial Services [ ] Finance & investment [ ]

Alternative Market Segment [ ]   Industrial & Allied Sector [ ]

14. What kind of an investor are you?

   Speculative (short-term) [ ]   Capital Long (long term) [ ]   both [ ]

15. To what extent do you think uncertainty influences your investment decision in the securities market?

       To a very little extend   [ ]   To a great extend   [ ]

       To a little extend   [ ]   To a very great extend   [ ]

       To a moderate extend   [ ]

16. Do you invest in securities markets with specific expectations?

       Yes   [ ]   No   [ ]

17. Are you offered advice by your stock broker when investing?

       Yes   [ ]   No   [ ]

18. To what extent do you think subjective decision making influences your investment decisions in the securities market?

       To a very little extend   [ ]   To a great extend   [ ]

       To a little extend   [ ]   To a very great extend [ ]

19. To what extent does relying on one piece of information influence your decision making in securities market?

        To a little extend   [   ]   To a great extend   [   ]

        To a very little extend   [   ]   To a very great extend   [   ]

        To a moderate extend   [   ]

20. To what extent do you apply subjective judgment over objective judgment in buying securities?

        To a little extend   [   ]   To a great extend   [   ]

        To a very little extend   [   ]   To a very great extend [   ]

        To a moderate extend [   ]

21. When do you buy securities mostly?

    a. When securities prices fall   [   ]

    b. When the price is constant   [   ]

    c. When the security price is announced   [   ]

    d. Anytime

22. Kindly indicate the level of agreement with the statements below relating to your investment decisions.

Where 1- Strongly Disagree, 2 - Disagree 3-Neutral, 4-Agree, 5- Strongly Agree

	1	2	3	4	5
I invest basing my decision on a successful investor.					
I have regretted of investing in securities market due to mistake that I did					
I sell my securities once on realisation that they earn low returns at early stage.					
I lose hope to invest in securities market when I experienced loss during initial investment					

23. To what extent do you agree with the following statements?

Where, 1 - Strongly Disagree, 2 - Disagree, 3- Neutral, 4 - Agree, 5- Strongly Agree

	1	2	3	4	5
Do you consider sentiments from peers when choosing securities to invest in?					
Does other investors' decision on security type choice have an impact on your investment decision?					
Does other investor's decision on the securities volumes to buy/sell influence your volume of trade?					
Do you react quickly to the changes of other investors' decisions and follow their reactions to the securities market?					

THANK YOU FOR YOUR TIME

Appendix II: List of NSE Member Brokerage Firms as at October 2017

1	Dyer & Blair Investmen Bank	Goodman Tower 7th floor
2	Suntra Investment bank	Nation Centre 7th floor
3	Kingdom securities	Cooperative Bank House 5th floor

4	Sterling Capital Ltd	Barclays plaza11th floor
5	NIC Securities	NIC House, Masaba Road
6	African Alliance securities	Transnational Plaza, 1st Floor
7	CBA Capital Ltd	CBA Centre Ltd
8	Barclays FSL	Westend building
9	Francis Drummon & CO	Hughes Building, 2nd Floor
10	Old mutual Securities ltd	IPS Building 6th Floor
11	AIB Capital ltd	Finance House 9th floor
12	Apex Africa Capital	The Riverfront 1st floor
13	Standard Investment Bank	ICEA Building 16th floor
14	Renaissance Capital	Purshotton Place, 6th Floor Westlands
15	Equity Investment Bank	Equity Centre, Hospital Road, Upper Hill
16	Securities Africa kenya	The Exchange Building Westlands
17	SBG Securities Ltd	CFC Stanbic Centre Westlands
18	ABC Capital Ltd	IPS Building
19	Faida Investment Bank	Crawford Business Park, Statehouse RD
20	Kestrel Capital(EA)	Orbit Place 2nd Floor Westlands
21	Genghis Capital Ltd	Purshotton Place, 6th Floor Westlands
22	KCB Capital	Kencom House 2nd floor
23	EFG Hermes Kenya ltd	Orbit Place Westlands 8th floor

Source: www.nse.com, 2017

Appendix III: NSE DATA

Period	Market Capitalization in Bn	Volume of Equities Traded in	Equity Turnover (Bn)
2012Q1	940796	351	3544

2012Q2	1048717	386	6214
2012Q3	1155988	470	9782
2012Q4	1272002	461.89	7582
2013Q1	1599798	571	11183
2013Q2	1618270	728	13021
2013Q3	1790854	489	10062
2013Q4	1920718	466	11329
2014Q1	2000473	544	13043
2014Q2	2106691	731	18190
2014Q3	2295950	767	19241
2014Q4	2300054	900	31583
2015Q1	2444829	614	20517
2015Q2	2254237	681	24251
2015Q3	2063644	434	14375
2015Q4	2049539	475	15110
2016Q1	2078280	536	13449
2016Q2	1994814	601	17247
2016Q3	1969299	747	16872
2016Q4	1931607	289	7107
2017Q1	1894344	637	12461
2017Q2	1862163	749	17144