EFFECT OF CAPITAL BUDGETING DECISIONS ON FINANCIAL PERFORMANCE OF COMMERCIAL AND SERVICES FIRMS LISTED ON NAIROBI SECURITIES EXCHANGE IN KENYA

BY

MOHAMED ABDULLAHI JAMA

D61/87698/2016

A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, UNIVERSITY OF NAIROBI

NOVEMBER, 2018

DECLARATION

I, the undersigned, declare that this research project is my original work and has not been submitted to any other college, institution or university for academic credit.

Signature: …… Date: ……

Mohamed Abdullahi Jama

D61/87698/2016

This research project has been submitted for examination with our approval as the appointed supervisors.

Signature: …… Date: …….

Dr. Murage

Lecturer, School of Business

Department of Accounting and Finance

University of Nairobi

Signature: …… Date: …….

Mr. Okiro

Lecturer, School of Business

Department of Accounting and Finance

University of Nairobi

Signature: …… Date: …….

Dr. Mirie Mwangi

Head of Department of Accounting and Finance

University of Nairobi

ACKNOWLEDGEMENT

I thank my supervisors Dr. Murage and Mr. Okiro for their continuous support that facilitated me to complete this project. I also wish to thank my family members for the support and encouragement as I was developing this project.

DEDICATION

I dedicate this project to all my classmates who supported me all through in this project.

ABSTRACT

Capital budgeting decisions helps an organization to maximize the wealth of its shareholders in the most effective way. The capital budgeting decisions have attracted a lot of attention in corporate finance because they are complex and they determine the future direction and operations. Capital budgeting decisions affect the risk perceptions of shareholders in an organization and they require a heavy initial outlay. Despite the adoption of capital budgeting decisions, most Commercial and Services firms listed on NSE have successively recorded losses. The study sought to examine how capital budgeting decisions affected the ability of commercial and services firms registered on the NSE to perform financially. A total of 12 firms were studied. Data was obtained from secondary sources on a time horizon starting from 2013 all through to 2017. The collected data was coded into SPSS software and the findings were analyzed descriptively and inferentially. It was shown that asset expansion beta=-0.394 and $p=0.000<0.05$ had an inverse and significant effect on financial performance. Asset contraction had the beta=0.438 and $p=0.004<0.05$ thus it significantly influenced performance financially. The study concludes that capital budgeting decisions significantly affected financial performance. The study recommends that the finance managers of all commercial and services firms listed on the NSE should minimize on asset expansion and maximize on asset contraction decisions. This would positively and significantly influence financial performance of their firms. The regulatory bodies like the Capital Market Authority need to come up with sound regulations that allow the listed firms to maximize on their asset expansion and contraction decisions and thus influencing financial performance

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

ARR: Accounting Rate of Return

KQ: Kenya Airways

NDC: Non Discounted Cash flow

NPV: Net Present Value

NSE: Nairobi Securities Exchange

PB: Pay Back Period

PI: Profitability Index

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Today, finance managers in an organization are faced with a challenge of how best to maximize the wealth of shareholders. The boards of directors in their oversight role in an organization pile a lot of pressure on the management to rationally invest in profitable projects that would optimize the value of the firm. In responses to demands of value from investors and the board of directors, organizations are forced to carefully identify and invest resources in viable projects. Such decisions of allocating resources of the firm in projects however complex is and complicated since affect the risk complexion of the firm. It requires an assessment of risk versus returns. Once made, a firm cannot reverse such decisions and they extent into the future direction of the firm. These investment decisions are best explained through capital budgeting that has gained a lot of significance in corporate finance theory and literature (Gupta, 2016).

This study was anchored on the Conventional Capital Budgeting Theory, the Real Options Theory and the Modern Portfolio Theory. The conventional capital budgeting theory argues that the aim of financial managers in an organization is to maximize the wealth of shareholders. The theory suggests that firms use Net Present Value in appraisal and selection of viable projects to invest in so as to maximize wealth of shareholders. According to the Capital Budgeting Theory, a firm should invest in projects with a positive NPV while investments yielding negative NPVs; they should be rejected (Woods & Randall, 1989). The Portfolio Theory introduces the concept of risk, returns and diversification as a basis of deciding the investment for a firm to commit its resources. This theory argues that firms diversify their investment in bundles called portfolios. The

aim of diversification is to reduce risk and maximize on returns from these investment projects. Thus, capital budgeting decisions will best be made when finance managers effectively select portfolios that would minimize risk and maximize returns that reflect in the wealth of shareholders (Markowitz, 1952).

There are 66 firms listed on Nairobi Securities Exchange (NSE) in Kenya currently. These firms are categorized into 13 segments based on their sector and nature of operations. One of these segments is the Commercial and Services that has 12 firms. Some these Commercial and Services firms have embraced heavy capital budgeting decisions including asset expansion and contraction decisions. For instance, Kenya Airways (KQ) in its capital budgeting decisions opted to raise Kshs. Ksh10 billion from disposal 7 old air crafts and a portion of its prime land in Embakasi (KQ, 2017). Uchumi Supermarket also in its capital budgeting decisions opted to sale its plot valued at Kshs. 2 Billion in Kasarani (Uchumi, 2016). Despite all these capital budgeting decisions of asset contraction and expansion, financial performance of most Commercial and Services firms listed at NSE has been low. For instance, starting from 2013, KQ has been posting financial loses with the highest being a net loss of Kshs. Sh26.2 billion for the year 2016 (KQ, 2017). It is on this basis that the current study seeks to determine whether the adopted capital budgeting decisions influenced this financial performance.

1.1.1 Capital Budgeting

Capital budgeting describes decisions made by an organization to allocate resources in profitable investments and projects so as to maximize the wealth of shareholders. Capital budgeting is one of the functions of a finance manager in an organization besides financing and divided decisions. Capital budgeting is also called investment decision and

it is systematically undertaken within an organization. Capital budgeting is complex since it extends within the future of an organization and it is irreversible once an organization has committed resources (Kedige, 2017).

According to Andor, Mohanty and Toth (2015), capital budgeting is the ability of an organization to effectively finance its long term proposals given the limited resources against competing alternatives. It requires careful planning with a lot of critical thinking to determine a viable project for commitment of resources in order to maximize shareholder wealth. Andrés, Fuente and Martín (2015) noted that a link exists between capital budgeting, financing and dividend decisions. This is because financing decisions result into the capital that would support capital budgeting. Dividend decisions would also inform the amount of revenue to be retained for the sake of investment in an organization. Paying too much dividends to shareholders will reduce the amount to be set aside for investment projects (Mohan & Narwal, 2017).

Sequences of activities are usually undertaken during capital budgeting in an organization starting with project generation, evaluation, selection and execution. During project generation, various project proposals from each department are identified based on the overall strategies plan of an organization. On receipt of project proposals, a finance manager then carries out initial screening to eliminate the less viable projects. The initial screening is followed by detailed appraisal process by use of appropriate techniques. After appraisal process, an organization will select the viable identified projects where resources are committed (Menya & Gichinga, 2013). The key types of capital budgeting decisions in an organization include asset expansion, replacement and research and development (Stein, 2017).

1.1.2 Financial Performance

Performance is the ability of an organization to carry its operations in the most effective and efficient way while generating sufficient level of profits (Posthuma, 2013). Performance is classified into either financial or non-financial terms. Financial performance is the underlying objective for existence of most organizations. It entails maximization of the wealth of shareholders. Most information on financial performance of an organization is extracted from its financial statements through analysis mostly by use of ratios. The key financial measures of performances of an organization include return on assets, return on equity and return on investment.

Non-financial measures of performance on the other hand include indicators like customer growth, customer satisfaction, and employee morale and customer loyalty. These measures are so subjective and cannot give a real picture of an organization. The non-financial measures of performance however are not covered in ratio analysis of an organization. In most cases, non-financial performance cannot be expressed in monetary terms (Gupta & Pradhan, 2017). This is the underlying factor that differentiates it with financial performance.

1.1.3 Capital Budgeting and Financial Performance

A growing body of literature has examined the influence of capital budgeting on financial performance of an entity. In most of these studies, accounting information is taken into consideration where measures of performance are determined and analyzed to determine how best an organization operates in achieving wealth maximization goals and objectives. Studies have shown that organizations can effectively maximize the wealth of shareholders by putting in place sound capital

budgeting decisions. Although an obvious relationship exists between capital budgeting decisions and financial performance of a firm, a thorough analysis is required to test and determine the nature and strength of this relationship (Musavi, 2015).

Ney, Fatima, Jose and Afonso (2017) analyzed that capital budgeting practices adopted among firms in Brazil and how this influenced their financial performance. The study established that firms in Brazil consider capital budgeting as an essential tool that helps in maximization of the shareholder wealth. Pradhan and Gupta (2017) analyzed the adopted techniques of appraising projects in India. It was seen that Indian firms employ discounted techniques of capital budgeting in their operations.

1.1.4 Firm Listed on the Nairobi Securities Exchange

Nairobi Securities Exchange was formed in 1954 to deal in sale and buy of shares. NSE currently stands in the fourth position in Africa in terms of the volume of shares exchanged (Musyoki & Iraya, 2013). All activities and operations at NSE are closely monitored and regulated by the Capital Market Authority CMA. Today, there are 66 firms listed on it that are divided into segments based on their industry and nature of operations.

Commercial and Services firms listed on NSE are gradually embracing capital budgeting decisions aimed at improving their cash flow positions and thus maximize the wealth of shareholders. Some of these key capitals budgeting decision embraced by these firms include asset expansion and contraction undertakings. For example, Uchumi opted to dispose Sh2 billion plots in Kasarani and close down some of its outlets as a way of

strengthening its cash flow position. The management of Kenya Airways also made several asset disposal decisions including sale of old aircrafts and in the effort to improve the cash flow and thus financial performance.

In spite of the capital budgeting decisions adopted by Commercial and Services firms, their financial performance has been in losses. For instance, Uchumi Supermarket made a Kshs.3.2 billion loss for 2015. Kenya Airways recorded the worst pre-tax profit loss of Kshs.Sh26.2 billion for the year 2016 (NSE, 2017). Therefore, an examination is required to determine whether the capital decisions of these firms explain the financial performance of these Commercial and Services firms listed on NSE and this informs the current study.

1.2 Research Problem

Capital budgeting decisions helps an organization to maximize the wealth of its shareholders in the most effective way. The capital budgeting decisions have attracted a lot of attention in corporate finance because they are complex and they determine the future direction and operations. Capital budgeting decisions affect the risk perceptions of shareholders in an organization and they require a heavy initial outlay. Because of this, finance managers in organizations today are more concerned about the capital budgeting decisions in place (Puwanenthiren, 2016).

Commercial and Services firms listed on NSE have embraced these capital budgeting decisions with the aim of improving cash flow and therefore maximizing the wealth of their shareholders. Some of the capital budgeting decisions that these Commercial and Services firms listed on NSE have embraced include asset contraction and expansion

decisions. Some firms like KQ have been guided by capital budgeting decisions to dispose some of its assets with the hope of improving financial position (Kedige, 2017).

Despite the adoption of capital budgeting decisions, most Commercial and Services firms listed on NSE have successively recorded losses in their financial performance. This has affected their ability to efficiently carry out operations, expand in other regions and their relationship with creditors because of low liquidity positions. Most of these firms are under risk of bankruptcy and pressure from creditors who demand to be paid their dues. If no intervention is put in place, the going concern assumption and principle of these firms is threatened (Ahmed, 2013).

A number of studies have assessed a link between capital budgeting and financial performance in different contexts. Globally, Ney, Fatima, Jose and Afonso (2017) examined how the adopted capital budgeting practices influenced financial performance of Brazilian firms. It was seen that firms in Brazil consider capital budgeting as an essential tool that helps in maximization of the shareholder wealth. Pradhan and Gupta (2017) analyzed the capital budgeting techniques employed in India. The findings of the study indicated that most firms in India employ discounted techniques of capital budgeting in their operations. In Sri Lank, Puwanenthiren (2016) analyzed how capital budgeting influenced performance of firms. The findings of the study indicated that capital budgeting resulted into positive influence to firms. These studies were however done in other advanced countries that operate in different context that Kenya.

Locally, Niyonsaba (2016) examined how capital budgeting influenced financial performance in the context of the real estate sector. The study established the common

methods use in appraising projects included NPV, IRR, ARR and PI. Irungu (2014) analyzed a link between capital budgeting and performance of firms on NSE. The findings of the study indicated that firms listed on NSE employed techniques of capital budgeting to appraise investment projects. Kiget (2014) looked at the capital budgeting practices that listed firms on NSE embraced most. The study established that IRR was the commonly used practice of capital budgeting followed by NPV and lastly profitability index (PI). Wachira (2017) critically assessed how capital budgeting decision affected profitability of firms listed on NSE. It was shown that capital budgeting had positive and significant influence of profits generated by firms listed on NSE. None of these studies was in the context of commercial and services firms listed on NSE. This results into gaps. The current study thus sought to answer one question; how does capital budgeting decisions affect financial performance of commercial and services firms listed on Nairobi Securities Exchange?

1.3 Research Objectives

To examine the effect of capital budgeting decisions on financial performance of commercial and services firms listed on Nairobi Securities Exchange

1.4 Value of the Study

The study would result into findings that would help the management team of commercial and services firms listed on NSE, the CMA, investors, future scholars and academicians. For the management of commercial and services firms listed on NSE, the findings of the study would help in formulation of sound capital budgeting decisions that would help in maximization of the wealth of shareholders. The study would recommend

how best to improve on the capital budgeting of these companies and how this would affect financial performance.

For CMA, the study would help in formulation of sound policies and regulations that will improve capital budgeting of the listed firms and thus their financial performance. The study will recommend the best policies and regulations related to capital budgeting decisions and how this would affect their financial position. Investors in commercial and service firms would find the findings of the study to be important as they would help them to determine if their investments are secure.

The study would add to existing theory on capital budgeting. The study would grow the available literature on the link between capital budgeting and financial performance of a firm. Future scholars and academicians would rely on the findings of the study to carry out further related studies in future on capital budgeting and how it relates with financial performance of a firm.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter covers the theories and past empirical studies related to the current study. The theories are covered under a theoretical review. The past empirical studies are presented under the empirical review. The conceptual framework clearly showing an interaction between the study variables is also presented.

2.2 Theoretical Review

The theoretical review points out the key theories that form the basis of the study. The study will be guided by the Convectional Capital Budgeting Theory, Real Option Theory and the Modern Portfolio Theory.

2.2.1 Conventional Capital Budgeting Theory

This theory was formulated by Woods and Randall (1989). According to this theory, the main aim of existence of the firm is to maximize the wealth of its shareholders. To achieve this wealth maximization goal however, this theory argues that Net Present Value (NPV) should be employed in appraisal of projects in an organization. Capital budgeting according to this theory is systematic and involves several stages and steps.

In order to effectively use NPV to maximize shareholders wealth, the theory argues that managers should invest in all projects with positive NPV. Projects whose NPV are positive are therefore viable and their undertaking would positively influence financial performance of the firm. According to this theory, firms commit resources in sets of projects that can result into maximization of the wealth of shareholders. The theory is

relevant to the study because it justifies the use of NPV and provides the rule of thumb to managers when using NPV in making capital budgeting decisions.

2.2.2 The Real Options Theory

This theory was developed by Myers (1984). The theory argues that the management team of an organization is usually faced with challenges and difficulties during projection of future cash flows of their firms. The theory advocates for the use of various techniques to appraise projects among managers in an organization. Some of these techniques include the Discounted Cash flow. Once appraised, managers can then select from among the projects, one that meets the established threshold of the adopted appraisal technique.

Real options cover choices concerning real investments for example the capital budgeting projects as opposed to financial investment choices. Real options are rights but not obligations to carry out given business decisions. The common real options in the context of capital budgeting include options either to invest or not, option of abandoning or continuing with the project and option for delay or continuing to carry out given investment projects (Chance & Peterson, 2002).

Real options gauge the ability of managers to effectively allocate resources of an organization in order to maximize the wealth of shareholders. The theory is relevant to the study because it informs managers in an organization of their goal of shareholder wealth maximization. The theory highlights how managers as stewards of an organization can achieve this goal of maximization of the wealth of shareholders.

2.2.3 The Modern Portfolio Theory

The theory was put forward by Markowit (1952). The theory introduces the concept of risk and return and how to achieve a balance between them. The theory argues that risk in an investment can be minimized through portfolio selection. A portfolio is group of related investments that investors hold so as to maximize on returns and minimize risk exposure.

By holding a portfolio of investments, an investor will have diversified the assets and thus minimizing risk hence increasing chances of more returns. The ability to maximize returns of the investors relies on how well an investor selects and combines the assets in the portfolio. This theory is relevant to the study because it informs how managers in an organization can balance between risk and returns in their capital budgeting decisions and thus maximizing the wealth of their shareholders.

2.3 Determinants of Financial Performance of Firms Listed on NSE

This section looks at factors influencing performance of firms listed on NSE. The key identified factors include size of the firms, leverage. Capital budgeting and market capitalization.

2.3.1 Size of the Firm

Studies on size of firms have used the log of asset base as the proxy. Small firms have limited market coverage and ability to access qualified team of professional who can drive performance. Thus, larger firms are deemed to be more profitable compared to smaller ones (Nurullah & Kengatharan, 2015).

2.3.2 Leverage

Leverage is measured by the amount of debt in the capital structure of the firm. Levered firms have both equities and debts in their capital structures. Use of debts improves the financial position of the firm because it provides an interest tax shield which maximizes the wealth of shareholders. Thus, levered firms would perform between financially as compared to the unlevered (Andor, Mohanty & Toth, 2015).

2.3.3 Capital Budgeting Decisions

Capital budgeting decisions aim at identification and allocation of funds by an organization into profitable projects. It enhances financial performance of an organization by providing suitable rationale of selection viable investment projects that maximizes the wealth of its shareholders. Capital budgeting decisions affect the risk perception of the firm and the overall wealth of shareholders in an organization (Puwanenthiren, 2016).

2.4 Empirical Literature Review

Verma and Roopali (2014) examined the capital budgeting practices adopted in India. The study relied on secondary data collected by reviewing capital expenditures of the studied companies. The review of literature indicated that most Indian firms use both discounted and non-discounting techniques to make capital budgeting decisions. Puwanenthiren (2016) examined how capital budgeting practices influenced performance of firms. The study was done in Sri Lanka. A total number of 150 firms were used as the sample size. In addition to primary data, the researcher also collected secondary data. Secondary data considered a period from 2003 all through to 2012. The study established that the decision to use either sophisticated or simple methods of capital budgeting was informed by economic and stock market development.

Afande (2015) did a study on methods of capital budgeting and how they influenced performance. The study used a case of Kenyan Water Services Board. A descriptive design was employed. Primary data was collected using questionnaires. The analyzed findings indicated that NPV, IRR, PI, ARR and PB were the most common type of capital budgeting techniques used in appraising projects before an initial outlay is made. In South Africa, Kedige (2017) did a study on how capital budgeting techniques resulted into the ability of the firms to perform financially. South African firms were covered. It was shown that most firms in South Africa preferred NPV, followed by IRR and lastly PBP in appraising projects before an initial outlay is made.

In Kuwait, Al-Mutairi, Naser and Saeid (2018) analyzed capital budgeting practices that non-financial firms employed in Kuwait. The study established that the top management team are the people with sufficient information on capital budgeting. The study established that the studied firms appraised projects and investments before committing funds. NPV was the common method used in appraising projects. Ahmed (2013) did a study on capital budgeting methods employed among listed firms. The study was done in Dubai. It was indicated that many firms in Dubai leveraged on capital budgeting techniques to appraise their projects before committing resources. The most frequently used techniques in appraising projects included PP, NPV and IRR.

Lunkes and Souza (2016) looked at how capital budgeting influenced performance of listed firms. The study was done in Brazil. The study revealed that listed firms in Brazil mostly relied on PB, NPV and IRR to make investment decisions. The studied firms conducted sensitivity analysis in determining the risk in projects. Daour and Shaaban (2014) analyzed capita; budgeting techniques employed by firms in the public sector in

Palestine. The study established that public corporations relied on capital budgeting to make investment decisions. The study established that most firms used PI in appraising projects and NPV was one of the least used techniques in evaluation of projects.

Nurullah and Kengatharan (2015) investigated how capital budgeting influenced performance. The study was done in Sri Lanka. Secondary data from published reports was used for analysis. The findings of the study showed that the most preferred capital budgeting method were the Net Present Value (NPV), which was followed by Payback and IRR. The study established that the decision to use these techniques is informed by the size of the budget. Hasan (2013) did a study on how capital budgeting techniques affected performance in the context of firms engaged in manufacturing. The study was done in Australia. The study adopted a desk top methodology that entailed review of suitable materials. From the reviewed literature, most Australian firms used discounted flow techniques to appraise their projects.

Locally, Niyonsaba (2016) examined how capital budgeting techniques influenced financial performance. The study focused on the real estate sector in Kenya. The study relied on past empirical studies hence it adopted an inductive approach. The review of literature covered a ten year period from 2006 all through to 2015. A total number of 149 registered firms dealing in real estate were targeted out of which 50 were sampled out and included in the study. Questionnaires helped in collection of primary data. The analysis of the findings indicated that the most common techniques used in appraisal of projects among real estate companies included NPV, IRR, ARR and PI. Wokabi (2014) sought to determine a link between capital budgeting the ability of listed NSE firms to perform financially. The study focused on non-financial firms listed on NSE. In total, 50

firms were covered by the study. Questionnaires were used in collecting primary data. The findings of the study indicated that an increase in capital budgeting resulted into increased profits among firms.

Irungu (2014) examined the link between capital budgeting methods and financial performance of listed firms on NSE. The study adopted a cross sectional design. All listed companies on the NSE were targeted. Data was collected from primary sources. The study established that firms listed at NSE embraced both discounted and non-discounted techniques to make capital budgeting decisions. Kiget (2014) looked at how capital budgeting influenced performance of firms listed at NSE. In total, 42 firms were used as the population of the study. The study revealed that firms mostly employed IRR to make capital budgeting decisions in addition to Net Present Value (NPV) and Profitability Index (PI). Wachira (2017) did a study to determine how capital budgeting decisions influenced profitability of firms listed on NSE. All the listed firms (64) formed the population of the study. Variables used included capital expenditure and revenues. From the findings, revenue and capital expenditures positively influenced profitability of firms.

Musavi (2015) examined how capital appraisal techniques affected financial performance in the banking sector. The study used listed commercial banks as the population. The study established that the type of technique adopted to appraise capital budgeting projects plays an important role in determining overall performance of the firms. An increase in capital budgeting technique resulted into an improvement in financial performance of firms. Menya and Gichinga (2013) studied how capital budgeting techniques affected the growth of micro-finance firms in Kenya. The variables used included NPV and IRR.

Census design was employed where all the firms were targeted and included in the study. In total, 16 firms were covered. Questionnaires helped in data collection. From the findings, the techniques used in capital budgeting decisions significantly influence financial performance of firms.

Munyao, Kalui and Ngeta (2013) looked at how the techniques of capital budgeting influenced financial performance of listed firms at the NSE. Survey design was employed in the study. Questionnaires were used to collect data. In total, 47 firms were targeted and formed the sample size of the study. Regression analysis was used to generate the findings of the study. The study established that capital budgeting techniques significantly influenced financial performance of listed firms. Imegi and Nwokoye (2015) did a study on how capital budgeting techniques influenced evaluation of profitability of projects. The study was developed a correlational design. A total of 65 firms were studied. Random sampling was used to select participants in the study. The study established that PB, ARR, NPV, IRR and PI were the commonly used methods to appraise projects.

2.5 Summary of Literature and Gaps

Different studies have been done on capital budgeting and how it influences financial performance of a firm. Musavi (2015) looked at how capital appraisal techniques affected financial performance. The study used listed commercial banks as the population, need for a similar study among service and commercial firms. Puwanenthiren (2016) assessed how capital budgeting practices influenced performance of firms. The study was done in Sri Lanka, need for a similar study in Kenya. Al-Mutairi, Naser and Saeid (2018) examined the capital budgeting practices that non-financial firms employed. The study

was done in Kuwait resulting into a contextual gap. Wachira (2017) sought to determine how capital budgeting decisions influenced profitability of firms listed on NSE. The study focused on all listed firms at NSE and not specifically the service and commercial ones

2.6 Conceptual Framework

Figure 2.1 is the study conceptual framework.

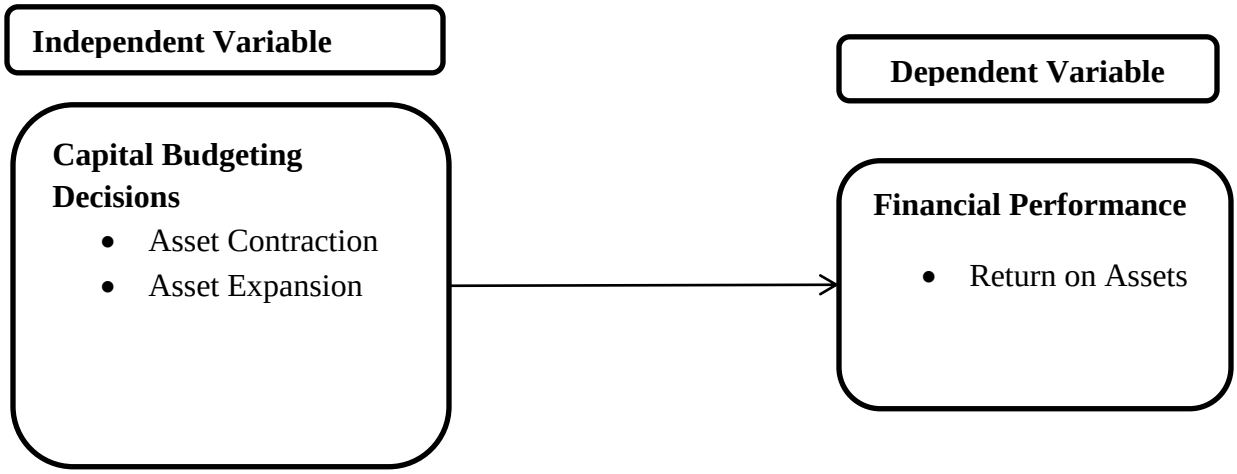

Figure 2.1: Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter looks at the type of the research design adopted. The population that was used to offer information for the study is also covered. The chapter also outlines how the researcher went about in sampling the population to a manageable size. The researcher also reviews methods to use in collecting data from the identified population and how the collected data was analyzed and presented so as to draw inferences, conclusions and recommendations of the study.

3.2 Research Design

A cross-sectional descriptive research design was used. According to Yin (2017), a descriptive research design helps in giving an account of the way things exist in their status quo. A descriptive design helps in answering questions of what? Where? When? How?

The design therefore helped the researcher to examine how innovation strategies have affected competitive advantage of manufacturing pharmaceuticals in Kenya. The use of descriptive design helped the researcher to collect quantitative data that will help in establishing how capital structure decisions have influenced financial performance of commercial and services firms listed on NSE.

3.3 Population of the Study

The population of this study was the 12 commercial and services firms listed on NSE (Appendix I). Since the population was easily accessible and it has homogenous attributes, a census was adopted. Thus, no sampling was done. According to Mugenda

and Mugenda (2003), census is appropriate provided the elements of the population are less than 200.

3.4 Data Collection

Data for the study was collected from secondary sources. Data collection covered a period from 2013 to 2017. Cash flow statements of the studied firms which details the amount of assets disposed and those purchased helped in collection of secondary information. Data was collected on asset expansion and contraction, net income and total assets. The study used a data collection sheet to collect secondary data (Appendix II).

3.5 Data Analysis

Data collected is usually in raw form and cannot help in decision making and thus requires to be analyzed. Before analysis of the collected data, the researcher first cleaned it and then coded into Statistical Package for Social Sciences.

3.5.1 Diagnostic Tests

The study carried out normality, autocorrelation, heteroskedasticity and multicollinearity tests to ensure that the data set does not violate regression assumptions. Normality was tested by Skewness and Kurtosis. Values of between -3 or +3 indicates that the data is normally distributed (Kothari). Autocorrelation was detected using Durbin Watson Statistics. Values of -2 or +2 suggest that the data set has no autocorrelation. The researcher also used Scatter plots to test for Heteroskedasticity. Data points on scatter plots with clearly established patterns suggested that the data set has heteroskedasticity. Multicollinearity was detected using Variance of Inflation Factor (VIF). In essence, VIF values of between 1 and 10 suggest that there is no multicollinearity in the data set.

3.5.2 Analytical Model

The model took the following firm;

$$\mathbf{Y = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon}$$

Where Y is = Financial Performance (ROA=Total Assets/Net Income)

X_1 = Asset Contraction (Natural logarithm of the proceeds from sale of assets)

X_2 = Asset Expansion (Natural logarithm of the purchase of assets)

β_0 = Constant; β_1, β_2, are coefficients and $\boldsymbol{\varepsilon}$ = Error Term

3.5.4 Test of Significance

The study used the R^2 to determine how change in financial performance of is explained by capital budgeting. F Analysis of Variance (ANOVA) was used to compare the value of F calculated in the ANOVA Table and that F critical from the F Table.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

In this chapter, the researcher presents the findings of the analysis. The study examined how capital budgeting affected financial performance of commercial and services firms.

4.2 Response Rate

A total of 12 commercial and services firms listed on the NSE were examined. The researcher was however able to collect data from 8 firms. This represented a response rate of 66.7%. This response was in line with Mugenda and Mugenda 2003).

4.3 Descriptive Statistics

The researcher used means and standard deviations to describe how capital budgeting affected financial performance. The findings are shown in Table 4.1.

Table 4.1: Descriptive Statistics

	N	Mean	Std. Dev
Asset Expansion	40	4.60	1.47
Asset Contraction	40	3.63	1.60
Return on Assets	40	.020	.129

From Table 4.1, commercial and services firms on average made asset expansion decisions as compared to asset contraction decisions. In other words, most of the commercial and services firms sought to increase their asset base as compared to disposal of the assets. For instance, the KQ financial statements (2017) indicated that Kenya Airways (KQ) in its capital budgeting decisions opted to raise Kshs. Ksh10 billion from disposal 7 old air crafts and a portion of its prime land in Embakasi (KQ, 2017). The financial statements of Uchumi (2016) indicated that Uchumi Supermarket also in its capital budgeting decisions opted to sale its plot valued at Kshs. 2 Billion in Kasarani.

4.4 Trend Analysis

The researcher relied on graphs to determine the pattern in the movement of the variables under the period of considerations. Figure 4.1 indicates the trend for asset expansion.

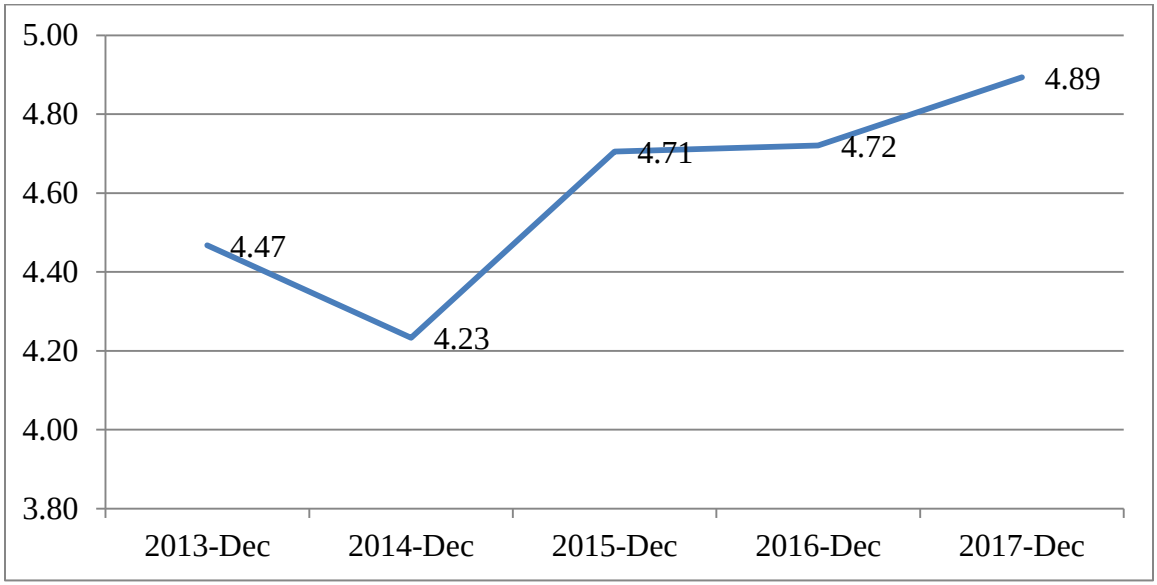

Figure 4.1: Asset Expansion

As shown in Figure 4.1, there generally an increase in asset expansion among commercial and services firms listed on NSE under the period of 2012-2017.

Figure 4.2 shows the trend of asset contraction as another capital budgeting decision among commercial and services firms listed on the NSE.

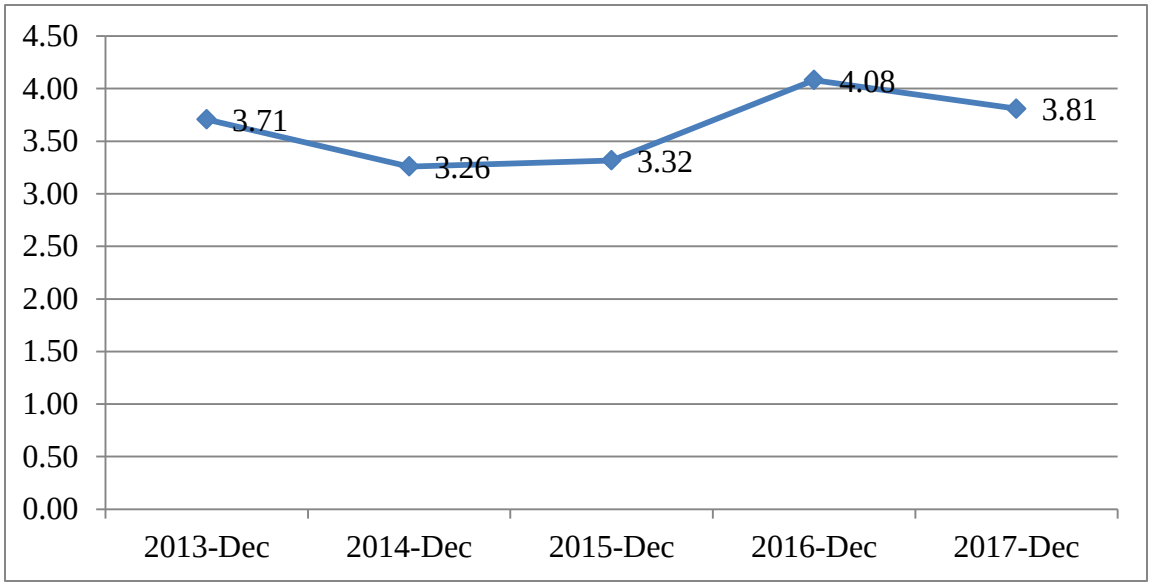

Figure 4.2: Asset Contraction

From Figure 4.2, there was generally stability in asset contraction decision among the studied firms across the period under consideration.

The findings on ROA as a measure of financial performance of the studied commercial and services firms are shown in Figure 4.3.

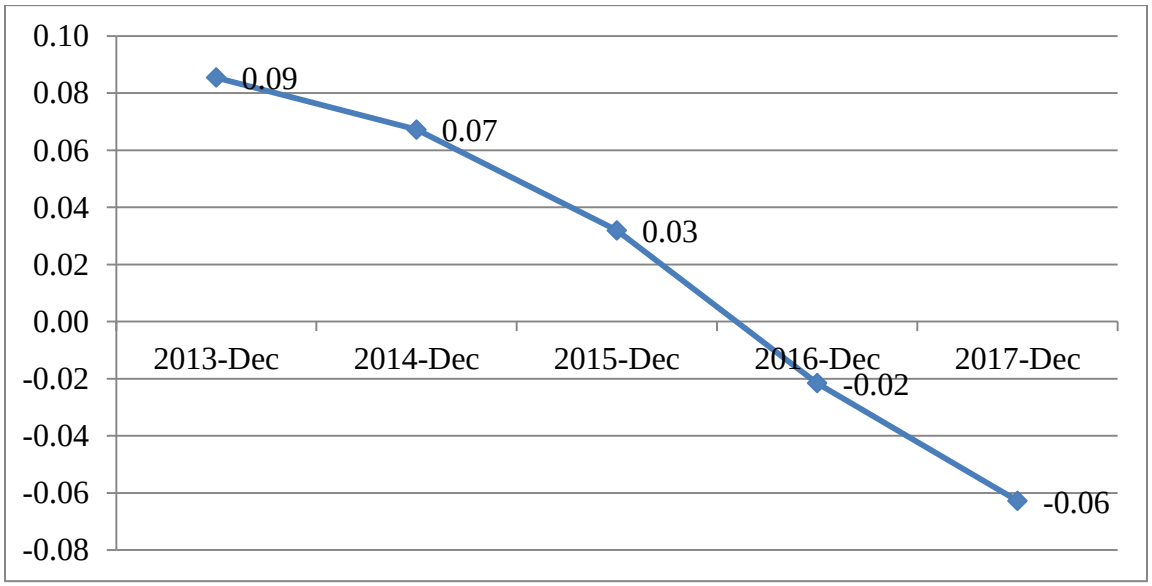

Figure 4.3: Return on Assets

The findings in Figure 4.2 indicates that general, there was a drop in ROA of the studied commercial and services firms listed on NSE. This trend could be attributed to their investment in capital budgeting decisions.

4.5 Diagnostic Tests

The researcher carried out normality, autocorrelation, heteroskedasticity and multicollinearity tests to ensure that the data set does not violate regression assumptions. Normality was tested by Skewness and Kurtosis. Values of between -3 or +3 indicates that the data is normally distributed (Kothari). The findings are shown in Table 4.2.

Table 4. 2: Normality Test

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Asset Expansion	40	-.438	.374	-.065	.733
Asset Contraction	40	.220	.374	.019	.733
Return on Assets	40	-.924	.374	.206	.733

As shown in Table 4.2, all the variables had Skewness and Kurtosis values within the range of -3 or +3, which indicates that the data was normally distributed (Kothari).

Table 4.3 shows the values for Variance of Inflation Factor (VIF) used to test for multicollinearity. In essence, VIF values of between 1 and 10 suggest that there is no multicollinearity in the data set.

Table 4.3: Multicollinearity Test

	Collinearity Statistics	
	Tolerance	VIF
Asset Expansion	.628	1.592
Asset Contraction	.728	1.374

a. Dependent Variable: Return on Assets

The findings in Table 4.3 indicate that all the values of VIF were within the prescribed range of 1 and 10, which suggests that there was no multicollinearity in the data set.

To detect autocorrelation, Durbin Watson Statistics was used. Values of -2 or +2 suggest that the data set has no autocorrelation. Table 4.4 is a summary of the findings,

Table 4.4: Durbin Watson Statistics

Model	Durbin-Watson
1	2.014[a]

As shown in Table 4.4, the value of Durbin Watson is 2.014, which falls within the range of 2 or +2. Thus, there was no serial correlation in the data set.

Figure 4.4 gives the findings on heteroskedasticity test.

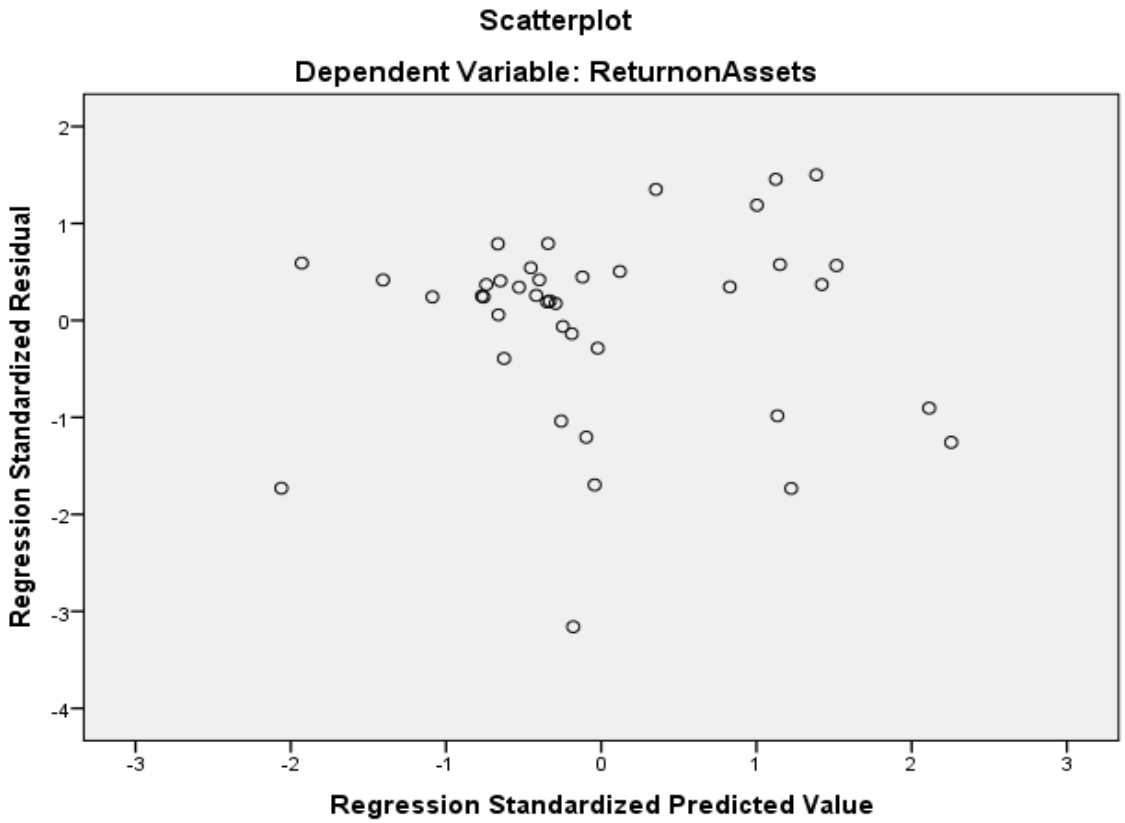

Figure 4.4: ScatterPlot

From Figure 4.4, it can be seen that the data points are widely spread with no clearly established pattern. This could be an indicator that the data set had no heteroskedasticity.

4.6 Correlation Analysis

Correlation analysis was employed to determine how capital budgeting and financial performance was correlated. The findings are shown in Table 4.5.

Figure 4.5: Correlation Analysis

		Return on Assets	Asset Expansion	Asset Contraction
Return on Assets	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	40		
Asset Expansion	Pearson Correlation	-.335**	1	
	Sig. (2-tailed)	.000		
	N	40	40	
Asset Contraction	Pearson Correlation	.218**	.414**	1
	Sig. (2-tailed)	.000	.000	
	N	40	40	43

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

As shown in Table 4.5, asset expansion with Pearson correlation r=-0.335 and p=0.000<0.05 had a negative and significant relationship with financial performance. Asset contraction r=0.218 and p=0.000<0.05 had a positive and significant relationship with financial performance.

It can be deduced from the above findings that capital budgeting decisions had significant influence on financial performance. Wachira (2017) did a study to determine how capital budgeting decisions influenced profitability of firms listed on NSE and revealed that revenue and capital expenditures positively influenced profitability of firms.

4.7 Regression Analysis

In order to establish how capital budgeting affects financial performance, the researcher conducted regression analysis. Table 4.6 presents the findings of the model summary.

Figure 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.938[a]	.880	.874	.05279

a. Predictors: (Constant), Asset Contraction, Asset Expansion

The findings in Table 4.6 indicate that 88.0% change in financial performance of commercial and service firms is explained by the capital budgeting decisions. This therefore shows that there are other factors apart from capital budgeting that affect financial performance of the studied firms which future studies should focus on.

Table 4.7 is the findings on the Analysis of Variance that was conducted at 5% level of significance. It essence was to determine the overall significance of the regression model used.

Figure 4.7: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.820	2	.410	136.667	.000[b]
Residual	.111	37	.003		
Total	**.932**	**39**			

a. Dependent Variable: Return on Assets
b. Predictors: (Constant), Asset Contraction, Asset Expansion

As shown in Table 4.7, $F_{calculated}$ is 136.667 while $_{Fcritical}$ 3.252. Since $F_{calculated}$ is more than $_{Fcritical}$ 3.252, it can be concluded that the overall regression model was fit.

In order to determine the significance of each individual variables of the study, the researcher used p values. Table 4.8 gives the findings.

Figure 4.8: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	2.418	1.026		2.257	.000
Asset Expansion	-.394	.107	-.992	-3.682	.000
Asset Contraction	.438	.206	.092	2.126	.004

a. Dependent Variable: Return on Assets

The findings in Table 4.8 indicate that asset expansion beta=-0.394 and p=0.000<0.05 had an inverse influence on the way firms perform financially. For asset contraction, the beta=0.438 and p=0.004<0.05, this shows that asset contraction positively effect on financial performance.

4.8 Research Findings

From correlation and regression analysis, asset expansion has an inverse relationship and effect on financial performance. The negative sign is because expansion decisions involve cash outflow which reduces the available income of the company. The finding contradicts Puwanenthiren (2016) who analyzed how capital budgeting influenced performance of firms and indicated that capital budgeting resulted into positive influence to firms.

The study further established that asset contraction positively influences financial performance. The sign is positive because asset contraction involves disposal of assets which results into cash inflow. This finding is in line with Wachira (2017) who critically assessed how capital budgeting decision affected profitability of firms listed on NSE and indicated that capital budgeting had positive and significant influence of profits generated by firms listed on NSE.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The analyzed findings are summarized with conclusions. The recommendation with relevant implication to policy and practice are also presented. The challenges encountered and the areas which further studies ought to focus on are also discussed.

5.2 Summary of the Findings

The study sought to determine how capital budgeting affected financial performance among commercial and services firms listed on the NSE. The study was underpinned by three theories; the Convectional Capital Budgeting Theory, Real Option Theory and the Modern Portfolio Theory. The study collected secondary data over a five year time horizon (2013-3017).

From the descriptive statistics, the study established that commercial and services firms on average made asset expansion decisions as compared to asset contraction decisions. From the findings of the trend analysis, there generally an increase in asset expansion among commercial and services firms listed on NSE under the period of 2012-2017. There was generally stability in asset contraction decision among the studied firms across the period under consideration. In general, there was a drop in ROA of the studied commercial and services firms listed on NSE.

The study conducted diagnostic tests to ensure that the data set did not violate any of the regression assumptions. From all these tests, the values were within the prescribed thresholds. Correlation analysis was conducted to determine how capital budgeting and

financial performance was correlated. From the findings, asset expansion with Pearson correlation r=-0.335 and p=0.000<0.05 had a negative and significant relationship with financial performance. Asset contraction r=0.218 and p=0.000<0.05 positively influences performance.

In order to determine how capital budgeting decisions influenced financial performance, the researcher carried out regression analysis. From the findings, the value of R square was 0.880, which shows that 88.0% change in ability of the firms to performance financially is explained by the capital budgeting decisions. The Analysis of Variance at 5% level of significant confirmed that the value of F calculated was 136.667 while F critical was 3.252. Thus, the overall regression model was significant. An analysis of the p values at 5% level of significance indicated that asset expansion beta=-0.394 and p=0.000<0.05 had an inverse and significant effect on the ability of the firms to performance financially. For asset contraction, the beta=0.438 and p=0.004<0.05, this shows that asset contraction has a positive and significant effect on n the ability of the firms to performance financially.

5.3 Conclusion

The study concludes that asset expansion has an inverse and significant effect on n the ability of the firms to performance financially. The relationship and effect of asset expansion on financial performance is negative because it represents a cash outflow. According to Puwanenthiren (2016), capital budgeting decisions affect the risk perception of the firm and the overall wealth of shareholders in an organization.

Asset contraction positively affects the ability of the firms to performance financially. The finding is in line with Puwanenthiren (2016) who analyzed how capital budgeting influenced performance of firms and revealed that capital budgeting resulted into positive influence to firms. At the same time, Wachira (2017) critically assessed how capital budgeting decision affected profitability of firms listed on NSE and noted that capital budgeting had positive and significant influence of profits generated by firms listed on NSE.

5.4 Recommendations of the Study

The study recommends that the finance managers of all commercial and services firms listed on the NSE should minimize on asset expansion and maximize on asset contraction decisions. This would positively and significantly influence financial performance of their firms.

The study further recommends that regulatory bodies like the Capital Market Authority need to come up with sound regulations that allow the listed firms to maximize on their asset expansion and contraction decisions and thus influencing financial performance.

5.4 Limitations of the Study

The current study was limited to capital budgeting decisions and how it affects financial performance. The study operationalized capital budgeting in terms of asset expansion and contract decisions. Asset contraction decisions were measured the disposal of assets while asset expansion decisions were determined by purchase of assets. These figures were extracted from the cash flow statements of the commercial and services firms listed on the NSE. Financial performance was measured by ROA. The current study was limited to two variables alone, the dependent and the independent variables. Asset

contraction and expansion were the independent variables while ROA was the dependent variable.

The study was limited to secondary data that was collected using data collection sheet. Secondary data was collected a period from 2013 all through to 2017. Data was collected from cash flow statements, statements of financial position and income statements of the studied firms. However, the limitation of using secondary data is that it is not the first hand source of information unlike primary data.

5.5 Suggestions for Further Studies

The current study was limited to two variables; the dependent and the independent. Future studies should strive to incorporate other variables including the controlling variables. At the same time, the current study was limited to commercial and services firms listed on the NSE. Future studies should be done in other sectors and industries to permit comparison of the findings.

REFERENCES

Afande, F. O.(2015). Capital Budgeting Methods and Performance of Water Services Boards in Kenya. *Journal of Resources Development and Management.* 5(2).70-87.

Afonso, L., José,S. Fátima, M., André X., (2017) "A qualitative analysis of capital budgeting in cotton ginning plants", *Qualitative Research in Accounting & Management*, 14 (3), 210-229

Ahmed, I. (2013). Factors determining the selection of capital budgeting techniques. *Journal of Finance and Investment Analysis*, 2(2), 77–88.

Al-Mutairi, A., Naser, K., & Saeid, M. (2018). Capital budgeting practices by non-financial companies listed on Kuwait Stock Exchange (KSE). *Cogent Economics & Finance*, *6*(1), 1468232.

Andor, G., Mohanty, S., & Toth, T. (2015). Capital budgeting practices: A survey of Central and Eastern European firms. *Emerging Markets Review*, 23 (June), 148–172

Andrés, P., Fuente, G., & Martín, P. S. (2015). Capital budgeting practices in Spain. *Business Research Quarterly*, 18, 37–56.

El-Daour, J., & Abu Shaaban, M. (2014). The use of capital budgeting techniques in evaluating investment projects: An applied study on the Palestinian corporations working in Gaza Strip. *Journal of Al-Quds Open University for Research and Studies*, 32(2), 9–50.

Gupta, D. (2016). Capital budgeting decisions and the firm's size. *International Journal of Economic Behavior and Organization*, 4(6), 45–52.

Gupta, D., & Pradhan, B. B. (2017). Capital Budgeting Decisions in India: Manufacturing Sector Versus Non-Manufacturing Sector. IUP *Journal of Applied Finance*, 23(1), 69-93.

Hasan, M. (2013). Capital budgeting techniques used by small manufacturing companies. *Journal of Service Science and Management*, *6*(01), 38.

Imegi, J. C., & Nwokoye, G. A. (2015). The Effectiveness of capital budgeting techniques in evaluating projects' profitability. *African Research Review*, *9*(2), 166-188.

Kedige, I. M. (2017). *Capital Budgeting Techniques and Firm Performance in the South African Minimg Industry* (Doctoral dissertation, University of the Witwatersrand, Faculty of Commerce, Law and Management, Wits Business School).

Menya, S., & Gichinga, L. (2013). The Effects of Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises in Mombasa. *International Journal of Science and Research*, *6*, 14.

Mohan, V., & Narwal, K. P. (2017). Capital budgeting practices: State of the art. *Asian Journal of Research in Banking and Finance*, 7(4), 57–74.

Munyao, A. Kalui, F. M., & Ngeta, J. (2013). The relationship between capital budgeting techniques and financial performance of companies listed at the Nairobi Stock

Exchange, Kenya. *Scholarly Research Journal for Humanity Sciences and English Language.* 1(5). *718-729*

Musavi, M. F. (2015). *Effects of Capital Investment Appraisal Techniques on Financial Performance of Banks Listed at the Nairobi Securities Exchange* (Doctoral dissertation, University of Nairobi).

Nurullah, M., & Kengatharan, L. (2015). Capital budgeting practices: evidence from Sri Lanka. *Journal of Advances in Management Research*, *12*(1), 55-82.

Puwanenthiren, P. (2016). *Capital Budgeting Practices and Firm Performance: A Comparative Study of Australia and Sri Lanka* (Doctoral dissertation, Federation University Australia).

Souza, P., & Lunkes, J. R. (2016). Capital budgeting practices by large Brazilian companies. *Contaduría Y Administración,* 61, 514–534

Stein, R., (2017) Investment Appraisal. Salem Press Encyclopedia [serial online]. January 2016; Available from: Research Starters, Ipswich, MA. Accessed November 9, 2017.

The International Federation of Accountants (IFAC) (2013). Project and investment appraisal for sustainable value creation. ISBN 978-1-60815-162-2.

APPENDICES

APPENDIX I: DATA COLELCTION SHEET

Year	Total Assets	Net Income	Proceeds from Sale of Assets (Kshs)	Purchase of assets (Kshs)
2013				
2014				
2015				
2016				
2017				

APPENDIX II: COMMERCIAL AND SERVICES FIRMS LISTED AT NSE

COMMERCIAL AND SERVICES
1. Express Ltd Ord 5.00
2. Sameer Africa PLC Ord 5.00
3. Kenya Airways Ltd Ord 5.00
4. Nation Media Group Ord. 2.50
5. Standard Group Ltd Ord 5.00
6. TPS Eastern Africa (Serena) Ltd Ord 1.00
7. Scangroup Ltd Ord 1.00
8. Uchumi Supermarket Ltd Ord 5.00
9. Longhorn Publishers Ltd
10. Atlas Development and Support Services
11. Deacons (East Africa) Plc Ord 2.50
12. Nairobi Business Ventures Ltd

APPENDIX III: COLLECTED DATA

Year	Company	Asset Expansion	Asset Contraction	ROA
2013	Kenya Airways	1.230	2.371	-0.062
2014	Kenya Airways	1.447	2.352	-0.022
2015	Kenya Airways	4.878	0.602	-0.137
2016	Kenya Airways	2.734	3.867	-0.159
2017	Kenya Airways	2.873	3.758	-0.066
2013	TPS Serena	5.750	3.138	0.041
2014	TPS Serena	5.669	1.813	0.050
2015	TPS Serena	5.544	3.915	-0.052
2016	TPS Serena	5.751	4.170	0.025
2017	TPS Serena	6.279	3.134	0.013
2013	National Media Group	2.606	1.049	0.260
2014	National Media Group	3.002	1.104	0.245
2015	National Media Group	3.184	1.170	0.207
2016	National Media Group	2.409	1.079	0.145
2017	National Media Group	2.513	1.988	0.117
2013	Scan Group	5.287	3.783	0.074
2014	Scan Group	5.173	4.514	0.060
2015	Scan Group	5.161	5.521	0.038
2016	Scan Group	5.026	5.579	0.034
2017	Scan Group	4.954	4.243	0.003
2013	Long Horn Publishers	4.061	3.809	0.205

2014	Long Horn Publishers	3.331	3.954	0.093
2015	Long Horn Publishers	2.848	3.795	0.134
2016	Long Horn Publishers	4.784	3.742	0.073
2017	Long Horn Publishers	4.410	3.911	0.089
2013	Sameer Africa	5.050	5.414	0.109
2014	Sameer Africa	4.648	3.404	-0.017
2015	Sameer Africa	4.893	3.609	-0.004
2016	Sameer Africa	4.673	3.519	-0.198
2017	Sameer Africa	5.575	4.492	0.004
2013	Deacons (East Africa)	5.141	3.438	0.032
2014	Deacons (East Africa)	5.061	3.359	0.032
2015	Deacons (East Africa)	5.468	2.210	0.045
2016	Deacons (East Africa)	5.019	3.069	-0.122
2017	Deacons (East Africa)	4.916	2.736	-0.390
2013	Nairobi Business Ventures Ltd	6.614	6.655	0.024
2014	Nairobi Business Ventures Ltd	5.534	5.576	0.098
2015	Nairobi Business Ventures Ltd	5.669	5.711	0.025
2016	Nairobi Business Ventures Ltd	7.369	7.620	0.028
2017	Nairobi Business Ventures	7.629	6.200	-0.273

	Ltd			