FACTORS INFLUENCINGTHE DEVELOPMENT OF NAIROBI SECURITIES EXCHANGE

BY

BONIFACE DANNIE KIPTEKWEI

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DECLARATION

I declare that the work in this dissertation has not been previously published or submitted elsewhere for award of a degree. I also declare that this is my own original work and contains no material written or published by other people except where due reference is made and author duly acknowledged.

Students Name: Boniface D. KiptekweiReg, No: 15/05867

Sign: _____ Date: _____

Supervisor Approval

This dissertation has been submitted for examination with my approval as the University Supervisor

Dr.Bunyasi

Sign: _____ Date: _____

DEDICATION

This dissertation is dedicated to my family whose support and encouragement is beyond words.

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Foremost gratitude goes to my supervisor Dr. Bunyasi who offered patience; of professional advice, guidance and support. She made this work manageable. To my colleagues, group members and associates, I am grateful for the consistent motivation, advice and collective intensive learning experiences.

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LIST OF ABBREVIATIONS

ADB	African Development Bank
CBK	Central Bank of Kenya
CDS	Central Depository System
CMA	Capital Market Authority
DFI	Development Finance Institution
EMH	Efficient Market Hypothesis
ETS	Electronic Trading System
FDI	Foreign Direct Investments
GDP	Gross Domestic Product
IFC	International Finance Corporation
NSE	Nairobi Stock Exchange

OPERATIONAL DEFINITION OF TERMS

Emerging Capital markets	are defined as the capital markets in countries characterized as low or middle income
Market information	in the context of this study refers to information on the transactions and prices of the shares
Regulatory Framework	in the context of this study it refers to the policies and procedures that guide operations in the securities market and range from the trading rules and procedures, accounting standards and the auditing associations
Transaction Processing Costs	refers to the costs involved in the listing and operating in a securities market from the Stock Listing Costs, Transaction clearance costs and Transfer of securities costs

ABSTRACT

The securities market is an important market for economic growth in the sense that it facilitates resource mobilization, pools quality investments from local and international markets, provides capital to companies for investments, aides in risk diversification thus encouraging investment and aides in poverty alleviation. A well-developed securities market has various benefits ranging from financial intermediation, promoting economic growth especially because it enhances access to savings as well as diversification of risk. There however remain challenges to operation of capital markets despite the developments put in by the government. Performance indicators show that Nairobi Securities Exchange has not yet achieved its performance potential. Various challenges ranging from low turnover and market capitalization as well as low stock values have been established. Kenya's stock market is termed as shallow and narrow. There was a need for the securities market to develop. These therefore called for a need to find out the factors that influence the development of this capital market in order to provide policy recommendations. This study sought to find out the factors influencing the development ofNairobi Securities Exchange. The general objective of this study was to determine the factors that influence the development ofNairobi Securities Exchange. The specific objectives were to determine the effect of market information; transaction processing cost; regulatory framework on the development of the NSE. The study adopted an explanatory research design. The study was hinged on the Behavioral Theory, Signaling Theory, Efficient Market Theory (EMT) and Arbitrage Pricing Theory (APT) in explaining the concept of Nairobi Securities Exchange and the factors that influence it. An explanatory research design was adopted. The target population was 21 brokerage firms and 65 listed firms. Using Yamane formula, a total of 46 firms were sampled. Risk and investment managers were targeted by the study. Primary data was used to achieve the study objectives. A structured data collection questionnaire was used to collect primary data. After data collection, descriptive and inferential analysis methods were adopted. The descriptive statistics such as means and standard deviations were used to describe the data. Inferential analysis (correlation and regression) on the other hand were used to establish relationship between the variables. The tool for analysis was Statistical Package for Social Sciences (SPSS) version 24. The study findings were presented in form of tables and figures. The results of the study established that market information has a positive and significant effect on the development of the NSE market (B = 0.279; t = 3.716, > 1.96, = P-Value = 0.000, < 0.05) ; transaction processing costs has a negative and not significant effect on the development of the NSE market (B = - 0.095; t = 1.25, < 1.96, = P-Value = 0.217, > 0.05) while regulatory framework has a positive and significant effect on the development of the NSE market (B = 0.235; t = 2.539, < 1.96, = P-Value = 0.014, < 0.05). It was also determined that up to 70.9% of the variation in development of Nairobi Securities Exchange is explained by the three factors (Market Information, Transaction Processing and Regulatory Framework) (R^2 = 0.709). The study recommends that the Capital Markets Authority should come up with initiatives to ensure that the information on securities is efficient and reflects the true picture of the market. The regulator, CMA, should also manage the costs so that the market can improve in its development efforts. There is a need for the regulator to ensure that costs are manageable. The regulator, CMA, should also come up with favorable policies which can encourage more subscriptions and listing on the bourse.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The financial markets are essential in handling the exchange of assets. Based on the type of assets they handle, they derive their names (Ayako, Kungu, & Githui, 2015; Kasozi, 2017;Mauwa, Namusonge & Onyango, 2016). In that regard, capital markets focus on provision of services related to trading of shares as well as bonds whose maturing date doesn't exceed one year (Mauwa, 2017;Karanja, 2017; Kariuki, 2017). Those markets that handle shorter term bonds are called money markets, those that deal with foreign exchange are foreign exchange while those that deal with property for debts are called mortgage markets (Emery, 2018; Wafula, 2018; Mburugu, Nyamute, Iraya & Mwangi, 2017).

Emerging capital markets refers to those financial markets in the low income economies whereby the ratio of the market capitalization to GNP is not high (Wanjau, 2019; Mangeni & Mike, 2018).Such is the classification by the IMF. IMF indicated that an emerging market is one which is found in the emerging economies that are developing. Examples of such markets are India, South Africa, Egypt, Brazil, Indonesia and Kenya (Harwood & Konidaris,2015; Makori & Jagongo,2013).The African stock exchange has been growing and that development is a case of interest to scholars especially because the market plays a crucial role of facilitating higher savings rate for the population that has work, offers securities to these people as well as enhances FDI flow in the continent to companies either long established or new companies (Mwangi, Makau & Kosimbei, 2014; Mwangi, Makau & Kosimbei,2014; Omondi & Muturi, 2013).

One of the characteristics of the emerging capital markets is that it has not yet played its intended role of mobilizing capital which is very essential for economic development(Chepkoiwo, 2011; Maina & Ishmail, 2014;Kirui, Wawire & Onono, 2014).Stock exchanges are important for raising capital as well as mobilization of savings which can be used to develop the economy. Stock exchanges also increase transparency in the privatization process where shares ownership is used (Musiega, Alala, Douglas, Christopher & Robert, 2013; Kuria & Riro,2013; Nzioki, Kimeli, Riwo & Nthiwa, 2013).

It further improves resource allocation efficiency which is done in a competitive manner. It has also been argued that stock exchanges improve liquidity for various ventures (Li & Giles, 2015; Ongore, K'Obonyo, Ogutu & Bosire, 2015).Chepkoiwo (2011) also argued that stock exchanges play a significant role of releasing funds for investments which result in higher returns. It has been argued that successful development of this market helps to improve the economy and spur growth (Aduda, Chogii & Magutu, 2013;Kinyua, Gakure, Gekara & Orwa, 2015 ; Yenkey,2015).

In as much as the stock market plays the highlighted roles, the Kenyan stock market has had a slow growth and development (Gatua, 2013 ; Kitatia, Zablonb, & Maithyac, 2015 ; Menge, Mwangi & Kimani, 2013).There is low response from IPOS going public in order to raise capital for their development. It has been argued that a developed market is the only one which can enhance efficiency in investment and reduce the cost of capital (Nyamute, Oloko & Lishenga, 2017; Kendi, 2014; Aduda, Masila, & Onsongo, 2012).Well-developed stock market can also attract FDI, enhance resource mobilization locally and expand the pool of available resources for investment. Due to the importance of developed stock market, various international organizations such as IMF, World Bank and ADB came up with programmes geared towards improving the stock markets of these economies (Katz, 2018; Siro, 2013).

Locally, the stock market in Kenya has continued to go through a number of developments since 1963. To date, it trades both debts and equity, bonds and has pension funds. The capital markets also comprises of the financial sector which plays a crucial role in financial sector development and the realization of value. In particular, the market assists in price discovery, liquidity provision and proper allocation of risk between various participants on a more macro-economic level, the capital market is positively correlated to a country's economic growth (Chepkoiwo, 2011; Kabiru, Ochieng & Kinyua, 2015).

1.1.1 Emerging Capital Markets

Korinek (2018) defined them as the capital markets in countries characterized as low or middle income. Developing country is one where Gross National Product is below US $8,356. Many developing countries are characterized by lack equilibrium in the balance of payment, slow or decreasing economic growth and decreasing commodity prices (Muigai, 2016).

Bekaert and Harvey (2017) argued that the capital markets in the developing countries are poor considering many efforts ad reforms are being put in place to improve the macroeconomic

stability and the financial institutions. Failure to have a working and developed capital markets can affect the economy negatively as indicated by Korinek (2018). It can have a negative effect on poverty alleviation, economic growth and income distribution. Policy makers should therefore understand the reforms needed to develop the securities market in developing economies so as to realize any meaningful effect on economic growth, income distribution and poverty alleviation (Njeri & Kagiri, 2013; Mahfoudh, 2013; Kithinji, Oluoch & Mugo, 2014).This is because a well-developed capital markets attracts quality investments from both local and international fronts. It also boosts the domestic savings and provides a chance to growing companies to access capital at low costs. In a developed market, a number of assets with different risks, yields and liquidity can be traded thus diversifying the risk. However, in emerging capital markets, this is not the case (Wasiuzzaman, 2015). The African stock market is characterized by high resource management and transparency since more resources are put into securities because people lack ideas on investment. This therefore is a better risk diversification platform. The market also plays a roleof screening and monitoring to adjust the stock prices and enhance management of public corporations (Wasiuzzaman, 2015).

1.1.2 Nairobi Securities Exchange

The NSE started over 60 years as a voluntary association to offer brokerage services. With time, it has grown into one of the biggest in Africa with a total of 67 firms as at now. Even though the development has been immense, the challenges have been there (NSE, 2018). The stock exchange is guided by the Societies Act and controlled by the CMA (Songole, 2012; Githaiga,2013).

Currently, there is a total of eight sectors with 67 firms. Among the developments on the exchange is automation of services to allow for online trading and enhance efficiency and speed. One of the important roles played by the NSE is mobilization of resources to enhance development and economic growth as well as pooling of resources for investment (NSE, 2018).

1.2 Statement of the Problem

The securities market is an important market for economic growth in the sense that it facilitates resource mobilization, pools quality investments from local and international markets, provides

capital to companies for investments, aides in risk diversification thus encouraging investment and aides in poverty alleviation (Sejjaaka, 2011 ; Lekaram, 2014).A well-developedsecurities market has various benefits ranging from financial intermediation, promoting economic growth especially because it enhances access to savings as well as diversification of risk(Sejjaaka, 2011; Waweru, Pokhariyal & Mwaura, 2012).

Nairobi Securities Exchange is termed as underdeveloped despite government efforts to develop it (Angko, 2013; Wambua, 2013).Performance indicators show that NSE has not yet achieved its performance potential because it still experiences low turnover, market capitalization as well as low stock values (Makokha, 2013; Elly & Hellen, 2013).Shikuku (2014) indicates that the NSE raises less than 1% of growth financing against a target of 30% further confirming these underdevelopment arguments.

The study was also motivated by knowledge gaps in the existing scholarly works on the theme. Previous studies for instance Chepkoiwo (2011) and Aduda *et al* (2012) majorly focused on the macroeconomic factors affecting capital market development. The focus on market infrastructure factors was missing and with the need to develop a quicker well-organized and functioning market, this study sought to fill this knowledge gap.

1.3 Objectives of the Study

1.3.1 General objective

The general objective of the study was to determine the factors influencing the development of Nairobi Securities Exchange

1.3.2Specific Objectives

i. To determine the effect of market information on the development of Nairobi Securities Exchange.
ii. To determine the effect of transaction processing costs on the development of Nairobi Securities Exchange.
iii. To determine the effect of regulatory framework on the development of Nairobi Securities Exchange.

1.4 Research Questions

i. What is the effect of market information on the development of Nairobi Securities Exchange?
ii. What is the effect of transaction processing costs on the development of Nairobi Securities Exchange?
iii. To what extent does regulatory framework affect development of Nairobi Securities Exchange?

1.5 Scope of the study

The conceptual scope of the study was determining the factors influencing the development of Nairobi Securities Exchange. The objectives of the study were to determine the effect of market information on the development of Nairobi Securities Exchange, to establish the effect of transaction processing costs on the development of Nairobi Securities Exchange and to examine the effect of regulatory framework on the development of Nairobi Securities Exchange. The contextual scope of the study was the 21 licensed brokerage firms by the Capital Markets Authority and 65 firms listed at the Nairobi Securities Exchange. The time scope of the study will be the year 2019. The study focused on the Nairobi Securities Exchange because it is not fully developed and faces challenges in its operations as argued by Angeko (2013). Despite efforts to improve this market, there have been challenges which have hindered the NSE from achieving its full potential.

1.6Significance of the Study

The study was justified on the basis that the Nairobi Securities Exchange is not fully developed and faces challenges in its operations as argued by (Makokha, 2013; Elly & Hellen, 2013; Shikuku, 2014).Despite efforts to improve this market, there have been challenges which have hindered the NSE from achieving its full potential. The study is also justified by the existing knowledge gaps in the previous studies linking capital markets development to its determinants. Previous studies have not exploited the role of market infrastructure factors on development of the capital markets. This study was therefore justified to focus on the factors influencing the development of Nairobi Securities Exchange. The findings of the study are expected to benefit various groups such as CMA, investors, government policy makers and future researchers.

1.6.1 Capital Markets Authority

The CMA who is the regulator, can benefit from the findings of the study in coming up with policies that will improve and enhance the performance at the security market. Based on the study recommendations, CMA will be able to determine the critical factors for developing the NSE.

1.6.2 Investors

The investors who invest in shares at the NSE can also benefit from the findings of the study. They would be able to understand the critical factors for having a developed capital market and as a result, raise their concerns towards improving the market. With a developed securities market, they can be able to make informed decisions regarding their investment.

1.6.3 Government Policy Makers

Capital markets authority plays a significant role in the economy through mobilization of resources and investment activities. As a result, the development of this market is an important concept to the government policy makers. The study will help the government to install bodies that will foresee the operations of security markets like CMA and also it will assist the government come up with good regulatory framework which will facilitate the faster development of capital markets.

1.6.4 Researchers and Future Scholars

The research on development of the capital markets is scarce as evidenced by the knowledge gap in the previous studies. As a result, this study provides an avenue for more studies on the topic and creation of more in depth understanding of the topic. Other studies can critic this study and come up with new research gaps for exploiting.

1.7 Chapter Summary

The chapter has given the background of the study discussing the emerging capital markets development as well as presenting a review of Nairobi Securities Exchange. The chapter has indicated that some of the characteristics of the emerging capital markets is that it has not yet played its intended role of mobilizing capital which is very essential for economic development. Stock exchanges are important for raising capital as well as mobilization of savings which can be

used to develop the economy. Stock exchanges also increase transparency in the privatization process where shares ownership is used. The chapter has also given the statement of problem, objectives of the study, scope of the study and the significance. The next chapter presents a review of literature while the third chapter gives the methodology that was adopted to achieve the objectives.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter presented a review of literature on the topic linking Securities market development toits determining factors. The chapter highlights the theoretical review as well as the empirical

review. There is also the critique of literature to give the research gaps and also provision of the conceptual framework.

2.2: Theoretical Framework

The study is hinged on theBehavioral Theory, Efficient Market Theory (EMT), Signaling Theory and Arbitrage Pricing Theory (APT) in explaining the concept of Nairobi Securities Exchange and the factors that influence it.

2.2.1 Efficient Market Theory

The proponent of the theory was Eugene Fama in the year 1970. The theory argued that due to fair trading of stocks,it is not possible for the investors to purchase undervalued stocks or overpriced stocks. As a result, the stocks show the real picture of the market and they reflect the real information. As a result the investors cannot outperform the market and trade unfairly through market timing and expert stock selection and therefore, only chance can make a stock investor get higher returns but not market information (Jovanovic, Andreadakis& Schinckus, 2016;Barnes, 2016).

The theory has presented three main forms of market efficiency ranging from weak, semi-strong and strong. The weak form is not efficient since previous information can be used to predict the sock prices. In a semi strong market, the prices of the stocks indicate the public information as well as new public information while in a strong market; the prices reflect even the hidden information (Hamid, Suleman, Ali Shah, Akash & Shahid,2017).

The theory was relevant in explaining the role of market information in ensuring a developed securities market. The theory argues that a developed securities market is one in which the prices of stocks reflect the publicly available information as well as the hidden market information. Furthermore, no particular investor possesses additional information over the other and the trading platform is even.

2.2.2 The Behavioral Theory

The theory was proposed after the critique of the Efficient Market Hypothesis. The theory argued that other factors such as the emotions and subjective factors also play a critical role in investment decisions and not just the efficiency of the market information (Gitman, 2006; Desai, 2016).The theory builds from the behaviour of investors where the rational point is considered.

The theory, which is a critical part of behavioural finance, is of the view that markets are not perfect as portrayed by the EMH. The theory argues that the investors are not rational thinking and are driven by emotions and greed. Furthermore, the investors are driven by greed as well as other behavioural emotions and are not rational in their decision making (Gitman, 2006; Thaler & Ganser, 2015). It has also been argued that even the most rational investor cannot eliminate emotions from their decision making (Maruping, Bala, Venkatesh & Brown, 2017).

The theory played a significant role in explaining the role of investor behaviour in making investment decisions which has in the past affected pricing of stocks. As a result, it can be argued that investment decision making cannot be achieved if the emotions of the investors in left out in decision making process.

2.2.3 Arbitrage Pricing Theory (APT)

The theory was proposed by Stephen Ross in 1974. The theory explains the possibility of acquiring something for free without loss or its possibility thereof. In the capital markets, investors have often thought of the possibility of easy profits from arbitrage opportunities. Presence of such opportunities undermine the achievement of a developed capital markets since it drives investors to move assets in directions of this opportunity in order to make more profits (Chinhyung, Eun, & Senbet, 2010 ; Kisman & Restiyanita, 2015 ; Gabriel, Semion & Akpoede, 2016).

In international capital markets, Shanken, (1982) argued that the markets are integrated if there is a possibility of trading various assets from various nations as though its prices is determined in a unified manner to result of a common price across currencies. In such a case, an arbitrage portfolio which is riskless in one currency is similarly rendered riskless in another currency. Elimination of arbitrage opportunities thus focus on making sure that such a portfolio yields zero profits and a financial loss which could be faced by an investor in one currency could similarly be faced by another in a different currency (Frahm, 2018 ; Alshomaly, Masa'deh & AqabaBranch,2018).

The theory similarly played a significant role of explaining the need to eliminate arbitrage opportunities in a bid to have a fully developed capital markets. Arbitrage opportunities which can make one investor have advantage over another, arise from weak regulatory frameworks as well as market information. If the two are well handled, then arbitrage opportunities, which

distort the flow of assets in the capital markets, would be eliminated and a developed capital market would be realized in the long run.

2.2.4 Signaling Theory

The theory was proposed by Cantale (1996) to indicate the role of information in signaling the value of a firm that is going public so that investors can invest in it. When firms choose a particular market to list their shares, through announcements, they are trying to signal to investors that they are doing well. Investors use announcements to rank firms value and where the information being send out there is more, a firm can be rated as doing well.

Listing announcements therefore play a crucial role in indicating that firms are doing well. If the listing represents costly commitments, the firm has to satisfy the increased disclosure requirements as well as higher investor's scrutiny and potential legal exposure, then the listing signals that the firm is of good type and will reduce asymmetric information. The listing will therefore affect the firm as a whole and is expected to change the prices of shares symmetrically (Waweru, Phokariyal & Mwaura, 2012). In a fully developed market, such information asymmetry is not found. It is argued that a developed securities market is supposed to signal the right information to the investors.

2.3 Empirical Literature

A review of studies from other contexts on the theme of the study is presented in this section. The review of other studies helps to build on the literature and brings out the research gaps which can be exploited to enhance the focus of the study. This section has been presented per objective of the study.

2.3.1 Market Information and Development of Securities Markets

Chen, Chen and Su (2011) conducted a study to establish whether market information is relevant to the performance of the emerging capital markets taking a case of Chinese stock market. The target population was derived from the Shanghai and Shenzhen Stock Exchanges. The study established through a panel regression analysis that market information is relevant to the development of the Chinese stock market. It was established that the market experienced the weak form of efficient market hypothesis.

The study was conducted in a developed economy which has advanced its securities trading compared to the Kenyan case. As a result, the findings of China are not relevant to the Kenyan case. To compare the results, there was a need to conduct this study and find out whether similar characteristics hold. The study also presents a methodological knowledge gap since there is a difference between the methods it adopted (Panel Data regression methods) and that adopted by this study (Ordinary Least Square regression analysis). This was necessary to fill the methodological knowledge gap.

Yu, Kang and Park (2019) conducted a study to establish the relationship between information availability and return volatility in the Bitcoin Market. Using a GJR-GARCH model, the study established that the market is highly developed in terms of information creation and transfer. It was realized that the volatility in returns is directly linked to the availability of information. The study was conducted in a developed economy which has advanced its securities trading compared to the Kenyan case. As a result, the findings of China are not relevant to the Kenyan case. To compare the results, there was a need to conduct this study and find out whether similar characteristics hold. The study also presents a methodological knowledge gap since there is a difference between the methods it adopted (GJR-GARCH model) and that adopted by this study (Ordinary Least Square regression analysis). This was necessary to fill the methodological knowledge gap.

Ntim, Opong, Danbolt and Senyo (2011) conducted a study to test the presence of the weak-form efficiency focusing on the African stock markets. The study focused on 24 countries whereby its securities markets were targeted. The study used t-tests and revealed that across the markets, there was evidence of a weak form informational efficiency. The study was conducted in a different setting compared to the Kenyan case. As a result, the findings of the study are not relevant to the Kenyan case. To compare the results, there was a need to conduct this study and find out whether similar characteristics hold. The study also presents a methodological knowledge gap since there is a difference between the methods it adopted (t-tests) and that adopted by this study (Ordinary Least Square regression analysis). This was necessary to fill the methodological knowledge gap.

A study by Kimura and Amoro (2012) on the role of market information in development of the capital markets established that lack of market information was a huge determinant of how the

role of NSE. The study established that disclosure for specific companies played a critical role in the efficiency of the capital markets. For both confidence and market efficiency of the capital markets, the study established a need for better information management systems. The study presents conceptual knowledge gap since the main focus was on market information. This study goes an extra mile to incorporate regulatory framework as well as transaction processing costs in order to fill the knowledge gap.

Saleh*et al.* (2016) focused on the information availability bias and the market efficiency in Pakistan. The study conducted an archival and survey strategy. It was established that there is a possibility of information availability bias in Pakistanian securities exchange. It was also established that information efficiency would lead to better returns on stock. However, information bias in the Pakistani securities market leads to inefficiency.The study was conducted in a different setting compared to the Kenyan case. As a result, the findings of the study are not relevant to the Kenyan case. To compare the results, there was a need to conduct this study and find out whether similar characteristics hold. The study also presents a methodological knowledge gap since there is a difference between the methods it adopted (archival and survey strategy) and that adopted by this study (Ordinary Least Square regression analysis). This was necessary to fill the methodological knowledge gap.

2.3.2: Transaction Processing Cost and Development of Securities Markets

Capelle-Blancard and Havrylchyk (2016) focused on the impact of the French securities transaction tax on market liquidity and volatility. The study provides two reliable control groups, smaller firms and larger firms and established how the tax impacts on them. It was established that taxes have increased the transaction costs which in turn have reduced stock trading in the market. The taxes have however not affected the stock prices and stock returns volatility.The study was conducted in a different setting compared to the Kenyan case. As a result, the findings of the study are not relevant to the Kenyan case. To compare the results, there was a need to conduct this study and find out whether similar characteristics hold. The study also presents a methodological knowledge gap since there is a difference between the methods it adopted (t-test) and that adopted by this study (Ordinary Least Square regression analysis). This was necessary to fill the methodological knowledge gap.

In contrast, Gomber, Haferkorn and Zimmermann (2016) conducted a study on securities transaction tax and market quality in France. The study focused on the French Securities Transaction Tax. It was established that the taxes increased transaction costs which lead to a reduction in liquidity demand and supply. The taxes were established to increase spreads and transaction costs. The taxes were also established to increase the inter- market information transmission by impairing price coordination among fragmented markets in Europe.The study was conducted in a different setting compared to the Kenyan case. As a result, the findings of the study are not relevant to the Kenyan case. To compare the results, there was a need to conduct this study and find out whether similar characteristics hold.

A study was conducted by Bitok, Bitok, Chenuos and Kosgei (2014) to determine what factors were critical to the development of the capital markets in the developing economies and took a case study of NSE in Kenya. The study adopted both primary and secondary data where 53 listed firms were targeted. Through inferential and descriptive analysis, the study revealed that the transaction processing costs, regulatory framework, macroeconomic environment and market infrastructure were important in the development of the market. The study was conducted in a different setting compared to the Kenyan case. As a result, the findings of the study are not relevant to the Kenyan case. To compare the results, there was a need to conduct this study and find out whether similar characteristics hold.

A study conducted by Osei (2012) to determine the factors which played a significant role in the development of the capital markets revealed that transaction processing costs were essential. The study through a survey of the firms listed at the NSE, revealed that costs related to listing, transaction clearance, settlement costs, transfer of securities, costs related to registration as well as those related to custody were important in the development of the markets. As a result, the CMA introduced a central depository system (CDS) in order to manage these costs. The study also revealed that high costs for firms going public such as underwriting fee, legal and accounting expenses, brokerage commissions, cost of printing and advertising prospectus and fees for the NSE can discourage the firms and that would be a big negativity on the development of the capital markets.

Aduda, Masila and Onsongo (2012) conducted a study to determine the determinants of stock market development and took a case study of the NSE. The study surveyed the listed firms at the

NSE and acknowledged that the capital markets in Kenya have grown over time. Through descriptive and regression analysis,the study revealed the importance of factors among the transaction processing costs on the development of the market.

2.3.3 RegulatoryFramework and Development of Securities Markets

Kudrna (2016) conducted a study to establish financial market regulation in the European Union (EU). The study revealed that although the response to legislation by the firms was quick, it affects the securities market. Previously, the EU had proposed a supranationalisation of securities supervision but it was not approved. However, later on, it was accepted and approved after amendments.The study was conducted in a different setting compared to the Kenyan case. As a result, the findings of the study are not relevant to the Kenyan case. To compare the results, there was a need to conduct this study and find out whether similar characteristics hold.

Nyasha and Odhiambo (2014) tested the dynamics of stock market development in Kenya.Taking a review of all the reforms in the capital markets since adoption, the study conducted a descriptive analysis and established that the regulatory framework existing has played a significant role in development of the capital markets in Kenya. The study presents conceptual knowledge gap since the main focus was on regulatory framework. This study goes an extra mile to incorporate information availability as well as transaction processing costs in order to fill the knowledge gap.

According to a survey by the Capital Markets Authority (2016), the authority has made efforts to ensure that the capital market is well developed. Among the critical regulatory framework put in place are trading rules, stock exchange listing facilities, audit associations, accounting associations, auditing standards and associations and similar organizations. Some of the organizations involved in regulating the markets are Central Bank of Kenya, Capital Markets Authority, Retirement Benefits Authority and Commissioner of Insurance.

Dickinson and Muragu (2014) while establishing the market efficiency of the capital markets in developing revealed some of the factors which contributed to both market efficiency and development of the capital markets. The study focused on the firms listed at the NSE and adopted descriptive findings and inferential findings. It was established that one of the contributing factors to market efficiency was the available regulatory framework. The study presents conceptual knowledge gap since the main focus was on market efficiency. This study

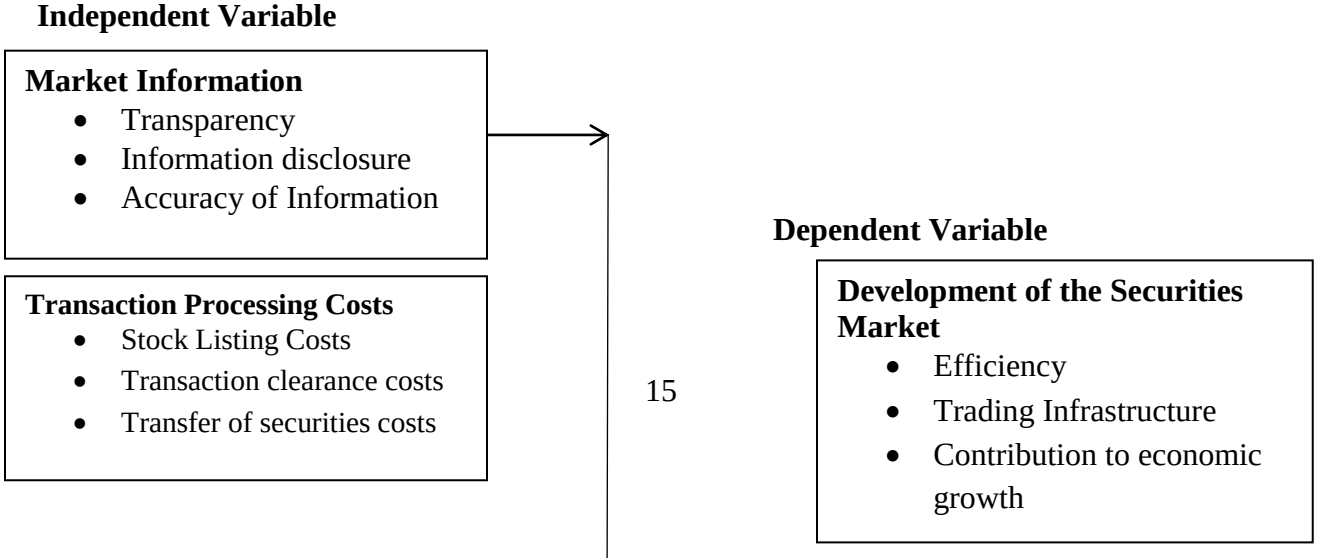
goes an extra mile to incorporate regulatory framework as well as transaction processing costs in order to fill the knowledge gap.

2.4 Research Gaps

Based on the reviewed studies, contextual and conceptual research gaps were identified which necessitated the focus of this study. The study by Chen, Chen and Su (2011) to establish whether market information is relevant to the performance of the emerging capital markets presented a contextual knowledge gap since it focused on a different context which is developed economy of China; the study by Kimura and Amoro (2012) on the role of market information in development of the capital markets focused on market information which presents a conceptualknowledge gap; the study by Ntim, Opong, Danbolt and Senyo (2011) to test the presence of the weak-form efficiency focusing on the African stock markets presented a contextual knowledge gap since it surveyed a number of countries while the study by Bitok, Bitok, Chenuos and Kosgei (2014) ; Osei (2012) and Aduda, Masila and Onsongo (2012) presented conceptual knowledge gaps.

2.5: Conceptual Framework

Mugenda (2008) defines conceptual framework as a figurative relationship between the study variables. Figure 2.1 in this study shows the link between the independent variables (Market Information, Transaction processing costs and regulatory framework) and the dependent variable which is development of the emerging capital markets.



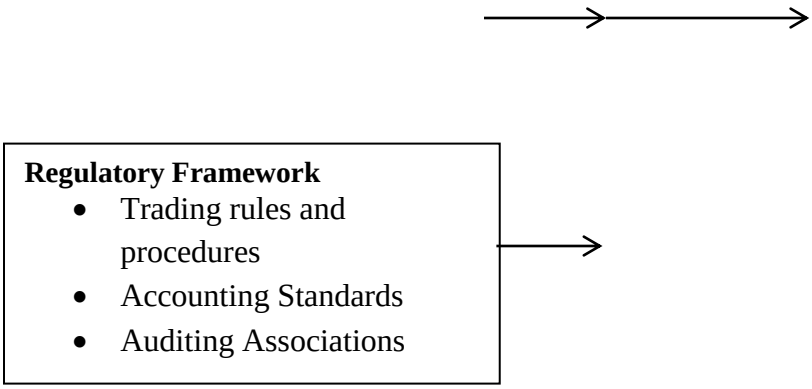


Figure 2.1: Conceptual Framework

2.6 Operationalization of the Study Variables

The section presents operationalization of the study variables.

Table 2.1 Operationalization of the Study Variables

Variable	Type	Indicators	Measurement Scale	Questions in the questionnaire
Market Information	Independent Variable	• Transparency • Information disclosure • Accuracy of Information	- Interval Scale	4 - 9
Transaction Processing Costs	Independent Variable	• Stock Listing Costs • Transaction clearance costs • Transfer of securities costs	- Interval Scale	16 - 21
Regulatory Framework	Independent Variable	• Trading rules and procedures • Accounting Standards • Auditing Associations	- Interval Scale	10 - 15
Development of the Securities Market	Dependent Variable	• Efficiency • Trading Infrastructure • Contribution to economic	- Interval Scale	22 - 27

Variable	Type	Indicators	Measurement Scale	Questions in the questionnaire
		growth		

2.7 Chapter Summary

The chapter has presented a review of literature on the topic linking capital market development to its determining factors. The chapter has highlighted the theoretical review as well as the theoretical review. The study is hinged on theBehavioral Theory, Signaling Theory, Efficient Market Theory (EMT) and Arbitrage Pricing Theory (APT) in explaining the concept of Nairobi Securities Exchange and the factors that influence it. The Efficient Market Theory was relevant in explaining the role of market information in ensuring a developed securities market. The theory argues that a developed securities market is one in which the prices of stocks reflect the publicly available information as well as the hidden market information. Furthermore, no particular investor possesses additional information over the other and the trading platform is even.

The Behavioral Theory played a significant role in explaining the role of investor behaviour in making investment decisions which has in the past affected pricing of stocks. As a result, it can be argued that investment decision making cannot be achieved if the emotions of the investors in left out in decision making process.

Arbitrage Pricing Theory (APT) theory similarly played a significant role of explaining the need to eliminate arbitrage opportunities in a bid to have a fully developed capital markets. Arbitrage opportunities which can make one investor have advantage over another, arise from weak regulatory frameworks as well as market information. If the two are well handled, then arbitrage opportunities, which distort the flow of assets in the capital markets, would be eliminated and a developed capital market would be realized in the long run. The empirical literature has been criticized to give the research gaps which the study seeks to fill. The next chapter presents the research methodology which was adopted to achieve the objectives.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlights the research methodology that was used in the study to achieve the research objectives in terms of research design, target population, sampling technique, data collection instrument, data collection procedure, reliability and validity, data analysis and presentation as well as the diagnostic tests.

3.2 Research Design

A research design reflects a plan or roadmap for conducting a research from the process of data collection to analysis (Mackey & Gass, 2015). This study adopted an explanatory research designin establishing the influence of the three factors on the dependent variable. This research design is suitable in establishing a cause-effect relationship between variables (Mackey & Gass, 2015). Since this study establishedthe influence of various factors on development of the Nairobi Securities market, this was a suitable research design.

3.3 Target Population

Target population refers to the units of enquiry from which a sample can be obtained (Taylor, Bogdan & DeVault 2015). This study targeted all the 21 licensed brokerage firms by the CMA since out of the 23, 2 are under statutory management. The study also targeted the listed firms at the NSE which were65 in total. The respondents targeted were the investment managers andrisk managers. Table 3.1 indicates the target population.

Table 3.1 Target Population

Category	Population	Percentage
Brokerage Firms	21	24
Listed Firms	65	76
Total	**86**	**100**

Source: CMA (2019)

3.4 Sampling Technique

Sampling refers to the procedure which is used to determine a smaller unit to participate in a study from the entire target population (Flick, 2015).From a list of 21 and 65 firms listed at NSE, the study used a formula to determine the sample size. The study adopted the Yamane (1957) formula to determine the sample size. The formula which has been recommended by Mugenda and Mugenda (2003) and Kumar (2011) is presented below:

$$n = \frac{N}{1 + N(e)^2}$$

Where

n is the sample size, N is the population of the study which is 88 ande is the error term set 10% in this study.

Substituting the values in the formula as shown below

$$n = \frac{86}{1+ 86(0.1)^2}$$

n = 46 firms

The study targeted 46 firms which were selected by stratified random sampling method from the list of 86 firms. The targeted respondents were the risk and investment managers of each of the firms thereby totaling to 92 respondents. The stratification is as shown in Table 3.2.

Table 3.2 Sample Size Stratification

Category	Population	Sample Size	Percentage
Brokerage Firms	21	11	24
Listed Firms	65	35	76
Total	**86**	**46**	**100**

3.5 Data Collection Instruments

The study used primary data and hence the data collection instrument was a questionnaire. The questionnaire was structured into likert scale measures with five sections. The first section, section A contained questions on the general information of the respondents; Section B had questions on Market Information, Section C had questions on Transaction Processing Costs, Section D had questions on Regulatory Framework while Section E had questions of Nairobi Securities Exchange development. Brinkmann (2014) argued that a questionnaire is suitable for a

survey since it makes it possible to generate quantitative data which can be analysed both descriptively and inferentially.

3.6 Reliability and Validity of Research Instrument

Before using the questionnaire for data collection, there was a need to test it to ensure that is valid and reliable (Mugendi & Mugendi, 2003). Reliability ensures that a questionnaire collects meaningful information while validity ensures that the questionnaire collects the information it was intended to collect without ambiguity and errors. A pilot was conducted on 10% of the target sample size making 8 firms which gives 16 respondents. This agreed with Brinkmann (2014) who argued that a sample size for a pilot can be a between 1% and 10% of the sample size. The eight firms which participated in the pilot study were excluded from the main survey in order to reduce bias.

The data from the 16 respondents was used to test for internal consistency whereby the Cronbach Alpha was used. The threshold was set at 0.7 in accordance with Kumar (2011). Furthermore, content validity was achieved through expert opinions on the state of the questionnaire which was given by the supervisor.

3.7 Data Collection Procedure

To enhance smooth process of data collection, the researcherobtained research permit from the Kenya College of Accountancy Main Campus together with the letter. Having been given go ahead, the researcher administered questionnaires to the respondents for self-completion and handed them over to the researcher.

Data collection refers to the systematic gathering of the information intended for use in a study (Brinkmann, 2014). The data collection procedure was a drop and pick method where the questionnaires after being dropped by the researcher, were collected after a period of 3 weeks. Those questionnaire which had not been collected after a period of 3 weeks, were allocated more time for response.

3.8Data Processing and Analysis

The data collected was quantitative in nature hence both descriptive and inferential statistics were used. The specific descriptive statisticswere means and standard deviation while the inferential findings were correlation and regression analysis. The tool used was Statistical Package for Social Sciences version 24. A multivariate regression model was adopted to test the influence of the factor on the development of the capital markets. The statistical tests were conducted at the 5% level of significance whereby a value below 0.05 indicated significant effect. Studies by Yartey (2008) and Lazaridis and Trofornidis (2006) have similarly used a multivariate regression analysis.

Before coming up with a regression model, the indicators foreach variable were transformed into a composite index using the harmonic mean formula (Barlett, Kotrlik & Higgins, 2011).

$$C_i = \sum f_i wi \div \sum f_i$$

Where

C_i = Composite index for Variable

f = Total Number of Respondents

W_i = The Relative weight given to each component in a particular variable.

After determining the composite of each variable from the constructs, the multivariate regression model adopted was as shown:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y = Development of the NSE

β_0 = Constant Term

$\beta_{1 \text{ to } 3}$= Beta coefficients

X_1 = Market Information

X_2= Transaction Processing Cost

X_3= Regulatory Framework

ε=Standard error.

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

3.9Multivariate Regression Model Diagnostic Tests

The study used an ordinary least square multivariate regression model which demands that various assumptions of a regression model must be obeyed and they range from normality test, linearity test, multicollinearity, Heteroskedasticity and autocorrelation tests (Chow, 2018 ; Faraway, 2016). Failure to conduct these diagnostic tests would inflate the standard errors of regression hence give spurious results.

3.9.1 Normality Test

The assumption of a classical linear regression model demands that the data needs to assume a normal curve (Normal distribution) (Mirjalili & Nadeb, 2018). The normality of the dependent variable was tested through Kolmogorov-Smirnova (K-S) test as well as the Q-Q plots. The Q-Q plots should form an oval shape to indicate normal distribution (Kim & Park, 2019). In the Kolmogorov-Smirnova (K-S) test, the null hypothesis is that the data is normally distributed while the alternative hypothesis is that the data is not normally distributed (Das & Imon,2016). A significance value greater than 0.05 indicated that the data is normally distributed since the null hypothesis was not to be rejected.

3.9.2 Linearity Test

Linearity indicates that the relationship between the variables is assuming a linear line (Chen, Park, Meng, Zhou, Silva-Martinez, Geiger & Chen, 2019). Since the study tested the relationship between variables and assumed a linear relationship, therefore there was a need to test the linearity before using an ordinary least square regression model. Linearity test was conducted through graphical scatter plots whereby linearity was indicated when the plots form an oval shape.

3.9.3 Multicollinearity Test

Multicollinearity refers to a situation where the correlation between the independent variable is greater than 0.8 (Vatcheva, Lee, McCormick & Rahbar,2016). In such a case, the standard errors

of the regression model are inflated thus giving false coefficients of the regression model variables. Such values cannot be relied on to predict a relationship between the independent and dependent variables. The study tested for multicollinearity through Variance Inflation Factor (VIF) method where VIF values below 10 are acceptable (Kalnins, 2018).

3.9.4 Heteroskedasticity

One of the assumptions of OLS is that the error terms in the regression should not vary (Brüggemann, Jentsch & Trenkler, 2016).Therefore, this study tested for violations of this assumption (Heteroskedasticity). In this test, Breusch Pagan method was used whereby significance value of the probability chi square greater than 0.05 indicates absence of Heteroskedasticity (Ferman & Pinto, 2019).

3.9.5 Autocorrelation

Another of the assumptions of OLS is that the error terms in the regression should not be correlated (Absence of autocorrelation) (Paradis, 2019). For autocorrelation, there was a need for the error term of the regression not to be correlated. The study usedDurbin Watson test of autocorrelation whereby a value above 2 indicated presence of serial autocorrelation. A value between 1 and 2 indicates that the data is free from autocorrelation (King, 2018).

3.10 Chapter Summary

This chapter has highlighted the research methodology that was used in the study to achieve the research objectives in terms of research design, target population, sampling technique, data collection instrument, data collection procedure, reliability and validity, data analysis and presentation as well as the diagnostic tests. In brief, this study adopted an explanatory research design in establishing the influence of the three factors on the dependent variable. The target population was all the 21 licensed brokerage firms by the CMA since out of the 23, 2 are under statutory management. The study also targeted the listed firms at the NSE which were 65 in total. The study adopted the Yamane (1957) formula to determine the sample size. The study used primary data and hence the data collection instrument was a questionnaire. The specific descriptive statistics were means and standard deviation while the inferential findings were correlation and regression analysis. The chapter has also presented the multivariate regression model diagnostic tests which range from normality test, linearity test, multicollinearity,

Heteroskedasticity and autocorrelation tests. The next chapter gives the analysis and interpretation of data.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The main aim of the study was to determine the factors influencing the development of Nairobi Securities Exchange. The specific focus of the study was to determine the effect of market information on the development of Nairobi Securities Exchange, to determine the effect of transaction processing costs on the development of Nairobi Securities Exchange and to

determine the effect of regulatory framework on the development of Nairobi Securities Exchange. To achieve these objectives, the study collected primary data from the investment managers and risk managers of the brokerage firms as well as the listed firms at Nairobi Securities Exchange.

The study used primary data obtained from the firms to conduct both descriptive and inferential analyses. Percentages, means and standard deviation were the specific descriptive statistics used while Pearson correlation and multiple regression analysis were the inferential statistics applied. Before conducting inferential analysis, diagnostic tests were conducted to ascertain that the assumptions of classical linear regression are not violated. The description of the analysis and results as well as the presentation and explanation is presented in this chapter. Tables as well as figures were used to present the findings of the study.

4.2 Response Rate

For the purpose of obtaining the primary data required, the study involved investment managers and risk managers of the brokerage firms and the Nairobi Securities Exchange sampled. A total of 11 brokerage firms and 35 firms listed at the Nairobi Securities Exchange were randomly sampled and 2 questionnaires issued to each of the firms. Therefore a total of 92 questionnaires were issued from which a total of 58 questionnaires were completed well. This represents a general response rate of 62% that is in accordance with Brinkmann (2014) that a response rate above 50% contributes towards gathering of sufficient data that could be generalized across the target population. Mackey and Gass (2015) also contend that a response rate of 50% or more is adequate for a descriptive study.

Thus sufficient data was gathered for analysis and generalization to determine the factors influencing the development of Nairobi Securities Exchange.

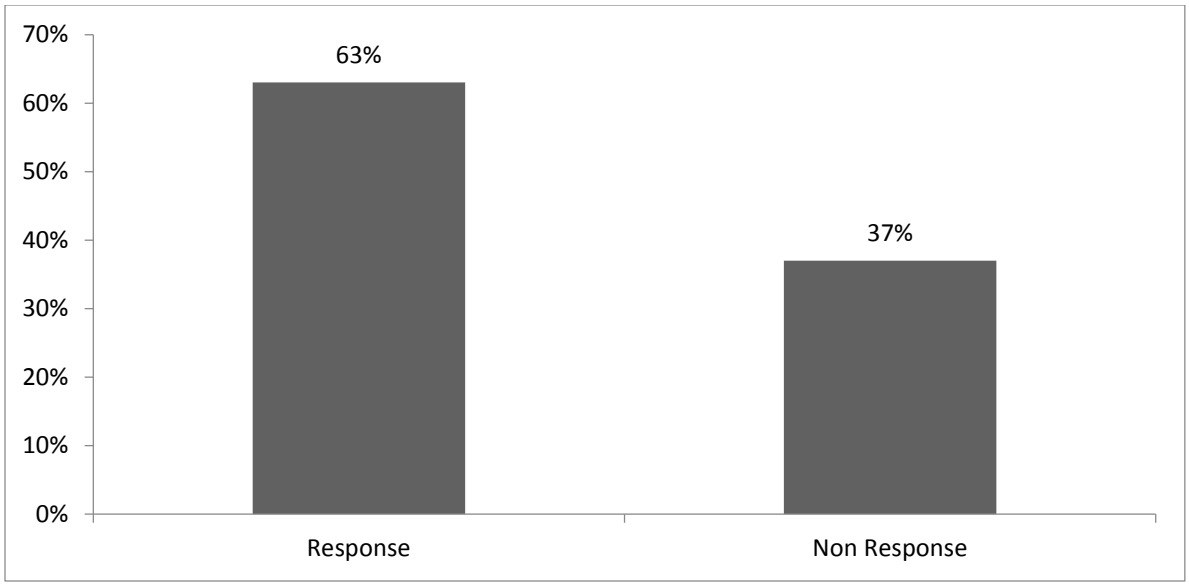


Figure 4.1: Response Rate

4.3 Demographic Characteristics

The study sought to establish the characteristics of the study respondents in terms of their work position, level of education and work experience as well as the information on the category of the company as either NSE listed firm or a brokerage firm. The section therefore presents the results of these characteristics that are presented in the following sub-sections.

4.3.1 Category of the Firm

The study targeted both brokerage firms and firms listed at NSE. A total of 11 brokerage firms were sampled as well as 35 firms listed at the NSE. A total of 22 questionnaires were issued to the brokerage firms while 70 questionnaires were issued to the firms listed at the NSE. The percentage response from each category was presented in Figure 4.2. The results indicated that 83% of the respondents were from listed firms at NSE while 17% came from the 11 brokerage firms. This is a representative sample hence the information collected was representative and not from a biased category. It can be argued that the information provided on the development of NSE was obtained from both the NSE firms and brokerage firms without bias.

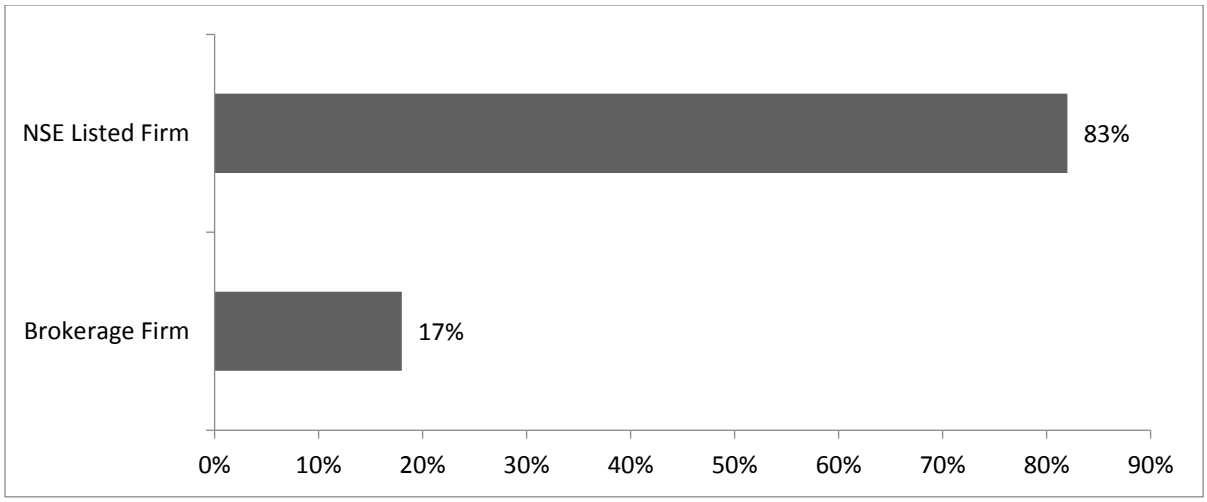


Figure 4.2 Category of the Firm

4.3.2Respondent's Work Position

The study targeted both risk managers and investment managers from each firm. A total of 92 respondents were therefore targeted. Out of the response number of 58 questionnaires, 48% were risk managers while 52% were investment managers. These results imply that there was representative representation as proposed and hence no particular target unit of observation was favored over another. The information analysed therefore came from the targeted observation.

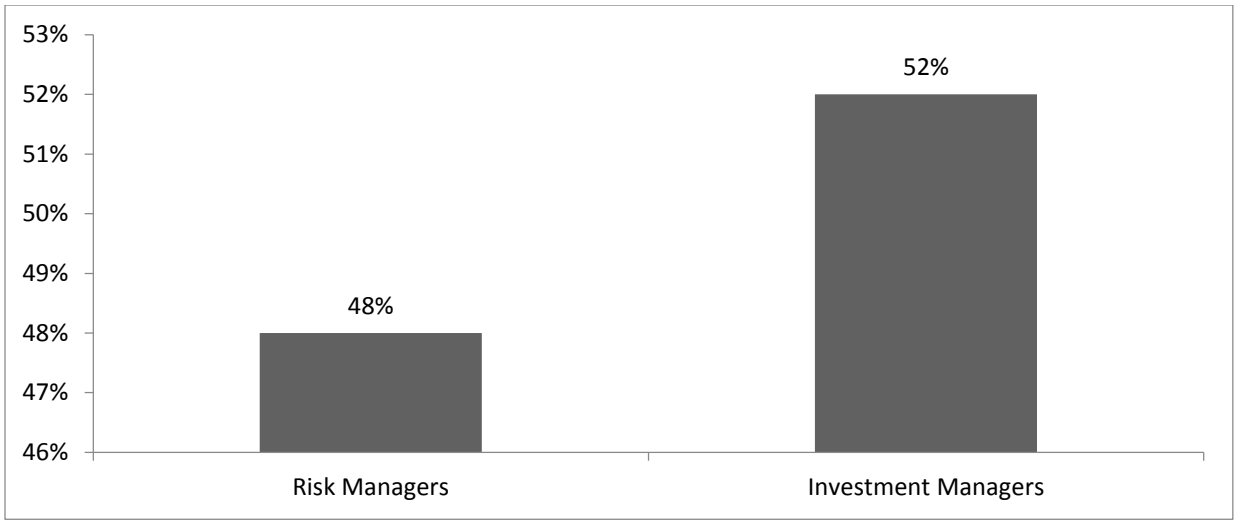


Figure 4.3 Respondent's Work Position

4.3.3 Respondent's Level of Education

The study sought to describe the respondent's level of education. There was a need to find out whether the risk managers and investment managers had attained either college or university education. This is useful in establishing their literacy level because the questionnaires were self-administered. It helps to establish whether they were in a position to read and interpret the questions in the questionnaire. The results in Figure 4.4 indicate that majority of the risk managers and investment managers among the listed firms at NSE and brokerage firms have university education as the highest level while those with college level were 19%. These imply that they had high intellectual capacity hence in a position to read and understand the questions.

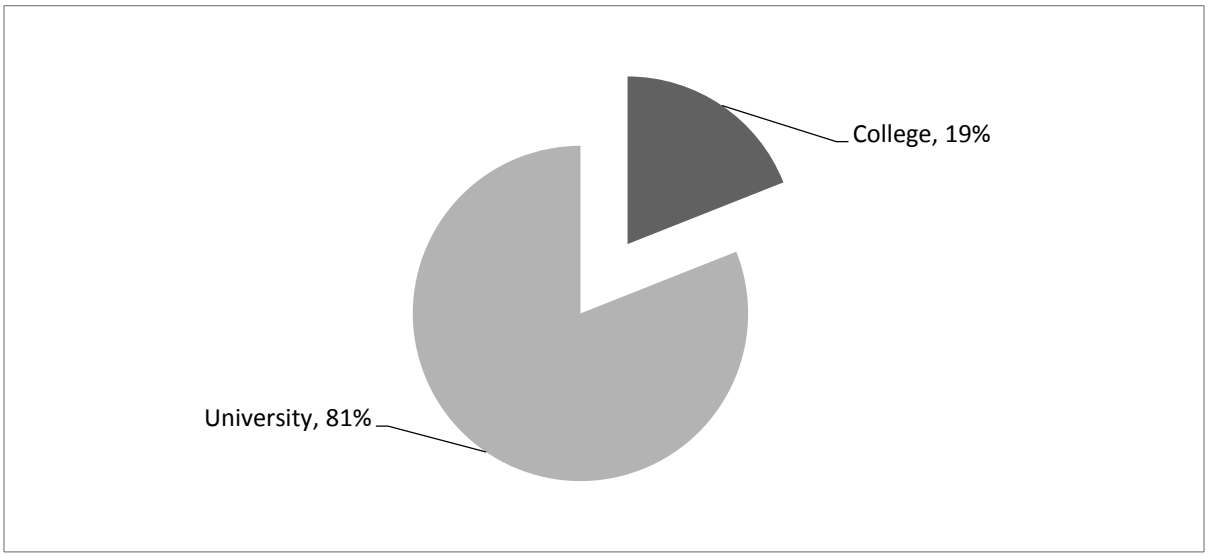


Figure 4.4 Respondent's Level of Education

4.3.4 Respondent's Work Experience

The study also sought to describe the respondent's work experience. The categories were 1 year and below, between 2-3 years, between 4- 5 years and above 5 years. The work experience indicates the institutional knowledge of the respondents regarding development of the NSE markets. The results in Figure 4.5 indicated that majority of the risk managers and investment managers (62%) of the firms interrogated had a work experience above 5 years, 22% had a work experience between 4 and 5 years, and 16% had a work experience below 3 years. The findings imply that majority of the respondents had a work experience above 4 years.

This implies that they had institutional knowledge regarding development of the NSE and were in a position to give accurate information.

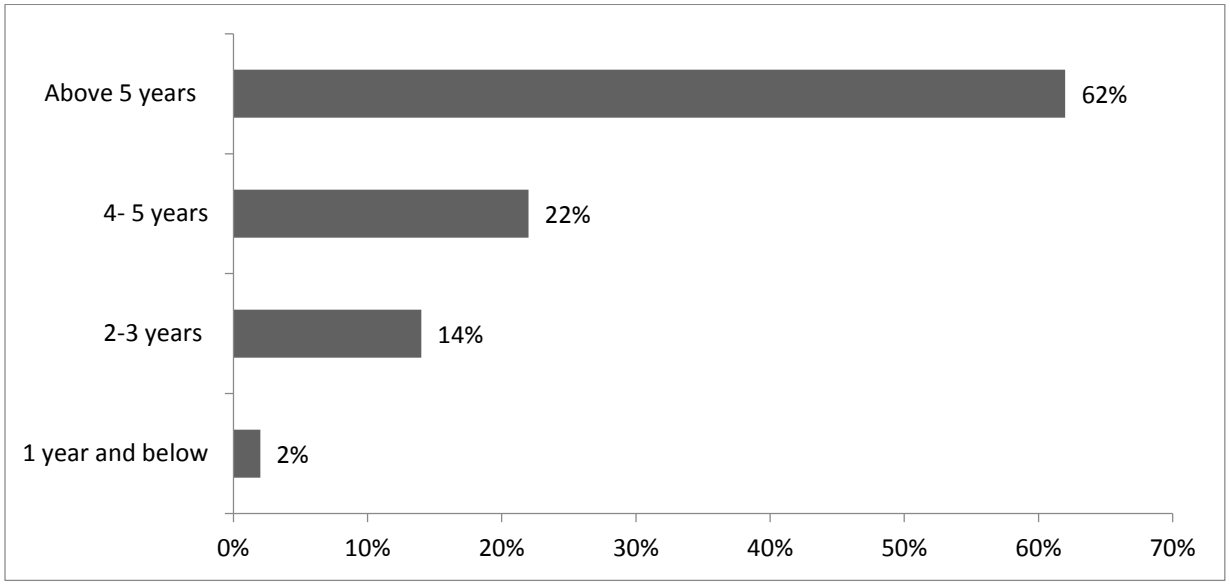


Figure 4.5 Respondent's Work Experience

4.4 Pilot Test Results

Before using the questionnaire to collect primary data, a pilot was conducted whereby 16 questionnaires were issued to risk and investment managers of 8 firms which did not participate in the final survey. The data from the 16 respondents was used to test for internal consistency whereby the Cronbach Alpha was used. The threshold was set at 0.7 in accordance with Kumar (2011). The findings indicated that Market Information had a Cronbach Alpha value of 0.768, Transaction Processing Cost had 0.813, Regulatory Framework had 0.759 while Development of Nairobi Securities Market had 0.784 which were greater than 0.7 hence reliable as argued by Kumar (2011). The data was therefore reliable.

In regard to content validity, expert opinions on the state of the questionnaire were given by the supervisor. The supervisor gave amendments to the questionnaire regarding structure and comments on clarity of questions which were amended accordingly to enhance content validity.

Table 4.1 Reliability Test Results

Variable	Cronbach Alpha	Number of Items	Rule	Decision
Market Information	0.768	6	> than 0.7	Reliable
Transaction Processing Cost	0.813		> than 0.7	Reliable
Regulatory Framework	0.759	6	> than 0.7	Reliable
Development of Nairobi Securities Market	0.784	6	> than 0.7	Reliable

4.5 Descriptive Findings and Analysis

The study used mean and standard deviation descriptive statistics to capture the responses based on the various indicators of study variables on a Likert scale of 1-5 (5= Very Large Extent; 4 =Large Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent). This section therefore presents the average responses on each of the variables whereas the standard deviation indicates the magnitude of variations in the responses.

4.4.1 Descriptive Findings of Market Information

The first objective of the study was to determine the effect of market information on the development of Nairobi Securities Exchange. Respondents were asked to indicate the level of agreement on various statements on market informationon the rating of 1-5 (5= Very Large Extent; 4 =Large Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent). The results are presented in Table 4.2.

The results established that the respondents agreed to a low extent that the information available in the market regarding stock prices is accurate (Mean = 2.36), the capital markets in Kenya are

transparent to a high degree (Mean = 2.43) and agreed to a moderate extent that the capital markets in Kenya are competitive to a high degree (Mean = 2.66). The findings also showed that they agreed to moderate extent that there is limited disclosure of information at the capital markets authority (Mean = 3.14) as well as that the capital market in Kenya lacks manipulation of information (Mean = 2.59). However, there was an agreement to a high extent that the capital market authority does not have opaque trading procedures (Mean = 3.52).

The findings imply that in regard to market information, NSE faces a challenge of accuracy of information, transparency, competitiveness, information disclosure, opaque trading procedures and manipulation of data (Average Mean = 2.78). The findings are also supported by a low standard Deviation which implies low variation in the opinions (Std Dev = 1.27).

Table 4.2 Descriptive Findings of Market Information

Statement	Mean	Standard Deviation
The information available in the market regarding stock prices is accurate	2.36	1.19
The capital markets in Kenya are transparent to a high degree	2.43	1.23
The capital markets in Kenya are competitive to a high degree	2.66	1.21
There is limited disclosure of information at the capital markets authority	3.14	1.32
The capital market authority does not have opaque trading procedures	3.52	1.35
The capital market in Kenya lacks manipulation of information	2.59	1.32
Average	**2.78**	**1.27**

4.4.2Descriptive Findings of Transaction Processing Costs

The second objective of the study was to determine the effect of transaction processing costs on the development of Nairobi Securities Exchange. Respondents were asked to indicate the level of agreement on various statements on transaction processing costs on the rating of 1-5 (5= Very Large Extent; 4 =Large Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent). The results are presented in Table 4.3. The findings presented indicate that the respondents

agreed to a high extent that the capital markets authority has set manageable costs related to listing of firms (Mean = 3.78), the capital markets authority has set manageable costs related to transaction clearance (Mean = 3.74) and that the capital markets authority has set manageable costs related to settlement of disputes (Mean = 3.72).

It was also agreed to a high extent that the capital markets authority has set manageable costs related to transfer of securities (Mean = 3.81) as well as manageable costs related to registration of a firm going public (Mean = 3.98). However, in regard to the costs involved in going public such as underwriting fee, legal fees, accounting expenses and brokerage commissions are manageable, the respondents agreed to a moderate extent (Mean = 2.47).

The findings imply that the capital markets authority has set manageable costs related to listing of firms, transaction clearance, settlement of disputes, transfer of securities, registration of a firm going public but the underwriting fee, legal fees, accounting expenses and brokerage commissions are not manageable (Average Mean = 3.58). The findings are also supported by a low standard Deviation which implies low variation in the opinions (Std Dev = 1.37).

Table 4.3 Descriptive Findings of Transaction Processing Costs

Statement	Mean	Standard Deviation
The capital markets authority has set manageable costs related to listing of firms	3.78	1.36
The capital markets authority has set manageable costs related to transaction clearance	3.74	1.33
The capital markets authority has set manageable costs related to settlement of disputes	3.72	1.39
The capital markets authority has set manageable costs related to transfer of securities	3.81	1.42
The capital markets authority has set manageable costs related to registration of a firm going public	3.98	1.28
The costs involved in going public such as underwriting fee, legal fees, accounting expenses and brokerage commissions are manageable	2.47	1.42
Average	**3.58**	**1.37**

4.4.3Descriptive Findings of Regulatory Framework

The third objective of the study was to determine the effect of regulatory framework on the development of Nairobi Securities Exchange. Respondents were asked to indicate the level of agreement on various statements on regulatory framework on the rating of 1-5 (5= Very Large Extent; 4 =Large Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent). The results are presented in Table 4.4. The results indicated that respondents agreed to a moderate extent that the capital markets regulatory framework in Kenya is satisfactory (Mean = 3.03) as well as that the accounting standards board of the capital market in Kenya is effective (Mean = 3.00) however they agreed to a low extent that the accounting professional associations for the firms in the capital market authority are effective (Mean = 2.33).

In regard to whether the auditing professional associations for the firms in the capital market authority are effective, there was an agreement to a low extent (Mean = 2.29). However, the respondents agreed to a moderate extent that the trading rules and regulations for the capital markets of Kenya are friendly (Mean = 2.74) and that the stock market listing facilities are effective (Mean = 2.81).

The findings implies that the regulatory framework NSE is not satisfactory, the accounting standards board of the capital market in Kenya is not effective, the accounting professional associations for the firms in the capital market authority are not effective, the auditing professional associations for the firms in the capital market authority are not effective, the trading rules and regulations for the capital markets of Kenya are not friendlyand that the stock market listing facilities are ineffective (Average Mean = 2.70). The findings are also supported by a low standard deviation which implies low variation in the opinions (Std Dev = 1.23).

Table 4.4 Descriptive Findings of Regulatory Framework

Statement	Mean	Standard Deviation
The capital markets regulatory framework in Kenya is satisfactory	3.03	1.20
The accounting standards board of the capital market in Kenya is effective	3.00	1.26

The accounting professional associations for the firms in the capital market authority are effective	2.33	1.02
The auditing professional associations for the firms in the capital market authority are effective	2.29	1.18
The trading rules and regulations for the capital markets of Kenya are friendly	2.74	1.43
The stock market listing facilities are effective	2.81	1.30
Average	**2.70**	**1.23**

4.4.4Descriptive Findings of Development of Nairobi Securities Exchange

Respondents were asked to indicate the level of agreement on various statements on development of Nairobi Securities Exchangeon the rating of 1-5 (5= Very Large Extent; 4 =Large Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent). The results are presented in Table 4.5.

The results revealed that the respondents agreed to a low extent that Nairobi Securities Exchange creates a diverse menu for savings options (Mean = 2.41) and that Nairobi Securities Exchange fully facilitates the financial interaction of its players (Mean = 2.28) but a agreed to a moderate extent that Nairobi Securities Exchange creates a diverse menu for investment options (Mean = 2.55). The respondents also agreed to a low extent that the Nairobi Securities Exchange has the financial institutions providing complementary services (Mean = 2.36), Financial intermediation at Nairobi Securities Exchange is efficient (Mean = 2.33) and that Nairobi Securities Exchange contributes significantly to the economic growth of Kenya (Mean = 2.22).

The findings imply that majority of the respondents disagreed that Nairobi Securities Exchange creates a diverse menu for savings options and investment options, fully facilitates the financial interaction of its players, has the financial institutions providing complementary services, has efficient financial intermediation and contributes significantly to the economic growth of Kenya (Average Mean = 2.36). A standard deviation of 1.08 was also small which indicated a small variation in the responses regarding development of the Nairobi Securities Exchange.

Table 4.5Descriptive Findings of Development of Nairobi Securities Exchange

Statement	Mean	Standard Deviation
Nairobi Securities Exchange creates a diverse menu for savings options	2.41	1.08
Nairobi Securities Exchange creates a diverse menu for investment options	2.55	1.22
Nairobi Securities Exchange fully facilitates the financial interaction of its players	2.28	1.02
Nairobi Securities Exchange has the financial institutions providing complementary services	2.36	1.04
Financial intermediation at Nairobi Securities Exchange is efficient	2.33	1.23
Nairobi Securities Exchange contributes significantly to the economic growth of Kenya	2.22	0.88
Average	**2.36**	**1.08**

4.6 Correlation Analysis

A correlation analysis was usedto establish the association between the study variables. This study made use of Pearson correlation coefficient to establish the association between the variables used in the study. According to Kumar (2011), a correlation analysis indicates the direction and strength of the relationship between variables and ranges from -1 to +1. The results for the correlation analysis are presented in Table 4.6.

The results in Table 4.6 indicated that market information has a positive and significant effect on development of NSE ($r = 0.758$, Sig = 0.000, < 0.05). This implies that a unit increase in the availability of market information leads to a significant improvement in development of NSE. The findings imply that when the information available in the market regarding stock prices is accurate, the capital markets in Kenya are transparent to a high degree, the capital markets in Kenya are competitive to a high degree, there is limited disclosure of information at the capital

markets authority, the capital market authority does not have opaque trading procedures and lacks manipulation of information, then its development will improve significantly.

The results in also indicated that regulatory framework has a positive and significant effect on development of NSE (r = 0.775, Sig = 0.000, < 0.05). This implies that a favorable regulatory framework leads to a significant improvement in the development of NSE. The findings imply that when the capital markets regulatory framework in Kenya is satisfactory, the accounting standards board of the capital market in Kenya is effective, the accounting professional associations for the firms in the capital market authority are effective, the auditing professional associations for the firms in the capital market authority are effective, the trading rules and regulations for the capital markets of Kenya are friendly and the stock market listing facilities are effective, then the development of the NSE market improves significantly.

It was also established that transaction processing costs have a negative and significant effect on development of NSE (r = - 0.752, Sig = 0.000, < 0.05). This implies that an increase in the transaction processing costs leads to a decrease in the development of the NSE market. The findings imply that when the capital markets authority has set manageable costs related to listing of firms, transaction clearance, settlement of disputes, transfer of securities, registration of a firm going public and the costs involved in going public such as underwriting fee, legal fees, accounting expenses and brokerage commissions, then the development of the NSE will improve.

Table 4.6 Correlation Analysis

		Market Information	Regulatory Framework	Transaction Processing Costs	Development of NSE
Market Information	Pearson Correlation	1			
	Sig. (2-tailed)				
Regulatory Framework	Pearson Correlati	.680**	1		

	on				
	Sig. (2-tailed)	0.000			
Transaction Processing Costs	Pearson Correlation	-.692**	-.844**	1	
	Sig. (2-tailed)	0.000	0.000		
Development of NSE	Pearson Correlation	.758**	.775**	-.752**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	58	58	58	58

** Correlation is significant at the 0.01 level (2-tailed).

4.7 Regression Model Diagnostic Tests

The study conducted diagnostic tests before using an ordinary least square regression model to test the study hypotheses. The tests were normality test, linearity test, multicollinearity, Heteroskedasticity and autocorrelation tests. The subsections that follow present the results of the tests.

4.7.1 Normality Test

The assumption of a classical linear regression model demands that the data needs to assume a normal curve (Normal distribution). The normality of the dependent variable was tested through Kolmogorov-Smirnova (K-S) test as well as the Q-Q plots. The Q-Q plots should form an oval shape to indicate normal distribution. In the Kolmogorov-Smirnova (K-S) test, the null hypothesis is that the data is normally distributed while the alternative hypothesis is that the data is not normally distributed.

A significance value greater than 0.05 indicated that the data is normally distributed since the null hypothesis was not to be rejected. The results for the Kolmogorov-Smirnova (K-S) test are presented in Table 4.7. The results indicate that the significance of the statistic was not significant (Sig = 0.152 > 0.05). The null hypothesis that the data is normally distributed was not rejected. The data on the dependent variable was therefore normally distributed.

Table 4.7 Kolmogorov-Smirnova (K-S) test of Normality

Tests of Normality						
	Kolmogorov-Smirnova			**Shapiro-Wilk**		
	Statistic	df	Sig.	Statistic	df	Sig.
Development of NSE	0.176	58	0.052	0.951	58	0.061
Lilliefors Significance Correction						

The results were confirmed through a normal Q-Q plot as shown in Figure 4.6. The results indicate that the observations on development of NSE were along the line of best fit with no outliers which indicate that the data was normally distributed hence suitable to use in a regression model.

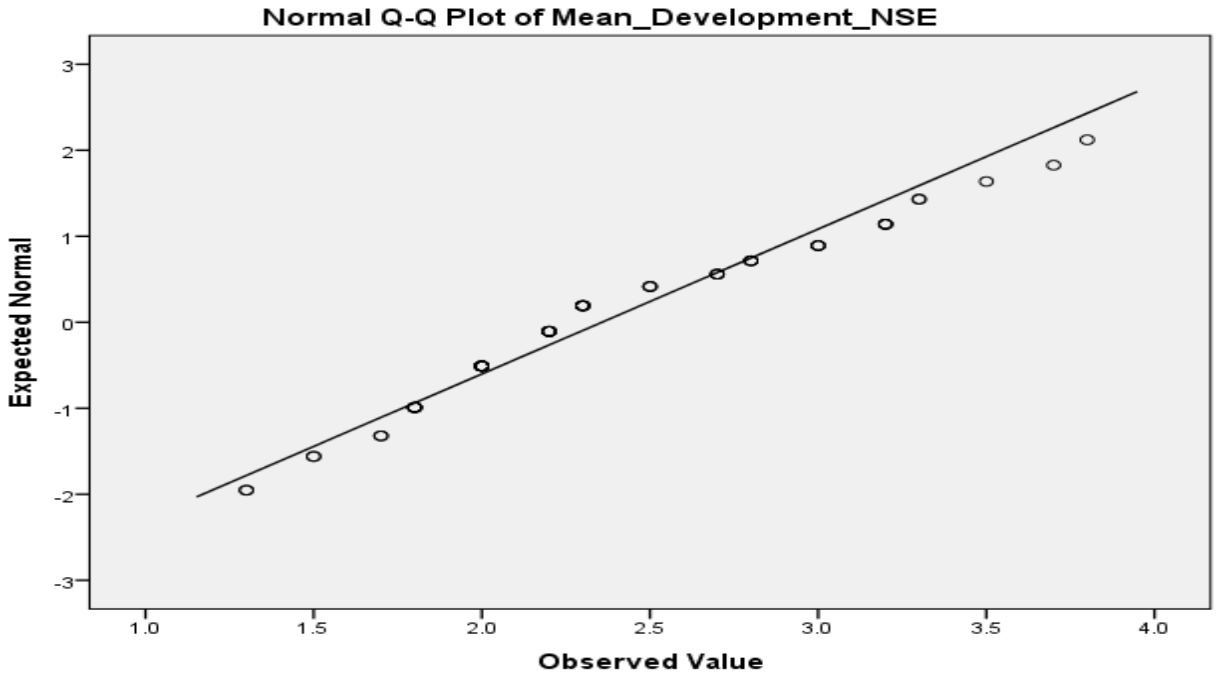


Figure 4.6Normal Q-Q Plot

4.7.2 Linearity Test

Linearity indicates that the relationship between the variables is assuming a linear line. Since the study tested the relationship between variables and assumed a linear relationship, therefore there was a need to test the linearity before using an ordinary least square regression model. Linearity test was conducted through graphical scatter plots whereby linearity was indicated when the plots form an oval shape. The independent variables were compressed into one independent variable through product and then used to establish a scatter plot as shown in Figure 4.7. The data around the fitted regression line formed an oval shape indicating that it was a good fit and a linear relationship was suitable.

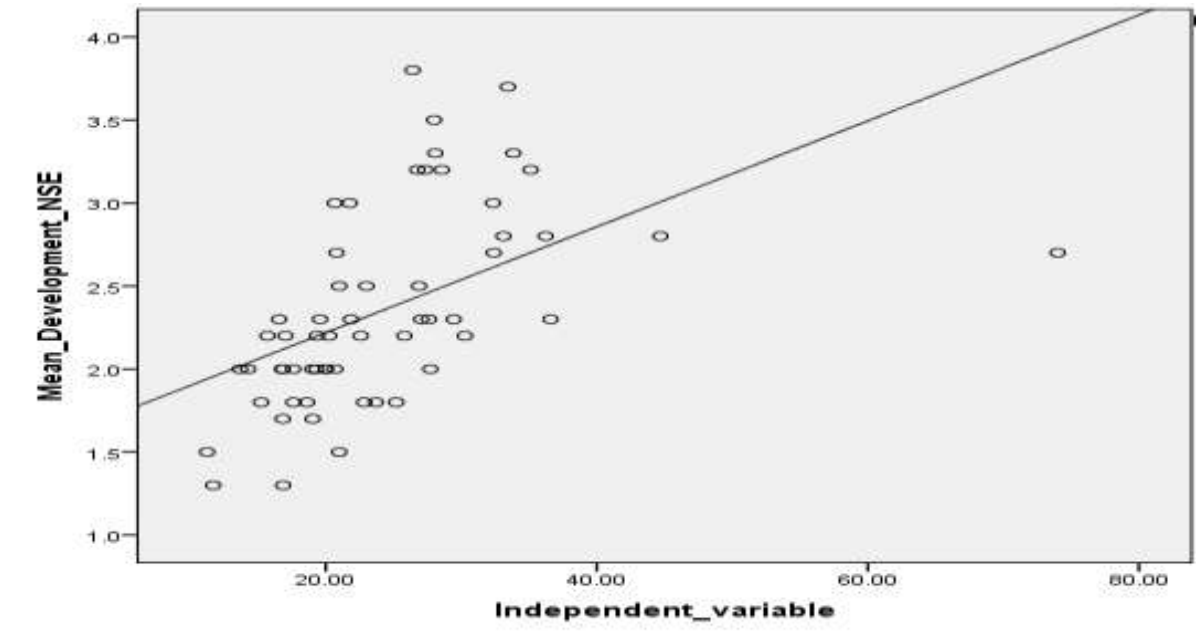


Figure 4.7 Scatter Plot

4.7.3 Multicollinearity Test

Multicollinearity refers to a situation where the correlation between the independent variables is greater than 0.8. In such a case, the standard errors of the regression model are inflated thus giving false coefficients of the regression model variables. Such values cannot be relied on to predict a relationship between the independent and dependent variables. The study tested for multicollinearity through Variance Inflation Factor (VIF) method where VIF values below 10 are acceptable. The findings for the VIF values are presented in Table 4.8. The results indicate that market information has a VIF value of 2.043, regulatory frameworkhas a VIF value of 3.701 and transaction processing costshas a VIF value of 3.815. The values are less than 10 which imply that they are within the threshold for lack of multicollinearity.

Table 4.8 Variance Inflation Factor (VIF) Test of Multicollinearity

	Collinearity Statistics	
	Tolerance	**VIF**
Market Information	0.490	2.043
Regulatory Framework	0.270	3.701
Transaction Processing Costs	0.262	3.815

Dependent Variable: Development of Nairobi Securities Exchanges

4.7.4 Heteroskedasticity

One of the assumptions of OLS is that the error terms in the regression should not vary. Therefore, this study tested for violations of this assumption (Heteroskedasticity). In this test, Breusch Pagan method was used whereby significance value of the probability chi square greater than 0.05 indicates absence of Heteroskedasticity. The results were presented in Table 4.9. The results indicated that the Prob > Chi^2value was(0.06 > 0.05) hence the null hypothesis of constant variance was not rejected. Therefore the data was suitable to run an OLS regression.

Table 4.9 Breusch Pagan test of Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity	
Ho: Constant variance	
Variables: Fitted values of Development of NSE	
$Chi^2(1)$	6.50
Prob > Chi^2	0.060

4.7.5 Autocorrelation

Another assumption of OLS is that the error terms in the regression should not be correlated (Absence of autocorrelation). For autocorrelation, there was a need for the error term of the regression not to be correlated. The study used Durbin Watson test of autocorrelation whereby a value above 2 indicated presence of serial autocorrelation. A value between 1.5 and 2.0 indicates that the data is free from autocorrelation. The results are presented in Table 4.10. The results indicate a DW value of 1.938 which is between 1.5 and 2.0 implying that the data did not have a problem of autocorrelation hence an OLS regression model was suitable.

Table 4.10 Durbin Watson Test of Autocorrelation

Durbin-Watson

1.938

4.8 Regression Analysis

To establish the effect of the factors (Market Information, Transaction Processing and Regulatory Framework) on development of Nairobi Securities Exchange, a multivariate regression model was adopted. The regression model was of the form below:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Where: Y = Development of the NSE, β_0 = Constant Term, $\beta 1_{\text{ to }} 3$ = Beta coefficients, X_1 = Market Information, X_2 = Transaction Processing Cost, X_3 = Regulatory Framework, ε= Standard error. The model was used to answer the three research questions of the study.

i. What is the effect of market information on the development of Nairobi Securities Exchange?
ii. What is the effect of transaction processing costs on the development of Nairobi Securities Exchange?
iii. To what extent does regulatory framework affect development of Nairobi Securities Exchange?

The estimation of the regression model has model summary, ANOVA and model coefficients. The results are presented and explained in the sub sections that follow. The model summary results as presented in Table 4.11.

Table 4.11 Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.842	0.709	0.692	0.3292

Predictors: (Constant), Transaction Processing Costs, Market Information, Regulatory Framework

The results in Table 4.11 showed that the three factors that is Market Information, Transaction Processing and Regulatory Framework had a strong correlation with development of Nairobi Securities Exchange(R = 0.842). This implies that the three factors have a strong effect on the development of the NSE market.

The R-square indicates the change in the dependent variable (development of Nairobi Securities Exchange) explained by the independent variables (Market Information, Transaction Processing and Regulatory Framework). The R-square value also called coefficient of determination was 0.709 in this study. This implies that up to 70.9% of the variation in development of Nairobi Securities Exchange is explained by the three factors (Market Information, Transaction Processing and Regulatory Framework). The remaining percentage, that is, 29.1%, is explained by other factors other than the three factors. The model was however a good fit.

In order to establish the significance of the regression model used, Analysis of Variance (ANOVA)was used. ANOVA indicates the deviation of the predicted regression model from the actual regression model. The ANOVA results are presented in Table 4.12. The F statistic value was significant (F = 43.783, P-Value = 0.000 < 0.05) which implies that the overall regression model to determine the effect of the factors (Market Information, Transaction Processing and Regulatory Framework) on development of Nairobi Securities Exchange was fit. The regression model confirms the suitability of the three factors as critical determinants of development of NSE market.

Table 4.12 ANOVA

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Regression	14.231	3	4.744	43.783	.000
Residual	5.851	54	0.108		
Total	20.082	57			

Dependent Variable: Development of NSE

Predictors: (Constant), Transaction Processing Costs, Market Information, Regulatory Framework

To establish the beta coefficients, constant and their significance, the regression results were established in Table 4.13. The study established the model significance using both P values as well as critical t values. For the p-values, a variable had a significant effect on development of NSE if the value was less than 0.05 and critical t value was greater than absolute 1.96. In such a case, the null hypothesis was rejected. The regression model coefficients are presented in Table 4.13.

Table 4.13 Regression Model Coefficients

	Unstandardized Coefficients		**Standardized Coefficients**		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	1.288	0.534		2.41	0.019
Market Information	0.279	0.075	0.390	3.716	0.000
Regulatory Framework	0.235	0.093	0.359	2.539	0.014
Transaction Processing Costs	-0.095	0.076	-0.179	-1.25	0.217

Dependent Variable: Development of NSE

The resulting Regression Equation

$Y = 1.288 + 0.279 X_1 – 0.095 X_2 + 0.235 X_3$

Where: Y = Development of the NSE, X_1 = Market Information, X_2 = Transaction Processing Cost, X_3 = Regulatory Framework

The regression model indicates that other factors (Market Information, Transaction Processing Cost and Regulatory Framework) held constant at zero, the development of NSE market is positive at 1.288. However, with introduction of market information efficiency and favorable regulatory framework, the development improves while introduction of high transaction costs worsens the development of NSE. The findings guided answering of the research question:

What is the effect of Market Information on the development of Nairobi Securities Exchange?

The results in Table 4.13 indicate that market information has a positive and significant effect on the development of the NSE market (B = 0.279; t = 3.716, > 1.96, = P-Value = 0.000, < 0.05). The results mean that market Information has a significant effect on the development of Nairobi Securities Exchange.This implies that when the information available in the market regarding stock prices is accurate, the capital markets in Kenya are transparent to a high degree, the capital markets in Kenya are competitive to a high degree, there is limited disclosure of information at the capital markets authority, the capital market authority does not have opaque trading procedures and lacks manipulation of information, then its development will improve significantly.

What is the effect of Transaction Processing Costs on the development of Nairobi Securities Exchange?

The results in Table 4.13 indicate that transaction processing costs has a negative and not significant effect on the development of the NSE market (B = - 0.095; t = 1.25, < 1.96, = P-Value = 0.217, >0.05). Costs related to listing of firms, transaction clearance, settlement of disputes, transfer of securities, registration of a firm going public and the costs involved in going public such as underwriting fee, legal fees, accounting expenses and brokerage commissions are irrelevant in determining NSE development.

To what extent does regulatory framework affect development of Nairobi Securities Exchange?

The results in Table 4.13 indicate that regulatory framework has a positive and significant effect on the development of the NSE market (B = 0.235; t = 2.539, > 1.96, = P-Value = 0.014, < 0.05). The results mean that regulatory framework has a significant effect on the development of Nairobi Securities Exchange.The findings imply that when the capital markets regulatory framework in Kenya is satisfactory, the accounting standards board of the capital market in Kenya is effective, the accounting professional associations for the firms in the capital market authority are effective, the auditing professional associations for the firms in the capital market authority are effective, the trading rules and regulations for the capital markets of Kenya are friendly and the stock market listing facilities are effective, then the development of the NSE market improves significantly. Table 4.14 indicates a summary of research questions.

Table 4.14 Summary of Research Questions

No.	Research Question	Beta Coefficient	P- Value and t-statistic	Decision
1	What is the effect of market information on the development of Nairobi Securities Exchange?	B = 0.279	(t = 3.716, > 1.96, = P-Value = 0.000, < 0.05).	The effect of market information on the development of Nairobi Securities Exchange is positive and significant
2	What is the effect of transaction processing costs on the development of Nairobi Securities Exchange?	B = - 0.095	(t = 1.25, < 1.96, = P-Value = 0.217, > 0.05).	The effect of transaction processing costs on the development of Nairobi Securities Exchange is negative and not significant

3	To what extent does regulatory framework affect development of Nairobi Securities Exchange?	B = 0.235	(t = 2.539, > 1.96, = P-Value = 0.014, < 0.05).	The effect of regulatory framework on development of Nairobi Securities Exchange is positive and significant

4.9 Chapter Summary

The description of the analysis and results as well as the presentation and explanation has been presented in this chapter. The chapter has indicated the results of the descriptive and inferential statistics. Tables as well as figures were used to present the findings of the study. The findings indicated that the effect of market information on the development of Nairobi Securities Exchange is positive and significant, the effect of transaction processing costs on the development of Nairobi Securities Exchange is negative and not significant and the effect of regulatory framework on development of Nairobi Securities Exchange is positive and significant. The next chapter presents a summary of the study findings, conclusions; recommendations as well as areas for further research.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study determined the factors influencing the development of Nairobi Securities Exchange. The specific focus of the study was to determine the effect of market information on the development of Nairobi Securities Exchange, to determine the effect of transaction processing costs on the development of Nairobi Securities Exchange and to determine the effect of regulatory framework on the development of Nairobi Securities Exchange. A summary of the study findings, conclusions, recommendations as well as areas for further research are all covered in this chapter. In the summary of the findings, discussions of the findings are also presented where by comparison with other studies is made.

5.2 Summary of the Findings

The main aim of the study was to determine the factors influencing the development of Nairobi Securities Exchange. The specific focus of the study was to determine the effect of market information on the development of Nairobi Securities Exchange, to determine the effect of transaction processing costs on the development of Nairobi Securities Exchange and to determine the effect of regulatory framework on the development of Nairobi Securities Exchange. To achieve these objectives, the study collected primary data from the investment managers and risk managers of the brokerage firms as well as the listed firms at Nairobi Securities Exchange.

The study used primary data obtained from the firms to conduct both descriptive and inferential analyses. The data was analysed by both descriptive and inferential analysis. Descriptive analysis was mean and standard deviation while inferential analysis was correlation and regression. The

findings are summarized in this section. The section also accompanies discussion of the results per objective.

5.2.1 Discussion on Market Information

The first objective of the study was to determine the effect of market information on the development of Nairobi Securities Exchange. Descriptive findings indicated that in regard to market information, NSE faces a challenge of accuracy of information, transparency, competitiveness, information disclosure, opaque trading procedures and manipulation of data.

The regression findings indicated that market information has a positive and significant effect on development of NSE. This implies that a unit increase in the availability of market information leads to a significant improvement in development of NSE. The findings imply that when the information available in the market regarding stock prices is accurate, the capital markets in Kenya are transparent to a high degree, the capital markets in Kenya are competitive to a high degree, there is limited disclosure of information at the capital markets authority, the capital market authority does not have opaque trading procedures and lacks manipulation of information, then its development will improve significantly.

The findings are consistent with the findings of a study by Chen, Chen and Su (2011) conducted to establish whether market information is relevant to the performance of the emerging capital markets taking a case of Chinese stock market and established through a panel regression analysis that market information is relevant to the development of the Chinese stock market. The findings are also consistent with the findings of a study by Yu, Kang and Park (2019) conducted to establish the relationship between information availability and return volatility in the Bitcoin Market and established that the market is highly developed in terms of information creation and transfer.

In comparison to the findings of Ntim, Opong, Danbolt and Senyo (2011) which focused on testing the presence of the weak-form efficiency focusing on the African stock markets, it can be indicated that there is consistency in the findings since it was suggested that African Stock Exchanges suffer a weak form informational efficiency. The findings of this study are also

consistent with that of Kimura and Amoro (2012) whichestablished the role of market information in development of the capital markets and established that lack of market information was a huge determinant of how NSE develops as well as that disclosure for specific companies played a critical role in the efficiency of the capital markets. Similarly, Saleh*et al.* (2016) who focused on the information availability bias and the market efficiency in Pakistan established that information efficiency would lead to better returns on stock. However, information bias in the Pakistani securities market leads to inefficiency.

5.2.2Discussion on Transaction Processing Costs

The second objective of the study was to determine the effect of transaction processing costs on the development of Nairobi Securities Exchange. Descriptive findings indicated that the capital markets authority has set manageable costs related to listing of firms, transaction clearance, settlement of disputes, transfer of securities, registration of a firm going public but the underwriting fee, legal fees, accounting expenses and brokerage commissions are not manageable.

Regression findings indicated that transaction processing costs have a negative but not significant effect on development of NSE. This implies that an increase in the transaction processing costs leads to a decrease in the development of the NSE market. The findings imply that when the capital markets authority has set manageable costs related to listing of firms, transaction clearance, settlement of disputes, transfer of securities, registration of a firm going public and the costs involved in going public such as underwriting fee, legal fees, accounting expenses and brokerage commissions, then the development of the NSE will improve.

The findings of this study are consistent with that of Capelle-Blancard and Havrylchyk (2016) who focused on the impact of the French securities transaction tax on market liquidity and volatility and established that taxes have increased the transaction costs which in turn have reduced stock trading in the market worsening the development of the market. The findings are also consistent with that of a study by Gomber, Haferkorn and Zimmermann (2016) which focused on securities transaction tax and market quality ofFrench Securities Transaction Tax and established that to increase spreads and transaction costs, impairs price coordination among fragmented markets in Europe.

In comparison with a study by Bitok, Bitok, Chenuos and Kosgei (2014) which determined what factors were critical to the development of the capital markets in the developing economies and took a case study of NSE in Kenya, the findings are consistent since it also established that the transaction processing costs, regulatory framework, macroeconomic environment and market infrastructure were important in the development of the market.

The findings can also be compared to that of Osei (2012) who determined the factors which played a significant role in the development of the capital markets and revealed that transaction processing costs were essential in that costs related to listing, transaction clearance, settlement costs, transfer of securities, costs related to registration as well as those related to custody were important in the development of the markets. The study also similarly established that high costs for firms going public such as underwriting fee, legal and accounting expenses, brokerage commissions, cost of printing and advertising prospectus and fees for the NSE can discourage the firms and that would be a big negativity on the development of the capital markets. Similarly, Aduda, Masila and Onsongo (2012) who conducted a study to determine the determinants of stock market development and took a case study of the NSE also suggested the importance of factors among the transaction processing costs on the development of the market.

5.2.2Discussion on Regulatory Framework

The third objective of the study was to determine the effect of regulatory framework on the development of Nairobi Securities Exchange. Descriptive findings indicated that the regulatory framework NSE is not satisfactory, the accounting standards board of the capital market in Kenya is not effective, the accounting professional associations for the firms in the capital market authority are not effective, the auditing professional associations for the firms in the capital market authority are not effective, the trading rules and regulations for the capital markets of Kenya are not friendly and that the stock market listing facilities are ineffective.

Regression findings revealed that regulatory framework has a positive and significant effect on development of NSE. This implies that a favorable regulatory framework leads to a significant improvement in the development of NSE. The findings imply that when the capital markets regulatory framework in Kenya is satisfactory, the accounting standards board of the capital market in Kenya is effective, the accounting professional associations for the firms in the capital market authority are effective, the auditing professional associations for the firms in the capital

market authority are effective, the trading rules and regulations for the capital markets of Kenya are friendly and the stock market listing facilities are effective, then the development of the NSE market improves significantly.

These findings are consistent with the findings of a study by Kudrna (2016) conducted to establish financial market regulation in the European Union (EU) and established that although the response to legislation by the firms was quick, it affects the securities market. The findings of this study also agrees with that of Nyasha and Odhiambo (2014) who tested the dynamics of stock market development in Kenya and established that the regulatory framework existing has played a significant role in development of the capital markets in Kenya. The findings of this study recognizing the importance of regulatory framework also agree with that of a survey by the Capital Markets Authority (2016) which suggested importance of regulatory framework such as trading rules, stock exchange listing facilities, audit associations, accounting associations, auditing standards and associations and similar organizations as critical in the development of the market. Similarly, these findings agree with that of Dickinson and Muragu (2014) which established the market efficiency of the capital markets in developing countries and suggested that some of the factors which contributed to both market efficiency and development of the capital markets was the available regulatory framework.

5.3Conclusions

Based on the findings, the study concludes that market information is a critical determinant of the development of the NSE. It can be concluded that when the available information in the market regarding stock prices is accurate, the capital markets in Kenya are transparent to a high degree, the capital markets in Kenya are competitive to a high degree, there is limited disclosure of information at the capital markets authority, the capital market authority does not have opaque trading procedures and lacks manipulation of information, then its development will improve significantly.

Based on the findings, the study concludes that transaction processing costs are also critical in ensuring development of NSE because higher costs negatively affect development of NSE. The study concludes that when the transaction processing costs are not manageable such as costs related to listing of firms, transaction clearance, settlement of disputes, transfer of securities,

registration of a firm going public and the costs involved in going public such as underwriting fee, legal fees, accounting expenses and brokerage commissions, then the development of the NSE will be affected negatively.

The study findings also led to the conclusion that regulatory framework is an important factor in establishing development of the NSE. It was concluded that a favorable regulatory framework leads to a significant improvement in the development of NSE and that when the capital markets regulatory framework in Kenya is satisfactory, the accounting standards board of the capital market in Kenya is effective, the accounting professional associations for the firms in the capital market authority are effective, the auditing professional associations for the firms in the capital market authority are effective, the trading rules and regulations for the capital markets of Kenya are friendly and the stock market listing facilities are effective, then the development of the NSE market improves significantly.

5.4 Recommendations

Since it was established that market information is a critical determinant of the development of the NSE, the study recommends that the Capital Markets Authority should come up with initiatives to ensure that the information on securities is efficient and reflects the true picture of the market. The regulator should ensure that the available information in the market regarding stock prices is accurate, the capital markets in Kenya are transparent to a high degree, the capital markets in Kenya are competitive to a high degree, there is limited disclosure of information at the capital markets authority, the capital market authority does not have opaque trading procedures and lacks manipulation of information so as to enhance its development.

Since it was established that high transaction processing costs are detrimental to the development of the NSE, the study recommends the regulator, CMA, to manage the costs so that the market can improve in its development efforts. There is a need for the regulator to ensure that costs related to listing of firms, transaction clearance, settlement of disputes, transfer of securities, registration of a firm going public and the costs involved in going public such as underwriting fee, legal fees, accounting expenses and brokerage commissions are manageable across the board so as to enhance the development of the NSE.

Based on the findings that regulatory framework is an important factor in establishing development of the NSE positively, the study recommends that the regulator, CMA, should come

up with favorable policies which can encourage more subscriptions and listing on the bourse. There is a need for the CMA to ensure that capital markets regulatory framework in Kenya is satisfactory, the accounting standards board of the capital market in Kenya is effective, the accounting professional associations for the firms in the capital market authority are effective, the auditing professional associations for the firms in the capital market authority are effective, the trading rules and regulations for the capital markets of Kenya are friendly and the stock market listing facilities are effective so that the development of the NSE market could significantly improve.

5.5 Areas for further Study

The study determined the factors influencing the development of Nairobi Securities Exchange and the specific focus of the study was market information, transaction processing costs andregulatory framework. These three factors contributed up to 70.9% of the variation in development of Nairobi Securities Exchange and the remaining percentage, that is, 29.1%, is explained by other factors other than the three factors. Other studies can focus on establishing the effect of other factors other than the three on development of the NSE.

The study did not test for moderating effects which may affect the relationship between the factors and development of NSE. When other factors such as political situation, number of financial institutions, economic conditions, investor's rational behaviour and technological environments are controlled or moderated, then the findings can change. There is a need to find out whether those factors can moderate the relationship between those variables.

There is also a need to determine whether similar findings can be achieved when mixed methods research is adopted because this study made use of quantitative primary data only. Other methods such as qualitative analysis through interviews can also be adopted by other studies in order to give more in depth analysis and findings.

The study also focused on only the Kenyan bourse of NSE listed firms and brokerage firms. Comparisons may be made with the neighboring bourses of Ugandan Securities Exchange, Dar Es Salaam securities exchange and Rwanda Securities Exchange since they all fall under the emerging securities markets. A panel data analysis may be used by future studies to find out whether the same factors can affect development of the different bourses in a given period of time as compared to the Kenyan capital markets of NSE.

REFERENCES

Aduda, J., Chogii, R., & Magutu, P. O. (2013). An empirical test of competing corporate governance theories on the performance of firms listed at the Nairobi Securities Exchange. *European Scientific Journal*, *9*(13).

Alshomaly, I., Masa'deh, R. E., & AqabaBranch, J. (2018). The capital assets pricing model & arbitrage pricing theory: properties and applications in Jordan. *Modern Applied Science*, *12*(11).

Ayako, A., Kungu, G., & Githui, T. (2015). Determinants of the Performance of Firms Listed At the Nairobi Securities Exchange. *Research Journal of Finance and Accounting*, *6*(12), 157-164.

Barnes, P. (2016). *Stock market efficiency, insider dealing and market abuse*. Gower.

Bekaert, G., & Harvey, C. R. (2017). Emerging equity markets in a globalizing world. *Available at SSRN 2344817*.

Bitok, S. K. T., Bitok, J., Chenuos, J. K., & Kosgei, N. (2014). Factors influencing the development of capital markets in a developing economy: A case study of Nairobi Securities Exchange in Kenya. *growth*, *6*(16).

Brealy R. and Myers, S (1991): "Principles of Corporate Finance."

Brüggemann, R., Jentsch, C., & Trenkler, C. (2016). Inference in VARs with conditional heteroskedasticity of unknown form. *Journal of econometrics*, *191*(1), 69-85.

Capelle-Blancard, G., & Havrylchyk, O. (2016). The impact of the French securities transaction tax on market liquidity and volatility. *International Review of Financial Analysis*, *47*, 166-178.

Capital Market Authority (2010): "Annual Report, Nairobi"

Chen, C. J., Chen, S., & Su, X. (2011). Is accounting information value-relevant in the emerging Chinese stock market?. *Journal of International Accounting, Auditing and Taxation*, *10*(1), 1-22.

Chen, T., Park, C., Meng, H., Zhou, D., Silva-Martinez, J., Geiger, R. L., & Chen, D. (2019). A Low-cost On-chip Built-in Self-test Solution for ADC Linearity Test. *IEEE Transactions on Instrumentation and Measurement*.

Chow, S. C. (2018). *Advanced linear models: Theory and applications*. Routledge.

Das, K. R., & Imon, A. H. M. R. (2016). A brief review of tests for normality. *American Journal of Theoretical and Applied Statistics*, *5*(1), 5-12.

Demirgue-Kunt & H Huizinga (1992): "Barrier to Portfolio Investments in Emerging Stock Markets". Policy Research Working Paper WPS 984, World Bank, Washington D.C.

Desai, V. M. (2016). The behavioral theory of the (governed) firm: Corporate board influences on organizations' responses to performance shortfalls. *Academy of Management Journal*, *59*(3), 860-879.

Dickinson, J. P., & Muragu, K. (2014). Market efficiency in developing countries: A case study of the Nairobi Stock Exchange. *Journal of Business Finance & Accounting*, *21*(1), 133-150.

Elly, O. D., & Hellen, K. W. (2013). Relationship between inflation and dividend payout for companies listed at the Nairobi Securities Exchange. *International Journal of Education and Research*, *1*(6).

Emery, R. F. (2018). *The bond markets of developing East Asia*. Routledge.

Faraway, J. J. (2016). *Extending the linear model with R: generalized linear, mixed effects and nonparametric regression models*. Chapman and Hall/CRC.

Feldman (1995): “Emerging Equity Markets: Growth, Benefits, and Policy Concerns’’. The World Bank Research Observer.

Ferman, B., & Pinto, C. (2019). Inference in differences-in-differences with few treated groups and heteroskedasticity. *Review of Economics and Statistics*, *101*(3), 452-467.

Frahm, G. (2018). Arbitrage Pricing Theory in Ergodic Markets. *International Journal of Theoretical and Applied Finance*, *21*(05), 1850036.

Gabriel, M. T., Semion, E. I., & Akpoede, I. B. (2016). The Application of Arbitrage Pricing Theory (APT) in the Nigeria Capital Market. *International Journal of Banking and Finance Research*, *2*(1), 32-45.

Gatua, F. K. (2013). Analysis of share price determinants at Nairobi securities exchange. *Unpublished MBA Project of the University of Nairobi*.

Githaiga, I. W. (2013). The impact of tax incentives on foreign direct investments inflows of firms listed at the Nairobi Securities Exchange. *An Unpublished Master’s Thesis submitted to the Department of Business Administration, University of Nairobi*.

Gomber, P., Haferkorn, M., & Zimmermann, K. (2016). Securities transaction tax and market quality–The case of France. *European Financial Management*, *22*(2), 313-337.

Hamid, K., Suleman, M. T., Ali Shah, S. Z., Akash, I., & Shahid, R. (2017). Testing the weak form of efficient market hypothesis: Empirical evidence from Asia-Pacific markets. *Available at SSRN 2912908*.

Harwood, A., & Konidaris, T. (2015). *SME exchanges in emerging market economies: A stocktaking of development practices*. The World Bank.

International Finance Corporation (IFC) 2010, Emerging Stock Markets Fact-Book, Washington ,D.C

Jovanovic, F., Andreadakis, S., & Schinckus, C. (2016). Efficient market hypothesis and fraud on the market theory a new perspective for class actions. *Research in International Business and Finance, 38*, 177-190.

Kabiru, J. N., Ochieng, D. E., & Kinyua, H. W. (2015). The effect of general elections on stock returns at the nairobi securities exchange. *European scientific journal*, *11*(28), 435-460.

Kalnins, A. (2018). Multicollinearity: How common factors cause Type 1 errors in multivariate regression. *Strategic Management Journal*, *39*(8), 2362-2385.

Karanja, J. (2017). *Effect of Corporate Governance on Financial Performance of Commercial Banks Listed in the Nairobi Securities Exchange (NSE)* (Doctoral dissertation).

Kariuki, C. (2017). *Effects of Corporate Governance on Organizational Financial Performance in Kenya: A Case of Insurance Companies Listed in the Nairobi Securites Exchange (NSE)* (Doctoral dissertation).

Kasozi, J. (2017). The effect of working capital management on profitability: a case of listed manufacturing firms in South Africa. *Investment Management and Financial Innovations*, *14*(2), 336-346.

Katz, G. (2018). U.S. Patent No. 9,996,876. Washington, DC: U.S. Patent and Trademark Office.

Kendi, M. J. (2014). The effect of voluntary disclosure on stock market returns of companies listed at the Nairobi securities exchange. *University of Nairobi*.

Kim, T. K., & Park, J. H. (2019). More about the basic assumptions of t-test: normality and sample size. *Korean journal of anesthesiology*, *72*(4), 331.

Kimura J. and Amoro, Y (2012): Impediments to the growth of Nairobi Stock Exchange, IPPAR Discussion Paper Series 50 Laffont ; J

King, M. L. (2018). Testing for autocorrelation in linear regression models: A survey. In *Specification analysis in the linear model* (pp. 19-73). Routledge.

Kinyua, J. K., Gakure, R., Gekara, M., & Orwa, G. (2015). Effect of internal control environment on the financial performance of companies quoted in the Nairobi Securities Exchange. *International Journal of Innovative Finance and Economics Research, 3*(4), 29-48.

Kirui, E., Wawire, N. H., & Onono, P. O. (2014). Macroeconomic variables, volatility and stock market returns: a case of Nairobi securities exchange, Kenya. *International Journal of Economics and Finance, 6*(8), 214-228.

Kisman, Z., & Restiyanita, S. (2015). M. The Validity of Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT) in Predicting the Return of Stocks in Indonesia Stock Exchange. *American Journal of Economics, Finance and Management Vol*, *1*, 184-189.

Kitatia, E., Zablonb, E., & Maithyac, H. (2015). Effect of macro-economic variables on stock market prices for the companies quoted on the nairobi securities exchange in Kenya. *International Journal of Sciences: Basic and Applied Research*, *21*(2), 235-263.

Kithinji, J. G., Oluoch, W., & Mugo, R. (2014). What Is the Effect of Rights Issue on Firms Share Performance in the Nairobi Securities Exchange?.

Korinek, A. (2018). Regulating capital flows to emerging markets: An externality view. *Journal of International Economics, 111*, 61-80.

Kudrna, Z. (2016). Financial market regulation: crisis-induced supranationalization. *Journal of European Integration, 38*(3), 251-264.

Kuria, A. M., & Riro, G. K. (2013). Stock market anomalies: A study of seasonal effects on average returns of Nairobi securities exchange. *Research Journal of Finance and Accounting*, *4*(7), 207-215.

Lekaram, V. (2014). The relationship of corporate governance and financial performance of manufacturing firms listed in the Nairobi Securities Exchange. *International Journal of Business and Commerce*, *3*(12), 30-57.

Li, Y., & Giles, D. E. (2015). Modelling volatility spillover effects between developed stock markets and Asian emerging stock markets. *International Journal of Finance & Economics*, *20*(2), 155-177.

Lyon, H. (1992): "Taxation, Information Asymmetries, and a Firm's Financial Choices''. World Bank Papers EPS 936,Washington D.C.

Mahfoudh, O. (2013). Effect of selected firm characteristics on financial performance of firms listed in the agricultural sector at the Nairobi securities exchange. *Unpublished MBA Project*.

Maina, L., & Ishmail, M. (2014). Capital structure and financial performance in Kenya: Evidence from firms listed at the Nairobi Securities Exchange. *International Journal of Social Sciences and Entrepreneurship*, *1*(11), 209-223.

Makokha, R. A. (2013). The Effect of privatization on financial performance of firms listed at the Nairobi securities exchange. *Unpublished MBA project, University of Nairobi. Available at: erepository. uonbi. ac. k.*

Makori, D. M., & Jagongo, A. (2013). Working capital management and firm profitability: Empirical evidence from manufacturing and construction firms listed on Nairobi securities exchange, Kenya. *International Journal of Accounting and Taxation*, *1*(1), 1-14.

Mangeni, W., & Mike, O. (2018). The Weekend Effect: An Exploitable Anomaly on the Average returns of Nairobi Securities Exchange. *Journal of International Business, Innovation and Strategic Management*, *1*(6), 37-51.

Maruping, L. M., Bala, H., Venkatesh, V., & Brown, S. A. (2017). Going beyond intention: Integrating behavioral expectation into the unified theory of acceptance and use of technology. *Journal of the Association for Information Science and Technology*, *68*(3), 623-637.

Masinde and Kibua (2014): To list or not to list? IPAR Discussion paper series. Morland, M (1995): Where have all the Emerging Markets Gone? Financial times, July 22/23 ,1995

Mauwa, J. (2017). *Determinants of Financial Performance of Firms Listed on the Rwanda Stock Exchange* (Doctoral dissertation, COHRED, JKUAT).

Mauwa, J., Namusonge, G. S., & Onyango, S. (2016). Effect of capital structure on financial performance of firms listed on the Rwanda Stock Exchange. *European Journal of Business, Economics and Accountancy*, *4*(4), 1-11.

Mburugu, S. K., Nyamute, W., Iraya, C., & Mwangi, M. (2017). An Analysis of the Long-Run Performance IPOs and Effects in the Kenyan Stock Market. *Journal of Finance and Accounting*, *1*(2), 28-42.

Menge, R. N., Mwangi, M. I. R. I. E., & Kimani, J. G. (2013). Effect of elections on stock market returns at the Nairobi securities exchange. *Unpublished MBA dissertation, University of Nairobi*.

Mirjalili, S. M., & Nadeb, H. (2018). A new simple and powerful normality test for progressively Type-II censored data. *Journal of Statistical Modelling: Theory and Applications (JSMTA)*, *1*(1), 37-50.

Muigai, R. G. (2016). *Effect of capital structure on financial distress of non-financial companies listed in Nairobi Securities Exchange* (Doctoral dissertation, COHRED, Finance, JKUAT).

Musiega, M. G., Alala, O. B., Douglas, M., Christopher, M. O., & Robert, E. (2013). Determinants Of Dividend Payout Policy Among Non-Financial Firms On Nairobi Securities Exchange, Kenya. *International journal of scientific & Technology Research*, *2*(10), 253-266.

Mwangi, L. W., Makau, M. S., & Kosimbei, G. (2014). Relationship between capital structure and performance of non-financial companies listed in the Nairobi Securities Exchange,

Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, *1*(2), 72-90.

Ngugi, R., Amanga, D. & Mana, I. (2009): "Capital Market, Financial Deepening and Economic growth in Kenya" (Review Paper)

Njeri, M. M. K., & Kagiri, A. W. (2013). Effect of capital structure on financial performance of banking institutions listed in Nairobi Securities Exchange. *International Journal of Science and Research*, *4*(7), 924-930.

Ntim, C. G., Opong, K. K., Danbolt, J., & Senyo Dewotor, F. (2011). Testing the weak-form efficiency in African stock markets. *Managerial Finance*, *37*(3), 195-218.

Nyamute, W., Oloko, M., & Lishenga, J. (2017). The relationship between investor behavior and portfolio performance at the Nairobi Securities Exchange.

Nyasha, S., & Odhiambo, N. M. (2014). The dynamics of stock market development in Kenya. *Journal of Applied Business Research*, *30*(1), 73.

Nzioki, P. M., Kimeli, S. K., Riwo Abudho, M., & Nthiwa, J. M. (2013). Management of working capital and its effect on profitability of manufacturing companies listed on Nairobi securities exchange (NSE), Kenya.

Omondi, M. M., & Muturi, W. (2013). Factors affecting the financial performance of listed companies at the Nairobi Securities Exchange in Kenya. *Research Journal of Finance and Accounting*, *4*(15), 99-104.

Ongore, V. O., K'Obonyo, P. O., Ogutu, M., & Bosire, E. M. (2015). Board composition and financial performance: Empirical analysis of companies listed at the Nairobi Securities Exchange. *International Journal of Economics and Financial Issues*, *5*(1), 23-43.

Osei, K (2012): "Analysis of factors affecting the Development of an emerging capital Market:" The case of the Ghana Stock Market AERC Research Paper African Economic Research Consortium, Nairobi

Paradis, E. (2019). Moran's autocorrelation coefficient in comparative methods.

Porter, M (1993): Closed end Emerging country Funds Review, in K.H.Park and W.Van Agtmael, The world's Emerging Stock Markets, (Chicago: ProbusPublishers,1993), p 459

SalehMemon, M., Sethar, A., Ali, M., Shaikh, F. M., & Abbassi, N. (2016). Availability Bias And Market Efficiency in Pakistan. I*nternational journal of management & information technology*, *11*(4), 2954-2959.

Schmidt-Hebbal, K Serven and Solimano (1996): Saving Investment: Paradigms Puzzles, Policies, The World Bank Research Observer 1, No.1

Seyyed Ali Paytakhti Oskooe (2010): "Emerging Stock Market Performance and Economic Growth." American Journal of Applied Science 7(2): 265-269, 2010

Shikuku, C. O. (2014). The effect of behavioural factors on individual investor choices at the Nairobi securities exchange. *Degree of Master of Science in Finance in the School of Business, University of Nairobi*.

Singh (1997) Stock markets, Financial Liberalization and economic Development, Economic journal 107, pp.771-82.

Siro, R. O. (2013). Effect of capital structure on financial performance of firms listed at the Nairobi securities exchange. *Journal of Economics and Financial Management*, *4*(7), 52-65.

Songole, R. K. (2012). The relationship between selected macroeconomic variables and stock return at the Nairobi Securities Exchange. *Nairobi: University of Nairobi*.

Thaler, R. H., & Ganser, L. J. (2015). *Misbehaving: The making of behavioral economics*. New York: WW Norton.

Vatcheva, K. P., Lee, M., McCormick, J. B., & Rahbar, M. H. (2016). Multicollinearity in regression analyses conducted in epidemiologic studies. *Epidemiology (Sunnyvale, Calif.)*, *6*(2).

Wafula, F. O. (2018). *Influence of Heterogeneity of Investors' Behaviour on Corporate External Financing Decision by Listed Companies in Kenya* (Doctoral dissertation, JKUAT-COHRED).

Wambua, P. (2013). Effects of agency costs on financial performance of companies listed at the Nairobi Securities Exchange. *International Journal of Social Sciences and Entrepreneurship*, *1*(5), 587-607.

Wanjau, B. M. (2019). *Influence of Corporate Disclosures on Financial Performance of Companies Listed in Securities Exchanges in East Africa* (Doctoral dissertation, JKUAT-COHRED).

Wasiuzzaman, S. (2015). Working capital and firm value in an emerging market. *International Journal of Managerial Finance*, *11*(1), 60-79.

Waweru, K. M., Pokhariyal, G. P., & Mwaura, M. F. (2012). The Signaling Hypothesis: Evidence from the Nairobi Securities Exchange. *Journal of Business Studies Quarterly*, *3*(4), 105.

Yenkey, C. B. (2015). Mobilizing a market: Ethnic segmentation and investor recruitment into the Nairobi Securities Exchange. *Administrative Science Quarterly*, *60*(4), 561-595.

Yin R.K. (1994): Case Study Research: Design and methods, Second edition, Sage publications London

Yu, J. H., Kang, J., & Park, S. (2019). Information availability and return volatility in the bitcoin Market: Analyzing differences of user opinion and interest. *Information Processing & Management*, *56*(3), 721-732.

APPENDICES

Appendix I: Introduction Letter

Dear respondent,

My name isBoniface Dannie Kiptekwei,a Masters Student from KCA University. I'm conducting an academic research on the topic "FACTORS INFLUENCING THE DEVELOPMENT OF NAIROBI SECURITIES EXCHANGE ''. This is in partial fulfillment of the requirements for the award of degree of Master of Science in Commerce (Finance and Investment).

I have specifically selected you to participate in this study for academic purposes. The information obtained during this study will be treated with utmost confidentiality andneither your name nor the institution you represent will be used in any document based on this study.

Thanks in advance for your willingness to generously contribute to this research.

Yours faithfully,

Boniface Dannie Kiptekwei

Appendix II: Questionnaire

Section A: Background Information

1. Category of your Company

Brokerage Firm [ ]

Listed Firm [ ]

2. Work Position

Investment Manager [ ]

Risk Manager [ ]

3. Level of Education

Investment Manager [ ]

Risk Manager [ ]

4. Work Experience

1 year and below [ ]

2-3 years [ ]

4- 5 years [ ]

Above 5 years [ ]

Section B: Market Information

Kindly indicate the extent to which you agree with the following statements on market information on a scale of 1-5 where 5= Very High Extent; 4 = High Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent

No.	Statements	1	2	3	4	5
4	The information available in the market regarding stock prices is accurate					
5	The capital markets in Kenya are transparent to a high degree					
6	The capital markets in Kenya are competitive to a high degree					
7	There is limited disclosure of information at the capital markets authority					
8	The capital market authority does not have opaque trading procedures					

No.	Statements	1	2	3	4	5
9	The capital market in Kenya lacks manipulation of information					

Section C:Regulatory Framework

Kindly indicate the extent to which you agree with the following statements on regulatory framework on a scale of 1-5 where 5= Very High Extent; 4 = High Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent

No.	Statements	1	2	3	4	5
10	The capital markets regulatory framework in Kenya is satisfactory					
11	The accounting standards board of the capital market in Kenya is effective					
12	The accounting professional associations for the firms in the capital market authority are effective					
13	The auditing professional associations for the firms in the capital market authority are effective					
14	The trading rules and regulations for the capital markets of Kenya are friendly					
15	The stock market listing facilities are effective					

Section D:Transaction Processing Costs

Kindly indicate the extent to which you agree with the following statements on transaction processing costs on a scale of 1-5 where 5= Very High Extent; 4 = High Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent

No.	Statements	1	2	3	4	5
16	The capital markets authority has set manageable costs related to listing of firms					
17	The capital markets authority has set manageable costs related to transaction clearance					
18	The capital markets authority has set manageable costs related to settlement of disputes					
19	The capital markets authority has set manageable costs related to transfer of securities					
20	The capital markets authority has set manageable costs related to registration of a firm going public					
21	The costs involved in going public such as underwriting fee, legal fees, accounting expenses and brokerage commissions are manageable					

Section E:Development of the Nairobi Securities Exchange

Kindly indicate the extent to which you agree with the following statements on development of Nairobi Securities Exchangeon a scale of 1-5 where 5= Very High Extent; 4 = High Extent; 3= Moderate Extent; 2= Low Extent and 1= Very Low Extent

No.	**Statements**	**1**	**2**	**3**	**4**	**5**
22	Nairobi Securities Exchange creates a diverse menu for savings options					
23	Nairobi Securities Exchange creates a diverse menu for investment options					
24	Nairobi Securities Exchange fully facilitates the financial interaction of its players					
25	Nairobi Securities Exchange has the financial institutions providing complementary services					
26	Financial intermediation at Nairobi Securities Exchange is efficient					
27	Nairobi Securities Exchange contributes significantly to the economic growth of Kenya					

Appendix III: Firms Listed at Nairobi Securities Exchange

Sector	Number	Firm
	1	Eaagads Ltd Ord 1.25 AIMS
	2	Kapchorua Tea Co. Ltd Ord Ord 5.00 AIMS
	3	Kakuzi Ord.5.00
	4	Limuru Tea Co. Ltd Ord 20.00
	5	Rea Vipingo Plantations Ltd Ord 5.00
	6	Sasini Ltd Ord 1.00
Agriculture	7	Williamson Tea Kenya Ltd Ord 5.00
Automobiles and Accessories	8	Car and General (K) Ltd Ord 5.00
	9	Barclays Bank Ltd Ord 0.50
	10	Stanbic Holdings Plc. ord.5.00
	11	I&M Holdings Ltd Ord 1.00
	12	Diamond Trust Bank Kenya Ltd Ord 4.00
	13	HF Group Ltd Ord 5.00
	14	KCB Group Ltd Ord 1.00
	15	National Bank of Kenya Ltd Ord 5.00
	16	NIC Group PLC
	17	Standard Chartered Bank Ltd Ord 5.00
	18	Equity Group Holdings Ord 0.50
	19	The Co-operative Bank of Kenya Ltd Ord 1.00
Banking	20	BK Group PLC
	21	Express Ltd Ord 5.00
	22	Sameer Africa PLC Ord 5.00
	23	Kenya Airways Ltd Ord 5.00
	24	Nation Media Group Ord. 2.50
	25	Standard Group Ltd Ord 5.00
	26	TPS Eastern Africa (Serena) Ltd Ord 1.00
	27	Scangroup Ltd Ord 1.00
	28	Uchumi Supermarket Ltd Ord 5.00
	29	Longhorn Publishers Ltd
	30	Deacons (East Africa) Plc Ord 2.50
Commercial and Services	31	Nairobi Business Ventures Ltd
	32	Athi River Mining Ord 5.00
	33	Bamburi Cement Ltd Ord 5.00
	34	Crown Paints Kenya PLC. 0rd 5.00
	35	E.A.Cables Ltd Ord 0.50
Construction and Allied	36	E.A.Portland Cement Ltd Ord 5.00
	37	KenolKobil Ltd Ord 0.05
Energy and Petroleum	38	Total Kenya Ltd Ord 5.00

Sector	Number	Firm
	39	KenGen Ltd Ord. 2.50
	40	Kenya Power & Lighting Co Ltd
	41	Umeme Ltd Ord 0.50
	42	Jubilee Holdings Ltd Ord 5.00
	43	Sanlam Kenya PLC 0rd 5.00
	44	Kenya Re-Insurance Corporation Ltd Ord 2.50
	45	Liberty Kenya Holdings Ltd
	46	Britam Holdings Ltd Ord 0.10
Insurance	47	CIC Insurance Group Ltd Ord 1.00
	48	Olympia Capital Holdings ltd Ord 5.00
	49	Centum Investment Co Ltd Ord 0.50
	50	Trans-Century Ltd
	51	Home Afrika Ltd Ord 1.00
Investment	52	Kurwitu Ventures
Investment Services	53	Nairobi Securities Exchange Ltd Ord 4.00
	54	B.O.C Kenya Ltd Ord 5.00
	55	British American Tobacco Kenya Ltd Ord 10.00
	56	Carbacid Investments Ltd Ord 5.00
	57	East African Breweries Ltd Ord 2.00
	58	Mumias Sugar Co. Ltd Ord 2.00
	59	Unga Group Ltd Ord 5.00
	60	Eveready East Africa Ltd Ord.1.00
	61	Kenya Orchards Ltd Ord 5.00
Manufacturing and Allied	62	Flame Tree Group Holdings Ltd Ord 0.825
Telecommunication and Technology	63	Safaricom PLC Ord 0.05
Real Estate	64	Stanlib Fahari I-REIT
Exchange Traded Fund	65	New Gold Issuer (RP) Ltd

Source: NSE Website (2019)

Appendix IV:Brokerage Firms Licensed by Capital Market Authority

	Licensed Stock Brokers
1	AIB Capital Limited
2	Apex Africa Capital Limited
3	Francis Drummond Ltd
4	Kingdom Securities Limited
5	NIC Securities Limited
6	Old Mutual Securities Limited
7	Suntra Investments Limited
8	Securities Africa Kenya Limited
9	EFG Hermes Kenya Limited
10	Dyer & Blair Investment Bank Ltd
11	SBG Securities Ltd
12	ABC Capital Ltd
13	Sterling Capital Ltd
14	Standard Investment Bank Ltd
15	Kestrel Capital (EA) Limited
16	African Alliance Securities
17	Renaissance Capital (Kenya) Ltd
18	Genghis Capital Ltd
19	CBA Capital Limited
20	Equity Investment Bank Limited
21	KCB Capital