AN INVESTIGATION INTO THE FACTORS INFLUENCING HERD FORMATION BY INVESTORS IN THE NAIROBI SECURITIES EXCHANGE: A BEHAVIOURAL FINANCE APPROACH

JULIUS MUNGAI GICHAMBA
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DECLARATION

I declare that this research is my original work and it has never been presented in part or whole in Kenyatta University or elsewhere for the same award as to the best of my knowledge.

Julius Mungai Gichamba
D53/NKU/PT/21181/2010

This research project report has been submitted for examination with my approval as the University supervisor.

Mr. D. Ngaba
Department of Accounting and Finance

This research project report has been submitted for examination with my approval as the chairman of department.

F.S. Ndede
Department of Accounting and Finance
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DEDICATION

Firstly, I dedicate this research to the Almighty God for having seen me this far in my educational and professional endeavors. Secondly, to my family members who have given me immeasurable support and morale during my pursuit for further studies. Lastly, to all researchers and practitioners who have and continue to pursue the field of behavioural finance.
The Efficient Market Hypothesis (EMH) and the rational expectation theories which are standard (traditional) finance theories explain the happenings in the stock markets using models in which the investors are rational and how stock prices reflect the available information in the market. However, there are instances where stock markets go contrary to this explanation, due to other factors, thus leading to market imperfections such as herd formation. This study sought to investigate the factors that influence herd formation by individual investors in the Nairobi Securities Exchange (NSE). A sample of 100 respondents within Nairobi County was used. The respondents were selected using simple random sampling. Primary data was gathered using questionnaires and personal interviews. Secondary data was acquired through reviewing of journals, annual reports, newspapers, relevant websites, newsletters and other relevant literature on the study under investigation. Data was analyzed qualitatively and quantitatively with the assistance of the Statistical Package for Social Sciences (SPSS). Literature review shows that market imperfections that are contrary to traditional finance theories are best explained by the new branch of finance (behavioural finance) which incorporates the psychological mechanisms of individuals in making of investment decisions. Behavioural finance outlines behavioural aspects such as loss aversion, contrarian behaviour, overconfidence, cognitive dissonance, cognitive heuristics, self deception, representativeness, anchoring, behavioural biases and herd formation portrayed by individual investors as examples of such imperfections. These behaviours in turn influence the trend in the stock market. The study found out that herding or herd formation is one of the behavioural aspects prevalent in the NSE. The factors influencing herd formation are social pressure of conformity to a group, market announcements and the political environment. However, technology though an important factor in share trading does not influence herd formation in the NSE. There is therefore need for the government, investors, NSE, Capital Markets Authority (CMA), learning institutions and other market players to understand the market dynamics and look more closely at factors other than price that influence the performance of the stock market and enact well designed strategies on the efficient operation and management of the stock market in Kenya.
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DEFINITION OF OPERATIONAL TERMS

Anchoring - Is the tendency by human beings to make decisions based on an idea or fact that has been preconceived, that is, they have reference points. For instance, knowledge on past stock prices movements.

Behaviour - Is any overt (observable) response or activity by an organism (Weiten, 2006).

Behavioural Finance - This is the study of the influence of psychology on the behaviour of financial practitioners and the subsequent effect on markets (Sewell, 2007).

Bubble - A bubble occurs when market prices of securities soar far in excess of what normal and rational analysis would suggest.

Contrarian Behaviour - Refers to the situation whereby an investor goes against the influence of other investors and makes their own opinions regarding investment decisions.

Crash - This is a significant and sudden drop in market wide values.

Equity shares - Also known as ordinary shares are financial instruments that entitle a holder to share the rewards and risks associated with the ownership in a company.

Herding - This is the condition in which the investment decisions of investors are influenced by the decisions of other investors.

Loss aversion - Also called the break even or disposition effect is the reluctance to sell investments, such as shares of stock, after they have fallen in value.

Nairobi Securities Exchange - This is a market in which the trading (buying and selling) of securities takes place.

Online share trading - Is the buying and selling of shares through a real time web based application system.

Stockbroker - Is an agent who trades securities in the Securities Exchange Market on behalf of a client (investor) for a commission referred to as brokerage commission.
ABBREVIATIONS

CAPM - Capital Assets Pricing Model
CMA - Capital Markets Authority
Ed. - Edition
EFT - Electronic Funds Transfer
EMH - Efficient Market Hypothesis
Fig. - Figure
IPO - Initial Public Offering
KSH - Kenya Shillings
MBA - Master of Business Administration
MPT - Modern Portfolio Theory
NBER - National Bureau of Economic Research
NSE - Nairobi Securities Exchange
NPV - Net Present Value
OST - Online Share Trading
SEU - Subjective Expected Utility
SPSS - Statistical Package for Social Sciences
CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter expounds on seven key areas that are essential for any piece of academic research. These include; background of the study, statement of the problem, the objectives of the study, research questions, significance of the study, scope of the study and assumptions and limitations of the study.

1.1 Background of the study

Capital markets play a vital role in mobilizing savings and allocating them to the most desired sectors in the economy. This is important in ensuring economic development and general well being of individuals in a country. The analysis of the dealings in the securities market helps to establish the economic cycle in which a country is in. The results of the trading which are reflected in the stock prices and stock market index have a big bearing on the economic empowerment of the individuals and the general state of the economy. The movements in the stock market prices as a result of demand and supply, returns on investments, portfolio management, risks, market efficiency and rationality of investors have for a long time been the subject of research in the field of finance. Studies of this nature form the basis of the so called standard (or traditional) finance.

A lot of research focusing on various aspects of standard finance has and continue to be carried out in academic research. Basically, the foundation of standard finance is associated with two fundamental theories namely, Modern Portfolio Theory (MPT) and Efficient Market Hypothesis (EMH) (Ricciardi & Simon, 2000). The MPT was created by Harry Markowitz in 1952 and makes the assumption that the investors are rational and risk averse and that there is efficiency in the market (Markowitz, 1952). On the other hand, the EMH also asserts that the financial markets are efficient, that is, the current prices of securities reflect all the publicly available information on a security. Under EMH, there is no reason to believe that the current price is either too low or too high (Jordan and Miller, 2009).
Ross et al (2008) observe that if the market is efficient, then all investments in the market are zero Net Present Value (NPV) investments. The reason given is that if the prices are neither too low nor too high then the difference between the market value of an investment and its cost is zero; hence the NPV is zero. The investor in an efficient market get exactly what they pay for when they buy securities, and firms receive exactly what their stocks and bonds are worth when they sell them.

Market efficiency is of three forms depending on the degree of informational efficiency of the market, that is, weak form efficient, semi strong efficient or strong form efficient. Under the strong form efficiency, all information of every kind (both public and private) is reflected in stock prices. In the semi strong efficient market, all publicly available information is reflected in the stock price. On the other hand, weak form market efficiency suggests that the current price of a stock reflects the stock’s own past prices.

Despite the extensive studies done on market efficiency, a number of researchers appreciate the difficulty of testing market efficiency. Jordan and Miller (2009) claim that there are some aspects of stock price behaviour that are both baffling and potentially hard to reconcile with the market efficiency. These are what researchers call market anomalies. Market anomaly is what is actually studied under the field of behavioural finance. Such anomalies include; the amazing January effect, the earnings announcement puzzle, market bubbles (Internet Stock craze of 1999), crashes (1929 – ‘Black Tuesday’ and 1987 – ‘Black Monday’), the day of the week effect, turn-of-the-year effect and turn-of-the-month effect. Other market anomalies that cannot be explained by standard finance and have been experienced in the NSE include the abnormal price fluctuations with reference to mergers, initial public offerings (IPO’s), stock splits and take-overs.

Shiller, R. (2003), notes that the rationality of the investors and the efficiency of the markets dominated the field of finance until the 1990’s when behavioural finance, a new field of finance, began to emerge.

1.1.1 Behavioural Finance

Behavioural finance questions the rationality of investors and the efficiency of the market. Are investors fully rational? Is the market totally efficient? These are questions that behavioural finance attempts to address. Behavioural finance attempts to expound and
understand the reasoning or behaviour patterns portrayed by investors. Sewell M. (2007) states that, *Behavioural finance* is the study of the influence of psychology on the behaviour of financial practitioners and the subsequent effect on the market. From this definition, behavioural finance examines the emotional and mental (that is, psychological) processes involved in the decision making process of investors and the subsequent effects on the market as a result of their decisions. Sewell M. (2007) further states that, behavioural finance is of interest because it helps to explain why and how markets might be inefficient. Thus behavioural finance attempts to show why the markets may react in a totally different manner than expected given the perception and expectations of the investors and how and why information in the market may fail to be reflected in the prices of the securities.

The paradigm shift from traditional finance to behavioural finance has elicited a lot of interest both from finance researchers and practitioners. However, traditional finance still contributes a lot to the understanding of behavioural finance as it is the epitome upon which this field of finance emerged. Behavioural finance draws a lot from behavioural concepts of other social sciences such as psychology, economics, anthropology and sociology. Jordan and Miller (2009), note that much of the research that has been done in the area of behavioural finance stems from the work in cognitive psychology, which is the study of how people including investors think, reason and make decisions. Behavioural finance attempts to look at why and how human behaviour which is determined by a myriad of social and psychological factors influences various issues such as investment decisions of individuals. Individuals’ perception to risk is also a psychological and social aspect which comes in handy in understanding the behavioural patterns of various investors. Generally, a proper understanding of the discipline of behavioural finance, calls for a basic understanding of the fields of finance, psychology, economics, sociology and anthropology.

There are various psychological aspects and processes studied under behavioural finance which tend to explain the behaviour of investors with regard to making investment decisions. Some of these aspects include anchoring, endowment effect, loss aversion, representativeness, cognitive heuristics, overconfidence, herding, self deception, behavioural biases and cognitive dissonance. This study focuses on the herd formation by investors at the Nairobi Securities Exchange (NSE). This behavioural approach has been used and/or is being used by investors in influencing individual investment decisions and the stock movement patterns in securities.
markets. There are very few studies in Kenya which have been done to establish the effects of herd behaviour both on individual and the market performance.

1.1.2 Herding

Herding or herd formation refers to as the condition in which a large number of people tend to act in a similar way at the same time towards a certain issue. In investing, herd formation reflects the way in which the investment decisions of investors are influenced by the decisions of a group of investors. Under this behavioural aspect, investors overlook important signals or information in the market and act on the basis of the opinions of other investors. They tend to mimic the actions of a larger group of investors. Ricciardi and Simon (2000) note that herding transpires when a group of investors make investment decisions on a specific piece of information while ignoring other pertinent information such as news or financial reports. They tend to follow the momentum or wave exhibited by other groups of investors. Under herd behaviour, investors are usually said to follow the herd. Herd behaviour is likened to the behaviour of a flock of sheep whereby the a sheep tends to follow the direction taken by the larger flock without necessarily making an informed decision as to whether the direction taken is the right one, i.e. they are in total disregard of how the market will turn out to be.

The concept of herd behaviour is evident in various scenarios requiring decision making and more so where two or more subjects are involved. It can apply to corporate investments when a number of companies are investing in similar assets. In certain circumstances, some managers tend to follow other managers’ investment decisions and invest or buy similar assets. Such managers simply mimic the investment decisions of other managers, ignoring substantive private information that they may possess or are in public domain. From a social standpoint this behaviour is inefficient. However, it can be rational from the perspective of managers who are concerned about their reputations in the labor market (Scharfstein and Stein, 1990). They believe that such decisions made by other companies are the best and that they would make maximum returns as the other companies and hence remain relevant.

The opposite of herding is contrarian behaviour. Contrarian behaviour refers to a situation whereby an investor goes against the herd, that is, an investor goes against the momentum of other investors and sticks to his or her idiosyncratic opinions in making investment decisions. The investors rely on their own private information and experiences in making investment
decisions rather than on the opinions and observations of other investors. This is notwithstanding circumstances where majority of investors have decided to follow the herd.

1.2 Statement of the problem
The changes in the prices of securities traded at the NSE as well as investment decisions made by investors cannot purely be explained by the available information in the market; that is, determination of individual stock prices is contrary to the EMH and the rational expectation theories. There have been circumstances when investors have followed the masses in making their investment decisions, which is, herd behavior or herd formation. Examples where this behaviour has been experienced is in the IPOs, stock splits, mergers and take-overs. This has led to various price fluctuations and market imperfections. Herd behaviour is caused by a myriad of factors. However, individual investors may not be aware that the sum of these factors has a significant influence in the determination of market behaviour.

Herd behaviour is fundamental in the understanding of the stock market anomalies. Despite its contribution to the understanding of the investor reactions and the imperfections in the securities market, very little research has been carried out on this behavioural aspect in the NSE. In light of scant empirical researches available in Kenya on the dominance of markets by human psychology, this study sought to investigate the factors that influence herd formation by individual investors in the NSE.

1.3 Objectives of the study

1.3.1 General Objective
The main objective of this study was to investigate the factors influencing herd formation by investors at the NSE.

1.3.2 Specific objectives
This study sought to achieve the following specific objectives:

i) To find out the extent to which social pressure of conformity to a group influence herd formation in the NSE.

ii) To determine the degree to which herd behaviour is determined by the market announcements.

iii) To investigate the role of technology in herd formation in the NSE.
iv) To determine the extent to which the political environment in Kenya influences herd formation by investors in the NSE.

1.4 Research Questions
This study was guided by the following research questions:

i) What is the extent to which social pressure of conformity to a group influence herd formation in the NSE?

ii) To what degree does market announcements influence herd formation?

iii) How does technology influence herd formation in the NSE?

iv) To what extent does the political environment influence herd formation in the NSE?

1.5 Significance of the study
The findings of this research provide a myriad of benefits to various stakeholders. Firstly, the study contributes to the understanding and appreciation of the use of herd formation by investors in making investment decisions at the NSE. This assists in shedding more light as to why the stock market behaves the way it does and also why investors behave the way they do.

Secondly, since very minimal research has been carried out in the area of herding at the NSE, the findings of this research are of significant value in adding onto the body of knowledge and are likely to arouse further debate on other areas of behavioural finance that are critical to the understanding of investor and stock market behaviour.

In addition, financial analysts and other finance practitioners including the NSE benefit from the findings of this study as they are in a position to understand with much insight the turbulences or fluctuations within the stock market and investor behaviour. In certain circumstances, the reasons provided by the NSE as to how stocks have fared may not necessarily be explained by the forces of demand and supply. Other factors beyond demand and supply such as herd formation may be in operation.

Lastly but not the least, the government and other policy makers may use the findings of the study in understanding investor behaviour patterns and the timings of launching various issues such as Initial Public Offers (IPOs) in the securities market. Investor perception and behaviour remains to be a very strong factor which should never be underrated. For instance,
anchoring during government divestiture may easily cause the stock market to underreact to critical or fundamental information available in the prospectus and public media. This can have a bearing on the quantity of shares to be sold in the market. The under reaction is likely to affect government programs since amounts from such offers may have been factored in the budget for a particular fiscal year.

1.6 Scope of the study
This research was limited to the study of the equity shares traded in the NSE. This is notwithstanding the fact that there are other securities traded at the NSE such as bonds and commercial papers which also exhibit behavioural influences. There are various behavioural aspects such as anchoring, cognitive dissonance and myopic loss aversion that can be studied with respect to investor behaviour at the stock market. However, due to time and cost constraints, the study was limited to examining herd formation by investors.

The study covered individual investors rather than corporate investors. In particular, it examined the factors influencing herd formation by individual investors in the NSE for a period of ten years (that is, 2003-2012).

1.7 Assumptions and Limitations of the study
This study assumed that herding is prevalent within the NSE and it influenced the market in a great way. Also, the study made the assumption that the investors may not be aware that their human behaviour taken as a whole had a great impact on the operations in the NSE as well as their own investment decisions. In addition, the study assumed that herding was rampant in the trading of shares than in other marketable securities such as bonds which are traded in the NSE.

The time and costs involved in carrying out such a study were enormous and this limited to a certain extent the achievement of the objectives of the study. To overcome the issue of time, the researcher engaged a research assistant who assisted in the collection of data. With regard to cost, the problem was solved by limiting the size of the sample to a reasonable minimum.
2.0 Introduction
This chapter explores the relevant literature and studies related to the problem under investigation. In particular, it looks at a review of theoretical literature, empirical review, research gaps and the conceptual and theoretical frameworks.

2.1 Review of Theoretical Literature
The Securities Market is one of the most researched areas in the field of finance. There are various studies that have been done on the various issues in the securities market in Kenya and in other countries around the world. Such studies have revolved around market efficiency and rationality of investors. Prices of securities have been seen to adjust to the available information in the market while investors have been taken to be rational in making their investment decisions. These form the basis of standard or traditional finance.

2.1.1 Standard (Traditional) Finance
Standard finance makes reference to the current accepted theories in academic finance. These theories seek to understand the financial markets using models in which the investors are rational. Rationality implies two things. Firstly, when the investors receive information, they update their beliefs correctly as described in the Baye’s law. Secondly, given their beliefs, investors do make choices that are normatively acceptable, that is, the choices are consistent with Savage’s notion of Subjective Expected Utility (SEU) (Barberis and Thaler, 2003). Baye’s law is the statistical model which provides the basis for rational expectations. It combines prior knowledge with new information to form an updated expectation for the relevant quantity, that is, asset prices. The Baye’s law is central in neoclassical theories. These theories view price changes as reactions to new information in the market. They make the assumption that investors correctly update their old expectations of the assets’ risk and return profile using the new information. Through this trading, they set new fully revealing equilibrium prices (Antoniou, 2010).
The SEU model on the other hand is outlined in an article by Savage (1971) while expounding on Elicitation of Personal Probabilities and Expectations. Savage notes that rational decision making does not necessarily imply Bayesian updating. Rather, it generally implies that agents make choices according to some well-behaved underlying utility function that satisfies the axioms of rational choice. SEU model is one such decision making model. It assumes that decision makers have complete knowledge of the probabilities that are associated with future contingencies. The model demands that the decision-maker behaves as if using the mean of the distribution of beliefs, regardless of where such beliefs emanate from.

The foundation of standard finance is associated with the EMH and the MPT (Ricciardi and Simon, 2000). As previously noted, the MPT was developed by Markowitz in 1952. The MPT takes into account a security’s or portfolio’s expected return (R), standard deviation (\(\sigma\)) and correlation with other securities held in the portfolio. Generally, in traditional theories such as MTP, EMH and the Capital Assets Pricing Model (CAPM), investors usually have complete knowledge of the distribution of expected returns and by using this information they are able to take positions that maximize their expected utility (Antoniou, 2010).

The EMH takes cognizance of the fact that the price that a security is trading in the market has taken into account all the available information and that that price in which the security is currently trading is its fair value. The extent of market efficiency depends on the level of information available in the market. Thus there is the weak form efficient market, semi strong efficient market or strong form efficient market. Under the strong form efficiency, all information of every kind (both public and private) is reflected in stock prices. In the semi strong efficient market, all publicly available information is reflected in the stock price. On the other hand, in the weak form market efficiency, the current price of a stock reflects the stock’s own past prices.

The rationality of investors and the efficiency of the market continued to dominate the field of finance until the 1990’s when the field of behavioural finance, a new field of finance began to emerge. Researchers and market practitioners were faced with anomalies (imperfections) in the market that could not be explained by rationality and market efficiency. Such anomalies include; the amazing January effect, the earnings announcement puzzle, market bubbles (Internet Stock craze of 1999), crashes (1929 – ‘Black Tuesday’ and 1987 – ‘Black Monday’),
the day of the week effect, turn-of-the-year effect and turn-of-the-month effect (Jordan and Miller, 2009).

Other market anomalies that cannot be explained by standard finance and have been experienced in the NSE include the abnormal price fluctuations with reference to mergers, initial public offerings (IPO's), stock splits and take-overs and other reactions to the market based on purely private information by one or very few individuals.

The section that follows looks at the general concept of behavioral finance, the building blocks, behavioral finance theories and other behavioural finance concepts.

2.1.2 Behavioural Finance

Behavioural finance is a new branch of finance that emerged in the 1990's to assist in addressing the market anomalies that could not be fully explained by the models of rationality and market efficiency (Shleifer, 2000). The field of behavioural finance has elicited a lot of interest in the recent past both from academicians and investment practitioners. A lot of research has since been done on various issues in this field in a bid to position and refine this field. It helps to understand the psychological mechanisms or processes exhibited by investors in their decision making processes. Barber and Odean (1999, p. 41) observed that, people systematically depart from optimal judgment and decision making. Behavioral finance enriches economic understanding by incorporating these aspects of human nature into financial models.

Behavioural finance relaxes the assumption that the investors are fully rational utility maximizers and draws from findings in experimental economics and psychology. It looks at how people behave in conditions of uncertainty, and develops models and hypotheses which examine whether the anomalies in financial markets are at least partly related to the bounded capacity of investors to process information and estimate risk and return (Antoniou, 2010). Statman (1995) while comparing between behavioural finance and standard finance observed that behaviour and psychology do influence individual investors and portfolio managers' decision making process with regard to assessment of risk and framing. Framing refers to the way investors process information and make decisions on how it is presented. This leads to different investors making different choices.
It is evident from the foregoing discussion that behavioural finance applies concepts from various social disciplines such as economics, psychology, finance and sociology. However, it is worth noting that standard finance remains central to the understanding of behavioural models and processes as it is from it that this paradigm emerged. A diagrammatic representation of the interrelationships between behavioural finance and other disciplines from which it draws its aspects is as shown in figure 1 below:

Figure 1: The important interdisciplinary relationships that integrate behavioural finance

![Diagram showing the interrelationships between psychology, sociology, and finance in the context of behavioural finance.](source: Ricciardi and Simon (2000))

Thus, a good understanding of behavioral finance calls for a basic understanding of the fields of finance, economics, sociology and psychology.

2.1.2.1 Theories of Behavioural Finance

Behavioural finance being a new school of thought is still developing and researchers are in the process of trying to understand and systematically forecast behaviour of individuals in making informed investment decisions (Olsen, 1998). In light of this, Olsen notes that there is no cohesive theory of behavioural finance that exists yet. However, he observes that researchers have developed many themes and sub-theories of behavioural finance. The section that follows shall briefly examine these sub-theories and themes.

2.1.2.2 Limits to Arbitrage

This is one of the fundamental theories of behavioural finance. Standard finance looks at an investor as a rational being operating in an efficient market. According to standard finance, any price dislocations in the market brought about by new information is quickly and efficiently adjusted to reflect the new information. However, under behavioural finance, this
may not be plausible. It’s from this argument that theory of limits to arbitrage emanates from. Barberis and Thaler (2003) observe that the theory argues that it can be difficult for rational traders to undo the dislocations that have been caused by the less rational traders. To emphasize on this, Vissing-Jorgensen (2003) pinpoints that if the prices deviate from fundamentals due to the behaviour of the irrational investors, arbitrage by the rational investors may not necessarily be able to force the prices back to the fundamentals.

2.1.2.3 Prospect Theory
The Prospect Theory was developed by Kahneman and Tversky (1979). The duo sought to expound on the behaviour of investors in making decisions under conditions of uncertainty. The theory rests on the premise that investors are much more distressed by probable losses than they are happy about probable gains. Research has found out that an investor will feel twice as much pain of losing one shilling than the pleasure they would derive by gaining one shilling. Different individuals respond differently to identical situations depending on whether the situation is presented in terms of gains or losses. An investor will be willing to take more risk to avert the loss of one shilling than they would to make a gain of one shilling. Thus investors are risk takers with regards to loss while they are risk averse when it comes to gains. This is actually the essence of prospect theory (Jordan and Miller, 2009). Schwartz (1998) explains that under prospect theory, the investors tend to evaluate prospects or possible outcomes (gains and losses) while making reference to some point rather than the final state of their overall wealth. In contrast, from an economic sense, a fully rational investor is more concerned about his or her overall wealth rather than gains or losses associated with parts of that wealth.

2.1.2.4 Loss Aversion
Loss aversion is also referred to as disposition or break even effect and borrows a lot from the prospect theory. It refers to the reluctance of an investor to sell his or her investment after they have fallen in value (Tversky & Kahneman 1991). When a stock is falling in value, it is from a rational point of view expected that the investor will dispose of the stock rather than continue holding it. However, in real sense, investors are reluctant to sell such an investment and instead continue holding it hoping that prices would improve and he or she will break even. On the other hand, investors are likely to sell a stock rising in price too early.
2.1.2.5 Theory of Financial Cognitive Dissonance

The theory of cognitive dissonance is one of the most influential and studied theories in the field of social psychology. It was developed by Leon Festinger (1919-1989) and it states that when people are confronted with conflicting beliefs, attitudes or behaviour, they do feel internal tension and anxiety (Morton, 1993). Individuals tend to reduce the inner tensions and anxieties (that is, reduce dissonance). This is done firstly, by changing beliefs, attitudes or behaviours so that they are perceived as consistent; and secondly, by attempting to justify or rationalize their choices.

From a financial point of view, the theory may apply to investors in the securities market who make attempts to rationalize contradictory behaviours so that they seem to follow naturally from personal viewpoints or values (Ricciardi and Simon, 2000). Investors now and then tend to justify their investment styles or beliefs in order to validate their financial decisions and not to be seen or to see themselves as having made mistakes.

2.1.2.6 Herding and Contrarian Behaviour

Human beings interact on a wide scale. They are known to influence one another in a great deal in the so called mob psychology. Ideally, the behaviour or opinions of the masses is taken by the majority to be optimum and the best behaviour. Individuals tend to follow the group's momentum. This behaviour is called herding or herd formation. It is also evident in the stock market. Investors are known to follow the herd when they put aside their private information and take the opinions of others to be the optimum when making investment decisions. According to Keynes (1936), there may be some reluctance on part of investors to act according to their own beliefs and information as they fear that their own contrarian behaviour would damage their reputations as sensible decision makers.

Scharfstein and Stein (1990) examined some of the factors that can give rise to herd behaviour in investment. They noted that the fundamental belief of classical economic theory is that investment decisions reflect agents rationally formed expectations. They observed that a contrasting view is that an investment is also driven by group psychology. This normally weakens the connection between information and the outcome from the market. Herd behaviour has been known to push prices away from the market fundamentals. Herding forms the basis of research for this project.
The opposite of herding behaviour is the contrarian behaviour. Some investors go against the opinions and behaviour of the group and instead make contrary investment decisions. The investors use their private information in making their decisions and are not swayed by the decisions made by other investors.

2.2 Empirical Review

There are not very many empirical studies carried out to determine the effects and extent of various behavioural mechanisms exhibited by the investors in making their investment decisions in the stock markets and more so on herding. This is notwithstanding the fact that this mechanism is critical in understanding the market anomalies that have occurred or do exist in the market. This section examines the researches related to herd formation.

As previously noted, herding is not only evident in the securities market but is also apparent in other aspects of investments. Scharfstein and Stein (1990) examined some of the forces which can lead to herd behaviour in corporate investment by managers. They argued that herd behavior can arise in a variety of contexts. Firstly, as a consequence of rational attempts by managers to enhance their reputations as decision makers. Managers follow the herd so as not to be seen to be making decisions contrary to decisions being made by other managers within the industry. Secondly, it’s the extent to which there are commonly unpredictable components to investment outcomes. They claim that the correlated prediction errors lead to the sharing-the-blame effect that drives managers to herd. Thirdly, it’s the nature of the managerial labor market. They claim that herding is more likely to be a problem when managers' outside opportunities are relatively unattractive and also when compensation depends on absolute rather than relative ability assessment.

Mwenga (2006) conducted a study on investors’ attitudes towards investment in financial securities. In particular, the study looks at the impact of company performance and socio-economic environment on investor’s attitudes, the extent to which informational needs affect investment decision making and the extent to which financial risk affects investors’ attitudes. In undertaking this study, the study design used was the survey method in which a questionnaire was directed towards individual investors of Kenya Airways in Kenya.
The findings of the study indicated that most shareholders invest in companies with high earnings and prior to investing in a certain company, they do take into account the business that such a company does. The shareholders' expectations were to receive high dividends but claimed that their investments do not generate adequate dividends. In addition, despite the fact that brokers provided value for money services, the investors felt that they were not fully knowledgeable about investment decision making. The study found it necessary for the securities industry to more in providing investor education to assist investors in making appropriate investment decisions. In addition, the study concluded that investors were concerned about the volatility of the market and fear of losing their money despite the fact

Khoshirat and Salari (2010) conducted a study to examine existence of herd formation in Tehran Stock Exchange at aggregate market level as well as within 9 major industries, during an eight-years period from April 10, 2001 through July 11, 2009. The primary findings showed that there was no empirical evidence of herd formation in the whole market as well as within industries except for two industries, Automobile and Minerals. They then ran complementary tests to determine if some special periods of stress conditions could affect their findings regarding herding existence. Generally and surprisingly the findings indicated that exchange's participants had been acting rationally, that is, within the rational pricing theory axioms.

2.3 Research Gaps

It is evident that behavioural finance being a new paradigm of finance is being explored both by market practitioners and finance academicians. There are not many studies that have been done on behavioural finance especially in the developing countries. Empirical researches that have been done are appropriate but inadequate. Market efficiency and investor rationality models have for a long time been used to describe the behaviour of individual investors and that of the market. As already noted, these models are limited in that they are unable to explain the market anomalies that are and/or have been evident in the market. This study is of importance as it touches on a fundamental aspect that is important in understanding why and how investors and the NSE behave the way it does.
2.4 Conceptual Framework

There are various factors that influence the way investors make their investment decisions. This study examines the factors influencing herd formation in the NSE. The relationship between the various factors (independent variables) that influence herd formation (dependent variable) by investors in the NSE is as shown in the following diagrammatic expression:

Figure 2: Diagrammatic expression showing the independent and dependent variables

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social pressure of conformity</td>
<td>Herd formation</td>
</tr>
<tr>
<td>Market announcements</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td></td>
</tr>
<tr>
<td>Political environment</td>
<td></td>
</tr>
</tbody>
</table>

Source: Researcher (2012)

2.4.1 Social Pressure of conformity to a group

People are social beings and most of them tend to belong to a certain group in society. Such groups normally have certain norms within which members of the group are (whether consciously or unconsciously) expected to adhere to. Members of the group who fail to adhere to expected norms are normally taken to be outcasts. Thus, in order for them to continue being regarded as members of the group, they have one option, to follow the decisions made by the peers. The social pressure is evident even in the dealings in the stock market. Some investors normally make investment decisions based on influences by their peers or social networks (that is, friends, colleagues, social clubs and family members. Such investors see the decisions made by their peers within the group as the right decisions. By following such moves, herd formation arises.

2.4.2 Market Announcements

Information pertaining to the performance of various companies is relayed to the market from time to time. Such information includes declaration of dividends, profit warnings, bonus issue, stock splits and change in directorships amongst others. Such information may be
favourable or unfavourable and is bound to determine how investors trading in the market react. Some announcements may make investors to behave in a certain way leading to herd formation.

2.4.3 Technological Factors
Technological advancement is critical in how people make their decisions. Recent technological innovations such as use of the internet, emails, twitter and face book are likely to influence human behaviour in a big way as far as decision making is concerned. This involves also the investment decisions. By and large, the influence with regard to the usage of the internet both in the investment world and other spheres of life is not to be underestimated. Online trading by investors as opposed to investors walking to brokers’ offices for them to trade on their behalf is a key milestone in the stock trading business. This has also started shaping the way in which investors make their investment decisions. It is easier, for instance, for an investor to follow the movements in various stocks (both in volumes and prices) through their online trading accounts. An investor is likely to make his/her investment decisions based on the market trend. This is likely to lead to herd formation.

2.4.4 Political Environment
Political environment plays a key role on how investors behave in the market. Political environment refers to the actions undertaken by the government which are likely to affect the operations of companies and businesses at large. The state of the political environment is critical in the determination of how people make not only investment decisions but also decisions pertaining to their individual lives. Government policies put in place influence the economic outcome in a nation and subsequently decisions undertaken by the investors. This may make investors to behave in a certain similar way leading to herd formation.
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction
This chapter elaborates on the method used in carrying out the research. Research methods or techniques refer to all those methods and techniques used by the researcher during the studying of his research problem (Kothari, 2004). In particular, the chapter examines the research design, target population, sampling design and strategy, data collection procedures, data collection tools and techniques and data analysis and presentation.

3.1 Research design
This study was aimed at investigating the factors influencing herd formation by investors in the NSE. Thus, in order to achieve the purpose of the study, descriptive survey was used. Ideally, the major purpose of a descriptive study is to provide information on certain characteristics of a population or phenomenon under study (Kothari, 2004). As the population under study was too large, sample survey was used. Sample survey is a method where a structured questionnaire is given to a sample population designed to elicit specific information (Maholtra, 1996).

Both qualitative and quantitative methods of research were applied. Qualitative method assisted in the description of behavioural finance aspects and theories. The description of these theories and aspects provided a general understanding of the field of behavioural finance. Quantitative aspects of the survey were captured through the analysis of the data collected through the questionnaires.

3.2 Target Population
The population of this study constituted of all the individual investors who traded in the NSE. In particular it targeted only the Kenyan individual investors within Nairobi. There are approximately 868,518 local individual equity investors in Kenya as indicated in the table below:
Table 3.1: Investor Profiles of Equity Holdings at the Nairobi Securities Exchange

<table>
<thead>
<tr>
<th>Account type</th>
<th>Category of Investor</th>
<th>No. of Investors</th>
<th>No. of shares held</th>
<th>% of shares held</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC</td>
<td>East African Corporate</td>
<td>245</td>
<td>502,222,536</td>
<td>1.88%</td>
</tr>
<tr>
<td>EI</td>
<td>East African Individuals</td>
<td>5,666</td>
<td>168,957,446</td>
<td>0.63%</td>
</tr>
<tr>
<td>FC</td>
<td>Foreign Corporate</td>
<td>342</td>
<td>7,466,935,493</td>
<td>27.90%</td>
</tr>
<tr>
<td>FI</td>
<td>Foreign Investors (Individuals)</td>
<td>3,878</td>
<td>263,478,925</td>
<td>0.98%</td>
</tr>
<tr>
<td>LC</td>
<td>Local Corporate</td>
<td>38,905</td>
<td>10,777,339,924</td>
<td>40.27%</td>
</tr>
<tr>
<td>LI</td>
<td>Local Individuals</td>
<td>868,518</td>
<td>7,584,551,515</td>
<td>28.34%</td>
</tr>
</tbody>
</table>


3.3 Sampling Design and Strategy

3.3.1 Sample size
Sampling is the selection of elements from a population so that a researcher can draw conclusions about a population. A researcher samples due to cost and time constraints, distribution of population elements and in order to ensure greater accuracy of the results. The number of investors who traded in shares was relatively large and conducting a survey for this study was not feasible due to time and cost constraints. For this reason, a total of 100 individual investors within Nairobi County were used for the study. This is more than the minimum required sample size for social sciences. For social sciences research, the minimum sample size is 30 respondents (Mugenda, 1999).

3.3.2 Sampling strategy
Since the population of the study was too large and was targeting individual investors with certain required information, the samples for the study were selected using the judgmental (purposive) sampling technique. Judgmental technique was used by researchers to select samples that satisfied their specific purposes or that were relevant to the problem under study. Purposive sampling is a non-probability sampling technique in which the researcher selects the sample based on his or her judgment about some appropriate characteristics required of the sample member (Zikmund, Babin, Carr, Griffin, 2010). The 100 individual investors were selected using simple random sampling method.
3.4 Data Collection Methods and Procedures

The data for this study was collected using a number of techniques. Firstly, data pertaining to the understanding of behavioural aspects and theories was collected through desk or library research. An analysis of various materials on behavioural finance, previous empirical researches on the subject under study was done with the aim of having an in depth understanding of behavioural finance issues as well as identifying the research gaps that existed. Secondly, data pertaining to the variables under consideration was gathered using questionnaires and personal interviews. Personal interviews were used to complement the questionnaires. Given the diversity of the respondents, both methods were necessary. The questionnaires had both closed and open ended questions.

The researcher obtained a letter of introduction Kenyatta University in order to dispel would be suspicions and fears from the respondents during data collection. The researcher with the assistance of a research assistant then administered the questionnaires in person.

3.4.1 Validity

In order to ensure validity, the research questionnaire and its administration was tested to ensure generalizability of the results. Careful selection of the respondents while taking into account the variables under consideration was done.

3.4.2 Reliability

The concept of reliability revolves around consistency in the outcome of the research findings. In order to ensure reliability, the research instrument was pretested (piloted). The researcher consulted the supervisor and three colleagues for any criticism or comment on the draft questionnaire. Thereafter pilot testing on five investors was conducted while taking into account the variables under consideration. After pretesting, the ambiguities and inconsistencies in the questionnaire were corrected prior to its administration.

3.5 Data Analysis and Presentation

The raw data collected was collated, coded and analyzed. The data was analysed using both quantitative and qualitative data analysis techniques. The quantitative data was descriptively analysed using the Statistical Package for Social Sciences (SPSS) and presented in form of
frequencies, percentages, tables, pie charts and bar graphs. Quantitative data was analysed by means of content analysis.
CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 INTRODUCTION
This chapter presents the analysis of data and findings of the research. The data has been analysed both qualitatively and quantitatively. The research was based on a sample of 100 respondents. 100 questionnaires were administered and responses were received from all the participants.

4.2 QUANTITATIVE ANALYSIS
4.2.1 General Findings
4.2.1.1 Gender of respondents
Out of the 100 respondents, 59 were male while 41 were female. This represents 59% and 41% respectively. This suggests that the stock market is mainly dominated by the male gender. The distribution is as illustrated in the pie chart below:

Figure 3: Distribution of respondents by gender

Source: Researcher (2013)
4.2.1.2 Age of respondents
The ages of the respondents were divided into five categories as illustrated in the table 4.1:

<table>
<thead>
<tr>
<th>Age category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 and below</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>26-35 years</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>36-45 years</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>46-55 years</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>56 and above</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

The same information can be represented as shown in the chart below:

Figure 4: Respondents’ age categories

Source: Researcher (2013)

4.2.1.3 Respondents’ highest level of education
From the research, respondents have different levels of education ranging from secondary and below to post graduate as illustrated in the chart below:
Twenty four respondents had post graduate level of education, 40 were degree holders, 22 were diploma/certificate holders while 14 had secondary level of education and below. This represented 24%, 40%, 22% and 14% respectively.

4.2.1.4 Respondents' current employment status

The respondents' current employment status is as indicated in table 4.2:

<table>
<thead>
<tr>
<th>Employment status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full time employment</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>Self employed</td>
<td>39</td>
<td>39</td>
</tr>
<tr>
<td>Student</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Majority of the respondents were in full time employment, represented by 54%, while the profile of the others were represented by, 39% self employed and 7% students. The above information can also be represented in a bar chart as shown in Fig. 6 below:
4.2.1.5 Gross monthly income of respondents

Of the provided six categories of gross monthly income the respondents fit into various categories as shown in table 4.3 below:

Table 4.3 Respondents’ current gross monthly income

<table>
<thead>
<tr>
<th>Income Category (Ksh.)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 and below</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>10,001-50,000</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>50,001-100,000</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>100,001-150,000</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>150,001-200,000</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>200,001 and above</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

This presented in a bar chart reveals a normal distribution curve of the gross monthly income with the highest earners falling between Ksh. 50,001-100,000.00 category. These are people who would be deemed to be in the middle income group, where there is a large tendency to saving and investment. The distribution is shown in figure 7 below:
4.2.1.6 Extent of investing/trading in the NSE
Respondents were expected to say the extent that they had invested and traded in shares at the NSE as well as indicate their average monetary value of their investments.

The extent of investing by the respondents is as indicated in the chart below:

Source: Researcher (2013)

Most of the respondents said that they invested or traded in shares at the NSE to a large extent. This was essential towards the achievement of our objectives as the respondents had a
good understanding of the happenings at the stock market. In addition, these respondents are proportional to the percentage of respondents on high income end with an earning of Ksh. 50,001.00 to Ksh. 200,001 and above earnings.

The average monetary value of the respondent’s investment in the NSE was stated as between Ksh. 5,000.00 and Ksh. 2,500,000.00. This can be viewed as proportionate to their level of income.

4.2.1.7 Period respondents started trading in shares
The respondents started trading in shares at different time periods as shown in table 4.4 below:

Table 4.4 The period respondents started trading in shares

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Month - 1 year ago</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>1 year - 3 years ago</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>3 years - 5 years ago</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>5 years - 10 years ago</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Above 10 years</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

Most of the respondents indicated that they started trading in shares at the NSE between 5-10 years ago. This group is of great relevance to the study as they have a relatively long period of experience in the NSE. In addition, this group is likely to have participated in the major IPO’s of Safaricom and Kengen that saw a substantial entry of new investors into the Kenyan market. The above information can also be graphically represented as shown in the graph below:
Figure 9: The period respondents started trading/investing in shares

Source: Researcher (2013)

4.2.1.8 Frequency of respondents trading in shares at the NSE

The frequency of respondents trading (buying and selling) in shares varied from one respondent to another, as indicated in table 4.5 below:

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Weekly</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Monthly</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Annually</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Any other</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)
Thus the frequency of trading for various respondents differs as illustrated above. Seventeen percent trade on a daily basis, 29% weekly, 42% monthly, 6% annually and 6% indicated any other. Out of the 6 respondents, 3 of the respondents indicated that they traded in shares only during the IPO’s while 3 noted that they traded in shares only when they had some needs to meet. This in return proves that the respondents are well versed with the subject of research and the happenings at the stock market.

4.2.2 Social Pressure of conformity to a group
The study sought to find out the extent to which social pressure of conformity to a group influence herd formation in the NSE. The respondents were questioned on;

4.2.2.1 Participation in public involvement by companies quoted in the NSE
Respondents were asked whether they had participated in any public involvement by companies quoted in the NSE in Kenya such as IPO, rights issue, mergers and takeovers in Kenya. The responses are as indicated in table 4.6 below:
Table 4.6 Participation in public involvement by companies quoted in the NSE

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>No</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

Fifty eight respondents indicated that they had participated in public involvement by companies quoted in the NSE while 42 had not. This suggests that majority of investors do participate in such public involvements. This number of respondents compare well with respondents who had stated that they had largely invested in the NSE 3-10 years ago.

4.2.2.2 Extent of influence by social peers/networks in public involvements by companies

Asked on the extent to which their decision to buy or not to buy was influenced by their social peers, the respondent indicated in table 4.7 below:

Table 4.7 Extent of influence by social peers/networks

<table>
<thead>
<tr>
<th>Response</th>
<th>Decision to buy</th>
<th>Decision not to buy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Very large extent</td>
<td>22</td>
<td>37.9</td>
</tr>
<tr>
<td>Large extent</td>
<td>13</td>
<td>22.4</td>
</tr>
<tr>
<td>Moderate extent</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>Small extent</td>
<td>8</td>
<td>13.8</td>
</tr>
<tr>
<td>No extent at all</td>
<td>4</td>
<td>6.9</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)
From the above illustration, majority of the respondents were influenced by their social peers both in making the decision to buy and the decision not to buy during the public involvement by companies quoted in the NSE. This indicates that social influence is an important factor that influences herd formation during public involvement by companies quoted at the NSE. Further the respondents were asked to state whether the decision they had made on if to buy and not to buy based on their peer influence turned out to be profitable or not. 65% said that the decision that they had made was profitable while 35% said that the decision was not profitable. This shows the extent to which the behaviour of respondents may be influenced by the gains or otherwise arising from the reliance on the peers' decisions. This is an indication that social influence is an important factor that influences the current happenings at the stock market.

4.2.2.3 Extent of social peers/networks influence

Respondents were required to state the extent of social peers influence in the buying and selling of shares at the stock market at the time of carrying out the research. The responses are as indicated in table 4.8 below:
Table 4.8: Extent of influence by social peers today

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>No</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

This information can also be represented as shown the pie chart below:

Figure 12: Extent of influence by social peers today

Source: Researcher (2013)

Seventy two percent of the respondents stated that the social peers would influence them while 28% would not.

4.2.3 Reactions to Market Announcements

The study sought to find out the degree to which herd behaviour is determined by the market announcements. The respondents were asked whether the announcements made from time to time concerning shares trading at the stock market were a factor influencing their buying and selling decisions of the said shares. The findings are as indicated in table 4.9 below:
Table 4.9 Market announcements being factors influencing trading decisions

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>88</td>
<td>88</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

The highest number of respondents represented by 88% expressed that market announcements are factors influencing their trading decisions while 12% said it was not. This information can further be represented as shown in figure 13 below:

Figure 13: Market announcements being factors influencing trading decisions

Source: Researcher (2013)

Various media are used to relay market announcements to the members of the general public. The respondents indicate the media that served them as a source of market information as shown in table 4.10 below:
Table 4.10 Sources of market announcements

<table>
<thead>
<tr>
<th>Sources of market information</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>25</td>
</tr>
<tr>
<td>Television</td>
<td>85</td>
</tr>
<tr>
<td>Newspapers</td>
<td>78</td>
</tr>
<tr>
<td>Stock brokers</td>
<td>42</td>
</tr>
<tr>
<td>Websites e.g. NSE</td>
<td>12</td>
</tr>
<tr>
<td>Friends/relatives/colleagues</td>
<td>32</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

Thus television and newspapers had the highest influence on the behavior of investors. Other media indicated by respondents included annual financial reports of companies, Annual General Meetings (AGM’s) and company briefings.

The respondents were further asked to state the extent to which they relied on announcements made in the market in making their investment decisions. The responses are as indicated in table 4.11 below:

Table 4.11: Extent of reliance on market announcements by respondents

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>% of reliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very large extent</td>
<td>78</td>
<td>78</td>
</tr>
<tr>
<td>Large extent</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Moderate extent</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Small extent</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>No extent at all</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher (2013)
Seventy eight percent of the respondents rely on the market announcements to a very large extent, 13% to a large extent, 3% to a moderate extent, 4% to a small extent and 2% to no extent at all.

4.2.4 Role of technology in herd formation
The researcher sought to investigate the role of technology on trading behavior of investors in the NSE. Respondents indicated that they mainly bought or sold shares through the following means:

Table 4.12 Method mainly used in trading in shares

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of manual system/brokers</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>Online share trading</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

Out of the 100 respondents, 62% used the brokers in the buying and selling of the shares while 38% used the online trading system. This would imply that use of technology by respondents does not have a large influence on trading at the NSE and thus herd formation.

The online trading system being an innovation of the way in which investors trade in shares had revolutionized trading at the NSE. The respondents were expected to indicate the extent to which the number of shares placed on order (buy or sell) in the online share trading system influenced their investment decisions. The responses are as indicated in table 4.13 below:

Table 4.13 Extent of influence of respondents by shares placed on order in the online share trading system

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very large extent</td>
<td>30</td>
<td>79.0</td>
</tr>
<tr>
<td>Large extent</td>
<td>4</td>
<td>10.5</td>
</tr>
<tr>
<td>Moderate extent</td>
<td>2</td>
<td>5.3</td>
</tr>
<tr>
<td>Small extent</td>
<td>1</td>
<td>2.6</td>
</tr>
<tr>
<td>No extent at all</td>
<td>1</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher (2013)
Out of 38 respondents who indicated that they traded through the online trading system, 79% are influenced by the shares placed on order in the online trading system in making of the investment decisions. It can be deduced thus, while technology does not influence the buying and selling of shares at the NSE, those who rely or are influenced by technology are largely influenced by informative nature of technology on information on shares in the market.

4.2.5 Political Environment and herd formation

The study sought to determine the extent to which the political environment in Kenya influences the behavior of investors in the NSE. Respondents were asked to show the extent to which political environment in Kenya determined how they traded in shares listed in the NSE. The responses are as shown in table 4.14 below:
Table 4.14: Extent to which political environment influences share trading by respondents at the NSE

<table>
<thead>
<tr>
<th>Extent of influence</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very large extent</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Large extent</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Moderate extent</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Small extent</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>No extent at all</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

This information can also be represented as shown in the chart below:

Figure 15: Extent to which the political environment influences share trading by respondents at the NSE

Source: Researcher (2013)

Seventy five percent of the respondents observed that the political environment influences them to a very large extent in the trading of shares at the NSE. Only 4% indicated that the political environment does not influence them at all.
The respondents were further required to say their immediate reactions with regard to the buying and selling of the shares at the stock market as a result of the introduction of a government policy or regulation (for example, taxation). The responses are as shown in Table 4.15 below:

Table 4.15 Respondents’ reactions to the introduction of a government policy

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>React to the policy or regulation immediately</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Wait and see the reaction of the market before making a decision</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td>Take no action</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher (2013)

The largest number of respondents that is, 76% noted that they would wait and see the reaction of the market before making a decision. 14% of the respondents said that they would react to the market immediately. The impact of the change in market price as a result of the reaction may not be significant as majority of investors adopt the wait and see attitude.

4.3 QUALITATIVE ANALYSIS

This section examines the responses to open ended questions on various issues as shown below;

4.3.1 Factors influencing the frequency of trading in shares

The respondents were asked to explain what influenced the frequency of trading in shares at the NSE. The following were listed as the main factors; movements in market prices, changes in company fundamentals, peer influence, market announcements, the needs that they had, availability of cash to buy the shares, and returns in a particular period of time.
4.3.2 Social pressure of conformity to a group

The respondents were asked to explain if social peers or networks would influence them or not influence them at the time of carrying out the research in the buying and selling of shares at the NSE. The reasons that the respondents provided revolved around the gains or losses previously made, knowledge of market information or lack of it by the peers, the peers being easily accessible and the fact that they could discuss with them the best course of action that they could take.

4.3.3 Reactions to market announcements

Asked of the announcements that the media in table 4.10 relayed, the respondents mainly included declaration of dividends, profit or loss warnings and bonus issues. Other factors mentioned were stock splits, changes in directorships of companies, mergers and takeovers. The respondents were further asked to indicate how they rated the outcome of their buying and selling decision based on the announcements indicated above. Most of the respondents observed that their decisions were favourable as it had led them into making the right decisions.

4.3.4 Role of technology in herd formation

Some respondents indicated that they used the online share trading system. Other than the online share trading system they further observed that they relied on mobile phone alert services and websites of the NSE or other companies to get information on the performance of the stock market and access information on any data on their portfolio.

For those who stated that they had used the above technologies, they were required to show the frequency in which they had used the technologies. The responses indicated that majority of them had very often used the technologies while only a few had used it less often. They noted that technology had influenced them in a great way in the way they traded in shares.

The respondents outlined a number of advantages and disadvantages in the use of technology. The advantages noted by respondents include ease of access to information leading to time saving, ease of confirmation or reversal of decisions made, immediate verification of market information, accessibility of factual data and reduces trading costs. The disadvantages highlighted by respondents included difficulty in the use of technology (such as computers),
difficulty in the access of technology, lack of awareness on the technologies that are available, lack of trust on the available technologies and lack of paper trail as evidence of a transaction undertaken. These advantages and disadvantages are essential to understanding the extent to which the use of technology or the absence of it may affect the behaviour patterns of investors.

4.3.5 Political environment and herd formation

Respondents were asked to explain how the stability or instability in the political set up in Kenya would influence their behavior in the buying and selling of the shares. Most of them observed that a stable political environment would make them buy more shares while an unstable environment would lead them to overwhelmingly dispose off their shares. In addition, most of them indicated that the period prior to the general elections in Kenya is usually turbulent as the outcome of the elections remains unclear. Many would thus rush to dispose off their shares and hold the money in cash. When the elections are over and the political situation remains stable, they would then rush to buy the shares.

4.3.6 Other factors influencing the behavior of respondents in trading in shares

The respondents indicated other factors influencing them in trading in shares as; the price of the shares, expected returns, leadership of the company, availability of IPO’s, reputation of the company, performance of the company, type of the company, ease of trading in shares, ability to withstand risks, level of publicity by the company, other investment options available, the state of mind of the respondents, financial stability of the company, availability of extra cash for investment by respondents, period of time within the year and the state of the country’s economy.
CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION
This chapter presents a summary of the findings of the study, discusses the findings, draws conclusion based on the findings of the study and makes suggestions for further research. The main objective of this study was to investigate the factors influencing herd formation by investors at the NSE.

5.2 SUMMARY OF FINDINGS
5.2.1 Social Pressure of conformity to a group
The study found out that social pressure plays a major role in understanding how the respondents behave in the trading of shares during public involvements by companies and in the day today trading in the stock market. Majority of respondents were influenced by social peers to a great extent both in making the decision to buy or not to buy during public involvement by companies quoted in the NSE. With regard to the day today trading of shares at the bourse, 72% of the respondents indicated that social peers would influence them in making the decision of whether to buy or not to buy shares traded at the NSE while 28% would not. The reasons given for the decisions revolved around the gains or losses previously made, knowledge of market information or lack of it by the peers, the peers being easily accessible and the fact that they could discuss with them the best course of action that they could take. This indicated that social influence was an important factor that influence herd formation at the NSE.

5.2.2 Reactions to market announcements
The study established that the announcements made from time to time at the NSE were major factors influencing their trading decisions. Eighty eight percent of the respondents indicated that the market announcements made from time to time would influence their trading decisions. The announcements mainly included declaration of dividends, profit or loss warnings and bonus issues. Others were on stock splits, changes in directorships of companies, mergers and take overs. The research also found out that the extent of the reliance
on the market announcements by respondents tended towards ‘very large extent’. Seventy eight percent of the respondents indicated that they would rely on the market announcements to a great extent. The respondents observed that the outcome of buying or selling decision as a result of the announcements was favourable.

5.2.3 Role of technology in herd formation

The study found out that most respondents still buy and sell shares through their stock brokers. Out of the 100 respondents, 62% used brokers in their trading while 38% used the online trading system. However, other than the online trading system, some of the respondents said that they relied on mobile alert services and websites of other companies to get information on the performance of the stock market or access any data on their portfolio. The study further revealed that the few respondents who relied on the shares placed on order in the online trading system were influenced to a very large extent. It was observed that although technology did not influence the majority of respondents, those who rely on it are largely influenced by the informative nature of it especially on the availability of shares in the market.

5.2.4 Political environment and herd formation

The study established that the political environment in Kenya influenced the respondents to a considerable extent. Seventy five percent of the respondents observed that the political environment influences them to a very large extent, 13% to a large extent, 5% to a moderate extent and 4% were not influenced at all. The respondents observed that a stable political environment would make them buy more shares while an unstable environment led to mass offload of shares leading to a depressed market. The study further revealed that if the government was to introduce a policy or regulation such as taxation, 76% of the respondents would wait and see the reactions of the market before making a decision, 14% would react to the market immediately while 10% would take no action.

5.3 DISCUSSION

The study sought to investigate the factors that influence herd formation in the NSE. Ideally, changes in the prices of securities traded at the NSE has for a long time been attributed to the efficient market hypothesis (EMH) and rational expectation theory. However, there are
instances where market anomalies exist in that prices are contrary to EMH and the rational nature of investors (Jordan and Miller, 2009). Such scenarios form the basis of the so called behavioural finance. One of the behavioural finance aspects is herd formation that this study sought to investigate. Under herd formation, investors usually follow the ‘herd’ either consciously or unconsciously in making their investment decisions. From the findings of this study, it is evident that herd formation exists at the NSE to a considerable extent mainly due to social pressure, reactions to market announcements, political environment and to a less extent technological application.

Social pressure of conformity to a group has been found to influence herd formation at the NSE. Majority of the respondents stated that they would be influenced by their peers in making investment decisions in the trading of shares at the NSE. Social pressure has a considerable impact on individual judgement. Individuals are willing to shelve their trading decisions and follow the decisions of the majority as they are presumed to be the right decisions. Thus, the study has concluded that the imperfections in the market prices of shares are at times a result of peer influence that lead to herd formation. A study carried out by Wu & Ng (2010) on peer effects in the trading decisions of individual investors from Mainland China revealed that the trading decisions of Chinese investors were influenced, via word of mouth, by those of their peers who maintained brokerage accounts at the same branch but not by those whose accounts were maintained at another branch in a different city. They further stated that many financial economists believed that peer influence was important when explaining financial phenomena such as banking panics and stock market crashes.

Market announcements are major factors influencing trading decisions. The study found out that respondents react in a near similar manner when the announcements are made thus influencing herd formation in the market. Reliance on the announcements was deemed to be favourable to a majority of the respondents. A study on the impact of public information on the stock market carried out by Mitchel & Mulherin (1994) found out that the number of Dow Jones announcements and market activity were directly related. However, they observed that the relation between news and market activity was not strong and the patterns in news announcements did not explain the day-of-the-week seasonalities in the market.

The study revealed that many respondents still rely on their stock brokers to facilitate them in the buying and selling of the shares. The use of technology and more so the online share
trading system is yet to be fully appreciated. Thus, technology is not a factor that currently influence herd formation. However, is evident that despite the low technological penetration in the NSE amongst investors, to the few that rely on technology, it plays a big role in determining the trading behaviour. A study done by Ashraf & Joader (2009) on the effect of Information technology on stock market trade volume and volatility in the Dhaka Stock Exchange in Bangladesh revealed that the internet has a significant impact on the two parameters, that is, volume and volatility. The introduction of investment trading via the internet revolutionized the stock market trading in both dimensions of volume and volatility. This is in contrast to the situation in the Kenyan stock market. Although the NSE and other market players have invested heavily in technology, a good number of the Kenyan investors are yet to fully embrace technology in share trading.

Political environment was found to be a factor influencing the trading of shares to a great deal and also a factor influencing herd formation. The respondents indicated that they would react in a near similar manner in both favourable or unfavourable political environments. The findings on the political environment are similar to those done by Malik, Hussain & Ahmed (2008). They examined the relationship between aggregate stock market trading volume and of daily stock returns during pre-resignation period (1st July 2008 – 15th August 2008) and post-resignation period (18th August 2008 – 30th September 2008) of ex president Pervez Musharaf. The study concluded that political events affect the stock price due to which the trading volume and stock return fluctuate positively or negatively as per the intensity of the political event. This scenario compares equally with the Kenyan stock market.

5.4 CONCLUSION

From the findings of the study, the following conclusions can be made;

i) Social pressure influences herd formation in the NSE to a very large extent. The imperfections in the market prices of shares are at times a result of peer influence that leads to herd formation.

ii) Market announcements that are made on the stock market influence herd formation to a very large extent.

iii) Technology does not influence herd formation given the fact that most people still rely on the stock brokers for the buying and selling of shares.
iv) Political environment does influence the buying and selling of shares leading to herd formation in the NSE.

5.5 RECOMMENDATIONS

5.5.1 Practice
The government of Kenya and other companies float shares through IPO's and other issues in the NSE to finance some their programs and expand their operations respectively. Given the findings of this study, there is need for understanding the behaviour of the investors prior to the floatation. It would be important for them to do a survey prior to the issue of shares in the market in order to understand the likely behaviour of individuals and ensure a successful sale. This could avert scenarios where shares are undersubscribed thus denying the government or the companies the much needed funds to finance their programs.

The NSE and other stock market players need to appreciate the various behavioural aspects that influence individual investment decisions and the performance of the stock market. By so doing, they will be in a position to put in place strategies that will see a robust stock market which takes care of the needs of the investors and other market players. A good example is increased sensitization on the use of technology and its effect on the behaviour of the stock market.

5.5.2 Suggestions for further research
There is need to research on:

i) Other factors influencing herd formation in the NSE with regard to trading in shares.
ii) Herd formation and other securities traded in the NSE such as bonds and commercial papers.
iii) Other aspects of behavioural finance such as contrarian behaviour, anchoring, cognitive dissonance and myopic loss aversion and their effect on the performance of the NSE.
iv) Technology choice and its application in the prediction of investor and market behaviour in the NSE.
v) The extent of technology use in the NSE for efficient trading.
REFERENCES


APPENDICES
APPENDIX 1
LETTER OF INTRODUCTION

KENYATTA UNIVERSITY
SCHOOL OF BUSINESS
DOCTORAL & MBA COORDINATION OFFICE

P. O. Box 43844
NAROBI
KENYA
Tel: 8710901 -19 Ext. 57500

29th January, 2013

TO WHOM IT MAY CONCERN:

RE: JULIUS MUNGAI GICHAMBA - D53/NKU/PT/21181/2010

This is to confirm that the above-named is a Master of Business Administration MBA (Finance Option) student in the School of Business, Kenyatta University.

He is through with course work and has successfully defended his Masters Degree proposal (An Investigation into the Factors Influencing Herd Formation by Investors in the Nairobi Securities Exchange: A Behavioral Finance Approach). I confirm that he has done all the corrections that were pointed out by the examiners during the defense and he is now embarking on data collection.

Any assistance accorded him will be much appreciated by this office.

Thank you.

DAVID NZUKI (PhD)
DOCTORAL AND MBA PROGRAMME COORDINATOR

DN/nt
INTRODUCTION

My name is Julius, a Master of Business Administration (MBA) student at Kenyatta University. I am undertaking a research on the behavior of investors (between years 2003 – 2012) at the Nairobi Securities Exchange (NSE) formerly known as Nairobi Stock Exchange. The objective of this study among others is to assess the behavior of investors, whose respondents have been randomly selected. Please note that this questionnaire is purely administered for this research purpose only.

The questionnaire is divided into three sections.

Instructions

Kindly read the items in all sections comprehensively and give your response by ticking [ ] the appropriate answer and/or writing your response in the spaces provided. You can give more than one answer where appropriate.

SECTION A – BIO DATA

1. Gender/Sex: Male [ ] Female [ ]

2. Indicate your age category:
   - Category 1: 25 Years and below [ ]
   - Category 2: 26 - 35 Year [ ]
   - Category 3: 36 - 45 Years [ ]
   - Category 5: 46 - 55 years [ ]
   - Category 6: 56 and Above [ ]

3. What is your highest level of education?
   - Post graduate [ ]
   - Degree [ ]
   - Certificate /Diploma [ ]
   - Secondary level and below [ ]

4. What is your current employment status?
   - Full time employment [ ]
   - Self employed [ ]
   - Student [ ]
   - Any other (please specify) _______________
5. In which category is your current Gross Monthly income; between,

- KSH. 10,000 and below .......... [ ]
- KSH. 10,001-50,000 .................. [ ]
- KSH. 50,001-100,000 ................. [ ]
- KSH. 100,001-150,000 .............. [ ]
- KSH. 150000-200,000 ............... [ ]
- KSH. 200,001 and above ............ [ ]

SECTION B - INTRODUCTION

1. To what extent have you invested or traded in shares traded at the NSE?
   i) Very large extent............... [ ]
   ii) Large extent.................... [ ]
   iii) Moderate extent............... [ ]
   iv) Small extent.................... [ ]

2. Please indicate the average monetary value of your investments for the answer above.
   KSH. ............................................................

3. When did you start participating in the buying and selling of shares at the NSE?
   i) 1month – 1 year ago.......... [ ]
   ii) 1 year – 3 years ago...... [ ]
   iii) 3 years – 5 years ago...... [ ]
   iv) 5 years – 10 years ago.... [ ]
   v) Above 10 years .............. [ ]

4. How often do you trade (buy and sell) shares?
   i) Daily................................. [ ]
   ii) Weekly............................. [ ]
   iii) Monthly................................ [ ]
   iv) Annually.......................... [ ]
   v) Any other(Please specify)_

5. What influences your decision in question 4 above?
   Briefly explain.
   ........................................................................
   ........................................................................
   ........................................................................
   ........................................................................

6. How would you explain your influence as explained in question 5 above? It has been:
   i) Profitable............................... [ ]
   ii) Unprofitable......................... [ ]
   iii) Neither profitable nor unprofitable.[ ]
SECTION C

I. SOCIAL NETWORKS

1. Have you ever participated in any public involvement by companies quoted in the NSE in Kenya such as IPO (Initial Public Offering), Rights Issue, Mergers and Takeovers in Kenya?
   (a) Yes……………….. [ ] If Yes, go to 2
   (b) No……………….. [ ] If No, go to 3

2. To what extent was your decision to buy in (1) above influenced by your social peers/social networks?
   i) Very large extent…………………[ ]
   ii) Large extent……………………[ ]
   iii) Moderate extent…………………[ ]
   iv) Small extent……………………[ ]
   v) No extent at all…………………[ ]

3. To what extent was your decision not to buy in (1) above influenced by your social peers/social networks?
   i) Very large extent…………………[ ]
   ii) Large extent……………………[ ]
   iii) Moderate extent…………………[ ]
   iv) Small extent……………………[ ]
   v) No extent at all…………………[ ]

4. Was the outcome of the above decision profitable or unprofitable?
   (a) Profitable…………………………[ ]
   (b) Unprofitable……………………[ ]

   Briefly explain your answer.
   ___________________________________________________________
   ___________________________________________________________
   ___________________________________________________________
   ___________________________________________________________

5. Would social peers/networks influence you today in your buying or selling of shares?
   (a) Yes……………….. [ ]
   (b) No……………….. [ ]

   Please explain your answer.
   ___________________________________________________________
   ___________________________________________________________
   ___________________________________________________________
   ___________________________________________________________
II. REACTIONS TO MARKET ANNOUNCEMENTS

1. Are announcements made from time to time concerning shares trading at the stock market a factor influencing your buying or selling decisions of the said shares?
   (a) Yes[ ]
   (b) No[ ]

2. Which of the following medium serves as your source of market information on the announcements that are made from time to time? (You may tick more than one answer)
   i) Radio[ ]
   ii) Television[ ]
   iii) Newspapers[ ]
   iv) Stockbrokers[ ]
   v) Journals/Newsletters[ ]
   vi) Websites[ ]
   vii) Any other (Please specify)

3. What market announcements did the above medium mainly relay?
   i) Declaration of dividends[ ]
   ii) Profit / loss warnings[ ]
   iii) Bonus issue[ ]
   iv) Stock splits[ ]
   v) Change in directorships[ ]
   vi) Any other (Please specify)

4. To what extent do you rely on announcements made in the market in making your investment decisions?
   i) Very large extent[ ]
   ii) Large extent[ ]
   iii) Moderate extent[ ]
   iv) Small extent[ ]
   v) No extent at all[ ]

5. How do you rate the outcome of your buying/selling decision based on the above market announcements?
   i) Favourable[ ]
   ii) Unfavourable[ ]
   iii) Neither favourable nor unfavourable[ ]

Briefly explain your answer.
III. TECHNOLOGY

1. In what way(s) do you mainly use to buy and sell shares?
   (a) Without use of any technological assistance (i.e. manual system/use of brokers).[ ]
   (b) Through Online Share Trading in the internet..................................[ ]

2. Which of the following technologies have you ever relied on for either trading in the Nairobi Securities Exchange, for getting information on the performance of the Stock Market or access to any data on your portfolio?
   (a) Online share trading (OST).................................[ ]
   (b) Mobile phone alert services.................................[ ]
   (c) Websites of the NSE or other companies...............[ ]
   (d) Any other (Please specify)__________________________

3. How frequent have you used the above technology?
   i) Very often.................. [ ]
   ii) Quite often..................[ ]
   iii) Less often..................[ ]

4. Briefly explain how the use of technology has affected and influenced the way in which you trade in shares?
   __________________________________________________________
   __________________________________________________________

5. To what extent does the number of shares placed on order (buy or sell) in the Online Share Trading system during trading in the NSE influence your investment decisions?
   i) Very large extent...............[ ]
   ii) Large extent..................[ ]
   iii) Moderate extent...............[ ]
   iv) Small extent..................[ ]
   v) No extent at all..............[ ]

6. What are the main advantages and disadvantages of the use of technology in your buying and selling behavior?

   Advantages
   (a) Ease of access to information leading to time saving ................................[ ]
   (b) Ease of confirmation or reversal of decision made........................................[ ]
   (c) Can verify immediate market information from the source.............................[ ]
   (d) Allows for the use of factual data thus making informed decision..................[ ]
   (e) Cost reduction in trading...............................................................[ ]
   (f) Any other (Please specify)__________________________________________

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Disadvantages

(a) Difficulty in the use of technology (such as computers).............................. [ ]
(b) Difficulty in the access of technology............................................................. [ ]
(c) Lack of awareness on the technologies that are available............................ [ ]
(d) You do not trust the technologies available................................................ [ ]
(e) Lack of paper trail as evidence of a transaction undertaken............................ [ ]
(f) Any other (Please specify) __________________________________________________

IV. POLITICAL ENVIRONMENT

1. To what extent does the political environment in Kenya determine how you buy and sell your shares in the stock market?

   i) Very large extent......................... [ ]
   ii) Large extent.............................. [ ]
   iii) Moderate extent........................ [ ]
   iv) Small extent............................. [ ]
   v) No extent at all........................... [ ]

   Briefly explain your answer.
   ________________________________________________________
   ________________________________________________________
   ________________________________________________________
   ________________________________________________________

2. What would be your immediate reactions with regard to the buying and selling of shares at the stock market as a result of the introduction of a government policy or regulation (for example, taxation)?

   (a) React to the policy or regulation immediately.............................................. [ ]
   (b) Wait and see the reaction of the market before making any decision............ [ ]
   (c) Take no action................................................................. [ ]
   (d) Any other (Please specify) ______________________________________________

3. Briefly explain how the stability or instability in the political set up in Kenya would influence your behavior in the buying and selling of the shares.

   ________________________________________________________
   ________________________________________________________
   ________________________________________________________
   ________________________________________________________
4. Other than the factors highlighted herein, what other factors would influence your behavior in the buying and selling of shares traded at the Nairobi Stock Exchange? (Briefly explain)
## APPENDIX 3

### TIME PLAN AND STUDY BUDGET

<table>
<thead>
<tr>
<th>S/N</th>
<th>Month</th>
<th>Activities</th>
<th>Estimated cost (Ksh.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>April &amp; May 2012</td>
<td>Library research</td>
<td>12,000.00</td>
</tr>
<tr>
<td>2.</td>
<td>June – November 2012</td>
<td>Proposal writing and presentation</td>
<td>25,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Designing and development of research instrument</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>February 2013</td>
<td>Data collection</td>
<td>20,000.00</td>
</tr>
<tr>
<td>4.</td>
<td>March – April 2013</td>
<td>Data processing, analysis and presentation (report writing)</td>
<td>13,000.00</td>
</tr>
<tr>
<td>5.</td>
<td>May 2013</td>
<td>Final research project report and its submission</td>
<td>10,000.00</td>
</tr>
</tbody>
</table>

**TOTAL** 80,000.00