2014

Factors affecting financing of private telecommunications companies in Kenya: an exploratory study

Edmund Malitt
School of Management and Commerce (SMC)
Strathmore University

FACTORS AFFECTING FINANCING OF PRIVATE TELECOMMUNICATIONS COMPANIES IN KENYA: AN EXPLORATORY STUDY.

EDMUND MALITT

Master of Commerce

2013

Factors Affecting Financing of Private Telecommunications Companies in Kenya: An Exploratory Study.

Edmund Malitt

Thesis Submitted in Fulfillment of the Requirements for the Award of the Degree of Master of Commerce at Strathmore University.

School of Management and Commerce
Strathmore University
Nairobi, Kenya

June 2013

Declaration

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Edmund Malitt

June 4, 2017

Approval

The thesis of Edmund Malitt was reviewed and approved by the following:

Dr. Freddie Acosta,
Senior Lecturer, Strathmore School of Business,
Strathmore University

Dr. David Wang'ombe,
Dean, School of Management and Commerce,
Strathmore University

Professor Ruth Kiraka,
Dean, School of Graduate Studies,
Strathmore University

Abstract

The purpose of the study was to explore the factors affecting external financing of private telecommunications companies in Kenya. The study targeted privately owned telecommunication companies in Kenya and the funding constraints they face.

The findings of the study indicate that telecommunication companies in Kenya to a large extent source for funds externally (95%), many early life companies (0 to 5 years) have not fully benefited from the external funding for both for Operating expenditure (Opex) and capital expenditures (Capex). The main factors influencing sources of funds were identified to be decision making, interest rates, and government policies, age of company, inflation and available sources of funds. Funding constraints included high interest rates, over-regulations, and slow pace of external funding procedures amongst many other challenges.

Chi square and factor analysis was used to test relationship between identified variables and to test for reliability of the factors under study. Findings indicate that political instability is the most important determinant factor in funding. This must be strengthened to keep telecoms liquid in the long-run. The results also show that market regulation had the highest impact as a constraint.

The study recommends the need to engage investors and venture capital firms to reap the benefits of untapped markets segments in the telecommunication sector in Kenya. The involvement of the government as a facilitator through the provision of policy and economic environment will continue to be more critical. A stable regulatory and economic environment as identified in this study is equally important to the sourcing of external funds.

There is need for further studies to seek deeper knowledge on the priorities of telecommunications investors and the donor community and thus begin the process of creating a valuable relationship for both investor and recipient companies.

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Acronyms and Abbreviations

ITU	International Telecommunications Union
CCK	Communications Commission of Kenya
TESPOK	Telecommunications Service Providers of Kenya
GDP	Gross Domestic Product
ICANN	Internet Corporation for Assigned Names and Numbers
ICT	Information Communications Technology
FDI	Foreign Direct Investment
ULF	Universal Licensing Framework
GSM	**G**lobal System for Mobile
NFP	Network Facilities Provider
ASP	Applications Service Provider
CSP	Content Service Provider
ROE	Return on Equity
ROI	Return on Investment

Acknowledgement

I would like to express my sincere gratitude to individuals whose have offered guidance, understanding, encouragement, support and resources in the course of this study.

To Dr. Freddie Acosta my Project Supervisor, you availed yourself when I needed direction, advice and guidance. This research would not have been possible without your invaluable input. To the entire Strathmore University fraternity, you provided support and resources for me to realize my dream.

To Nicholas Muraguri for encouraging and supporting me throughout the study period.

To the Management of Tricomp Sp. Z o.o., who demanded more from me and provided time and resources to pursue the degree. Thank you very much.

To all respondents who took time to fill in the questionnaires, I appreciate and value the information you provided. Thank you for your time.

To My Family, My wife Olive who allowed me time, encouragement, resources and opportunity to pursue this study, my son Bradley and daughter Chloe, who eagerly looked forward to the graduation date. You propelled me to keep going to the finish line. I am most grateful.

To my Parents Shadrack and Margaret Malitt, and all those of you who encouraged me to “go back to school”. I am sincerely grateful.

Dedication

To my Almighty God through whom, I exist and have my being.

To my Parents, Wife and two children**.**

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CHAPTER ONE-INTRODUCTION

1.1 Background to the Study

Investors have been known to focus on sectors that have growth potential (Deloitte, 2012). Investors give out funds and expect a return on their investment while companies borrow funds from investors to finance business activities and pay interest (Fabozi & Peterson, 2003). Telecommunication is one of the sectors, which has recorded growth in Kenya in the last decade and continues to grow (Frank & Pamela, 2003). Such growth requires financial resources and a good enabling environment (Deloitte, 2012).

There exists evidence of external financial support given the levels of investments required to fund telecommunication companies' business activities. According a survey on Sub-Sahara Africa, private equity funds worth USD 3 billion dollars were channeled into 66 projects in the year 2011 alone (Deloitte, 2012). This implies that there exists significant investor goodwill in the African markets. As is expected, the telecommunications industry being an integral part of the service driven economies (Fabozi and Peterson, 2003) all expectations are that all organizations operating in the telecommunications industry benefit from this level of funding.

This trend has not been replicated in Kenya, one of the key destinations of venture capital funds in Africa (Deloitte 2012), instead a couple of telecommunications service providers have increasingly struggled as evidenced in the closure of some of the companies recently (FinAccess, 2009). In order to understand financing in telecommunications, there is need to understand funding in general. This study uses the term "funding" interchangeably with financing of business activities. (Fabozi and Peterson, 2003) Whichever category of funding, a business applying theories and tools of finance will dichotomize funding into: investing (utilizing funds) or financing (raising funds) (Frank & Pamela, 2003).

According to Deloitte (2012), as a direct result of available funding in telecommunication companies in East Africa, there has been a rapid growth in the telecommunications sector. This is also the case globally; with the sector emerging as a key contributor GDPs of nations globally (Castells et al. 2007). Insight Research Corporation (2001) indicates that global telecommunications revenue was set to hit over 2trillion dollars in 2012, with projected growth

rate of over 5% by 2017. Enormous amounts of capital investment will need to be pumped into the emerging economies if significant levels of economic development are to be realized (Roller & Waverman, 2001, ITU, 2001).

The International Telecommunications Union (ITU) has over the years since its inception recognized the need to invest in the telecommunications sector in developing economies (ITU, 2001). According to Waverman, Meschi, and Fuss (2005), governments in developing countries are allocating funds to spur growth in the ICT market. In Kenya, we have seen the government playing a bigger role in regulating the mobile telephony market through its agency the Communication Commission of Kenya (Institute of Economic Affairs, 2002; and Kane, 2001).

Major societal forces such as development in technology, globalization and liberalization, have created a new market place (Kotler, 2000). The major global trade, financial and economic regulators, the IMF, the World Bank, International Monetary Fund and WTO have advanced the deregulation and privatization agenda in developing countries. This has been achieved through the policy scheme commonly known as the structural adjustment programme, which advocates for: taking over the state function in economic development; liberalization; and privatization (Infotrac, 2005).

Developing countries have not been left behind in the uptake of telecommunications services. Between 1999 and 2004, Sub- Saharan Africans took up mobile telephony at a far greater rate than their Asian and American counterparts (Waburi, 2009), and the contribution to the African economies has been remarkable. In Africa, midsized telecommunication firms are under increased pressure from market forces to offer more affordable services and reach the masses (CCK, 2011). The question remains how these organizations are able to meet the demands in the market with the limited available financial resources.

Studies by various authors have identified a close link between telecommunication business activities and Gross Domestic Products (Gille, 1986; Saunders, 1982 & Saunders et al., 1983, 1994). These studies depict a causal relationship between the teledensity and the National Product, which is debated to have an effect in the attraction of private sector capital into a country (Mbarika, et al., 2003). The ITU has in the past decade been involved in supporting activities to governments and corporates in a bid to put in place the means to attract funding and

investment for telecommunications development. The objective of this support has been to help restructure and strengthen their bottom-line through appropriate costing and tariff regimes and through strengthening existing institutional legal and regulatory frameworks (ITU WTDC-02, 2001). Many large telecommunication projects in Kenya have also been funded in the past through government- private sector partnerships for example the East African Marine System which was funded through a joint venture including Government of Kenya; Etisalat and private investors from Kenya (Graham, 2010).

1.2 Forms of Funding

Companies borrow to finance business activities (Fabozi & Peterson, 2003). There are two forms of funding available to companies, debt financing and equity financing (Fields, 2002). Under debt-financing, a company can use the various types of financing available. These could be short-term or long-term borrowing. Short term financing matures in less than one year while long term financing stretches beyond one year (Hovakimian et al, 2001). These are usually referred to rightly as working capital financing. Long term financing on the other hand matures beyond one year. In practice, most companies utilize long -term loans to finance CapEx (Fields, 2002).

A company seeking short-term borrowing can pursue any or a combination of "accounts receivable financing, factoring, inventory financing, floor planning, evolving credit, zero-balance accounts, lines of credit, credit cards or compensating balances" (Fields, 2002: 27). A company seeking long-term borrowing can pursue any or a combination of "term loans, bonds, debentures, mortgage bonds, convertible bonds, senior debt, subordinated debt, junk bonds" (Fields, 2002: 27).

With the level of investment seen in telecommunication companies, a telecommunication company can opt to seek funds from outside the organization. This can be through incurring debts through avenues such as floating shares. Going the financial institution route will see the business seek debt capital through loans, bonds, or debentures or by selling ownership either through private placement or initial public offering (Fabozi & Peterson, 2003).

There are three types of equity: venture capital, ordinary shares and preference shares. The choice of which avenues to pursue is largely determined by factors affecting that route (Fabozi &

Peterson, 2003). If a company wishes to raise funds to finance business activities, it can either borrow or sell shares. The cost of capital then becomes a factor affecting the avenue to pursue. In a scenario where the borrower or the company seeking funds prefers the external route, then the lender in this case is an investor. Investors provide funds expecting future returns on one end and a higher value of the stock in future on the other hand (Lavanya & Solomon, 2006); which becomes another factor. What they pay at the time of the purchase transaction is referred to as present value (Fabozi & Peterson, 2003).

These factors on the other hand can be subject to other factors, which include: economic outlook, returns offered by alternative ventures and investor's outlook of the company (Fabozi & Peterson, 2003).

1.3 Understanding the Telecommunications Industry Structure

The telecommunications sector in Kenya can be broadly categorized into the following (CCK, 2012)

a) **Network Facilities Provider (NFP)**

This category refers to licensees who operate communications infrastructure e.g. satellite, ground based, mobile or otherwise, (CCK, 2012).

b) **Applications Service Provider (ASP)**

This category refers to telecommunication service providers who offer end users services based on network infrastructure.

c) **Content Services Provider (CSP)**

Service providers in this category offer 'content' services in information communication technology and data. This study targeted all companies in the three market segments mentioned above.

1.4 Problem Statement

Significant amounts of empirical literature exist on corporate finance theories, capital structures and funding decisions, debt and equity financing, and financing the telecommunications sector. Most of these studies have primarily focused on the telecommunications financing models

developed and fast developing markets (Fields, 2002, Waburi 2009, et al). While these studies emphasize on funding theories and corporate finance models, the topic of funding of private telecommunications firms is accorded lesser focus. To the best of the reviewed literature knowledge, only minimal research has previously been done in the topic of funding for private telecommunication firms in Kenya.

The research gap analysis further points that funding of any business activities comes at a cost (Fabozi & Peterson, 2003). The cost of money is commonly known as interest rate, which can also be interpreted as the price you charge those who use your money (Fabozi & Peterson, 2003). For instruments traded in the secondary market, their prices are based on the factors of demand and supply. Demand and supply conditions are dependent on time and as such they vary with time. Any investor will therefore be interested on the maturity date and thus a payment schedule (Fields, 2002).

Companies use a security otherwise known as collateral to secure debt (Fabozi & Peterson, 2003). Using assets as collateral is the only avenue available to start-ups wishing to secure funding, where the asset guarantees the loan (Fields, 2002). For a corporate bond the debtor's credit rating is the only collateral and a company must be big and reputable to qualify for this form of fund. As such for a small telecommunication company to secure this type of funding there must be a fundamental shift in its ability to source for the same.

In recent years, decreased costs associated with new technologies have enabled private firms to secure the funding necessary to set up business. Many new technologies, such as data over power lines, Wi-Fi, and cable data (Fibre Optic Cables, Copper), offer technological substitutions to the high costs of installing traditional main lines. Investors are more reluctant now to give free reign to companies that need substantial amounts of capital to begin offering services, enter new markets (ITU, 2003).

Studies on the success of telecommunication companies in Kenya have over-focused on Safaricom (Deloitte 2012; CCK 2012; CCK 2010; Mark 2010; Patala & Solomon 2006; Merna & Njiru 2002). Safaricom is currently the largest taxpayer in Kenya. This has been achieved

through constant expansion and diversification to cater for current and future demand (Deloitte, 2012). Being a publicly listed company in the Nairobi Securities Exchange, the backing of the Government of Kenya and ownership stake by Vodafone means that Safaricom has access to funds from all possible sources. As such, the study sought to fill an information gap on how this can be replicated in private telecommunication companies with limited sources of capital.

In today's financial markets, new challenges emerge every day – especially in the high-technology industries (Mark, 2010). How we analyse the existing funding options as utilized by telecommunication firms in Kenya, how telecommunication companies in Kenya source for external funding and how the funding environment in Kenya is regulated is a study that requires constant addition of knowledge.

Other studies have been carried out in a bid to determine the link between initial external funding in private telecommunication companies and economic growth (Wyman, Seldin & Worzala, 2011). These studies succeed at identifying external funding model and theories that telecommunications firms adopt. However, these studies fall short of identifying the funding challenges of the telecommunications firms in Africa.

Previous studies have also adopted the global ITU's practice basing telecommunications capital on teledensity (Madden & Savage, 2000). The accuracy of this practice has not been subjected to careful examination especially in the Kenyan context. Secondly, the literature review reveals an information gap on funding in telecommunication companies in Kenya (Madden & Savage, 2000). The second sub-problem is to evaluate external funding based on private telecommunication companies in Kenya. Both sub-problems apply to the context of the Kenyan telecommunication companies.

None of these studies have focused on how private telecommunications companies raise the capital required for expansion and service quality delivery projects. The topic business activities that necessitate privately owned telecommunication firms to seek funding. The research problem also emanates from the fact that the telecommunications sector has extensive experience in sourcing for finances (Deloitte, 2012). Given the significant size of telecommunications investments in worldwide, its role in economic growth has been overemphasized (Madden &

Savage, 2000); much more than information on funding in private telecommunication companies. This presents a research gap which this study seeks to fill.

Investors have been known to focus on sectors that record the highest growth (Deloitte, 2012). High and sustained levels of growth require financial resources and a good enabling environment and telecommunications is one of the best sectors that evidence this. This is the same case all over the globe with the sector emerging as a key contributor to GDPs of nations globally (Castells et al. 2007). With the need to sustain this enormous growth, enormous amounts of capital investment need to be pumped into the emerging economies (ITU, 2001).

Studies by various authors have identified a close link between telecommunication investment and Gross Domestic Products (Gille, 1986; Saunders et al., 1983, 1994 & Saunders, 1982). Moreover these studies support the notion that telecommunications is a very lucrative sector for any business that ventures into it (Mbarika, et al., 2003).

The telecommunication sector in Kenya has grown significantly over a very short period of time, making small private telecommunication companies good candidates for a study in factors affecting their funding and growth (Graham, 2010). The research will seek to identify the factors affecting financing of business activities in private telecommunication companies and determine the challenges faced in this process. In particular the research will seek to establish if factors such as company age or history influences the funding decision or the type of funding the go for.

1.5 Research Objectives

The main objective was to assess factors affecting funding of business activities in private telecommunications companies in Kenya. Specifically the study objectives were:

i) To establish the various sources of funding used by private telecommunication companies operating in Kenya.

ii) To determine how private telecommunication companies in Kenya raise funds to support their business needs

iii) To establish which factors influence the type of financing private telecommunication companies seek.

iv) To identify constraints faced by private telecommunication companies in Kenya in sourcing for financing.

1.6 Research Questions

To respond to the above objectives, the study attempted to seek answers to the following research questions:

a) What drives private telecommunications firms in Kenya to seek for financing?

b) How do private telecommunication firms in Kenya finance these needs?

c) What are the factors that influence the company decisions on the funding to go for?

d) Do telecommunication firms in Kenya subscribe to any financing theories or model in their funding decision making process?

e) What constraints do private telecommunications firms face in raising capital for their business projects?

1.7 Scope of the Study

The study was carried out between February and April 2013 and covered Nairobi Operations only.

1.8 Justification of the Study

The findings of this study are important to telecommunication industry players as is it will provide more insight into sector-wide challenges that face the telecommunications companies in sourcing for external financing.

In today's financial markets, new challenges emerge every day – especially in the high-technology industries (Mark, 2010). How we analyse the existing funding options as utilized by telecommunication firms in Kenya, the key objectives of this research and the findings are expected to add a body of knowledge to the telecommunications industry.

This study could also be of importance to other researchers and academicians as it may provide information on the financing of telecommunications which can augment further research on the topic of funding of telecommunications.

Definition of Key Terms

External Funding-Refers to financing sourced from sources outside of a company for instance investors and lenders.

Entry Regulation – Terms and conditions introduced by industry regulator as far as this study is concerned, refers to the Communications Commission of Kenya).

Interconnection Effort – Refers to how the industry competitors are streamlined through competition regulations.

Mobile Telephony – refers to mobile network service provision primary on the GSM platform Operators/industry players/Mobile service operator /Internet Service providers– refers to companies offering Mobile network and internet services.

Factors - A factor refers to anything that contributes to a result so adding it to or removing it from a process will alter the outcome. In mathematics, a factor can be defined as a variable under examination in a study (Oxford Advanced English Dictionary, Wiki Answers)

Operating Expenditure (OpEx**)-**Operating expenditure refer to the monies that are spent to keep the business running.

Capital Expenditures (CapEx**)-**Capital expenditures refers to funds spent to acquire or upgrade physical assets

Accounts receivable financing-involves using invoices to secure short-term loans (Fields, 2002).

Factoring- involves selling actual invoices to a lender and the issuer of the invoices pays any amounts due to the lender/the factor (Fields, 2002).

Inventory financing-involves using stock (only finished goods) as collateral to secure short-term loans (Fields, 2002).

Floor planning- where a lender buys from a vendor and gives goods to a retailer on credit (Fields, 2002).

Revolving credit- a combination of accounts receivable and inventory financing which counterbalances these two (Fields, 2002).

Zero-balance accounts- where customer credit settlements are used to offset against loans (Fields, 2002).

Line of credit- Involves borrowing in advance of funds requirement (Fields, 2002).

Credit cards- Involves online purchases of small orders (Fields, 2002).

Compensating balances- involves a requirement by the lender to maintain a 'minimum balance' on the loan account (Fields, 2002: 27).Long-term funds:

Term loan- normal loan payable in five to seven years with payments amortized over the loan term (Fields, 2002).

Bond- a special term loan that can be bought or sold through a public offering in the Nairobi Stock Exchange.

Debentures- a bond whose collateral is ''the full faith and credit'' of the borrower, making it a form of unsecured credit (Fields, 2002: 189).

Mortgage bond- a form of debenture with a defined collateral (Fields, 2002).

Convertible bonds- a bond with the option of conversion to a share (Fields, 2002).

Senior debt- a preferential debenture (Fields, 2002).

Subordinated debt- a debenture ranking below senior debt (Fields, 2002).

Junk bonds- A type of bond characterized by a higher than average yield and a low credit rating (Fields, 2002).

Assumptions

The following key assumptions were made in this study:

Accuracy: The study assumed that the data collected was accurate in its form and that inconsistency followed naturalism.

Sample: The study also made an assumption that the sample size contained the content of knowledge that was required for the researcher's enquiry.

1.9 Chapter Summary

Chapter one introduces the research topic through the research problem, statement of the problem, purpose of the study on telecommunication companies, study objectives, research questions, justification, and definition of the key terms. Chapter 2 will review existing literature on the topic in the form of past and current research and industry literature related to the problem statement.

CHAPTER TWO-LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature on how telecommunication has evolved both globally and in Kenya. The chapter introduces the topic of funding in the telecommunications sector. This chapter will examine the theories behind financing in general and analyze the previous literature on the topic of funding of telecommunications. Literature on the scope, implementation of sources of funding in telecommunications is also examined and presented on this chapter.

2.2 Introduction to Funding

According to the Merriam-Webster dictionary, the first known use of the word fund was in 1694AD while recorded use of a fund was in 1789AD; as such the definition of the 'fund' we are concerned with is...to change into a debt payable in a future pre-determined date or at no definite date and that which attracts an interest (Merriam-Webster, 2012).

In order to understand funding in telecommunications, there is need to understand the topic of funding in general. As such, the term fund will be used as a direct translation of finance. Whichever category of finance, a business involving applying theories and tools of finance will dichotomize funding into: investing (utilizing funds) or financing (raising funds) (Frank & Pamela, 2003).

2.2.1 Issues affecting types of Funding

2.2.1.1 Forms of funding available to a company

There are two forms of funding available to companies, debt financing and equity financing (Fields, 2002). Under debt-financing, a company can source for short or long term funding, the word term being used to denote the length of time before arrival of the maturity date. These are usually referred to rightly as working capital, as they finance OpEx. Long term funding refers to debt that matures beyond one year. These are used to finance capital expenditure (Fields, 2002).

2.2.1.2 Debt Financing: Can *be short-term or Long-term*

Short-term funds:

A company seeking short-term borrowing can pursue any or a combination of the various types of short-term financing methods available to companies" (Fields, 2002: 27). A brief explanation of these forms of short-term borrowing is as give below.

Accounts receivable financing: involves using invoices to secure short-term loans (Fields, 2002).

Factoring: involves selling actual invoices to a lender and the issuer of the invoices pays any amounts due to the lender/the factor (Fields, 2002).

Inventory financing: involves using stock (only finished goods) as collateral to secure short-term loans (Fields, 2002).

Floor planning: where a lender buys from a vendor and gives goods to a retailer on credit (Fields, 2002).

Revolving credit: a combination of accounts receivable and inventory financing which counterbalance the two (Fields, 2002).

Zero-balance accounts: where customer credit settlements are used to offset against loans (Fields, 2002).

Line of credit: Involves borrowing in advance of funds requirement (Fields, 2002).

Credit cards: Involves online purchases of small orders (Fields, 2002).

Compensating balances: involves a requirement by the lender to maintain a 'minimum balance' on the loan account (Fields, 2002: 27).Long-term funds:

A company seeking long-term borrowing can utilize the various types of short-term financing methods available to companies (Fields, 2002). A brief explanation of these forms of long-term borrowing is as given below.

Term loan: normal loan payable in five to seven years with payments amortized over the loan term (Fields, 2002).

Bond: a special term loan that can be bought or sold through a public offering in NSE.

Debentures: a bond whose collateral is ‘‘the full faith and credit’’ of the borrower, making it a form of unsecured credit (Fields, 2002: 189).

Mortgage bond: a form of debenture with defined collateral (Fields, 2002).

Convertible bonds: a bond with the option of conversion to a share (Fields, 2002).

Senior debt: a preferential debenture (Fields, 2002).

Subordinated debt: a debenture ranking below senior debt (Fields, 2002).

Junk bonds: A type of bond characterized by a higher than average yield and a low credit rating (Fields, 2002).

Given the significant level of investment seen in telecommunication companies, a telecommunication company can opt to seek funds from outside the organization. This is through incurring debts through avenues such as through floating shares. Going the financial institution route will see the business seek debt capital through loans, bonds, or debentures or by selling ownership either through private placement or initial public offering (Fabozi & Peterson, 2003).

2.2.1.3 Equity

There are three types of equity: venture capital, ordinary shares and preference shares.

Venture capital: Form of fund provided by lenders who are risk-diverse and usually fund ideas with have high potential (Deloitte, 2012)

Ordinary shares: Form of funds raised through floating shares in the stock exchange either through private placement or through an initial public offer (IPO), these participate in voting (Fabozi & Peterson, 2003).

Preference shares: Special shares which receive a set and guaranteed dividend. They however do not participate in voting (Fabozi & Peterson, 2003).

2.2.1.4 Cost of funds

The avenue to pursue is largely determined by factors affecting that route. If a company wishes to raise funds it can either borrow or sell shares. The cost of capital then becomes a **factor** affecting the avenue to pursue (Mark, 2010). The cost of capital is defined as "*the return given in return for use of someone's' money... If borrowed, the cost factors the interest that must be paid on the amount lent. If in the form of equity, the cost is the return the investors expect, both principle and interest/dividends*" (Fabozi & Peterson, 2003:322).

2.2.1.5 Maturity

In a scenario where the borrower or the company seeking funds prefers the external route, then the lender in this case is an investor. Investors provide funds expecting future returns on one end and a higher value of the stock in future on the other hand (Lavanya & Solomon, 2006); which becomes another **factor**. What they pay at the time of the purchase transaction is referred to as present value (Fabozi & Peterson, 2003). The present value as a factor takes into account other **factors** namely the unpredictability of the future, time of payments and opportunity cost of funds invested.

2.2.1.6 Payment schedule

These factors on the other hand can be subject to other factors which include: economic outlook, returns offered by alternative ventures and investor's outlook of the company (Fabozi & Peterson, 2003).

The cost of money is commonly known as interest rate. Interest rate is the cost you incur for using money that is not yours. It can also be treated as the price you charge those who use your money (Fabozi & Peterson, 2003). For instruments traded in the secondary market, their prices are based on the factors of demand and supply. Demand and supply conditions are dependent on time and as such they vary with time. Any investor will therefore be interested on the maturity date and thus a payment schedule (Fields, 2002).

2.2.1.7 Collateral

This is use of security to secure debt (Fabozi & Peterson, 2003). Using assets as collateral is the only avenue available to start-ups wishing to secure funding, where the asset guarantees the loan

(Fields, 2002). For a corporate bond the debtor's credit rating is the only collateral and a company must be big and reputable to qualify for this form of fund.

2.2.1.8 Conditions and restrictions

For a Kenyan Company seeking to raise money from Nairobi Securities exchange, it must have made profit in 3 of the five years prior to listing (Deloitte, 2012).

2.3 Financing Theories

Gu and Ku (1997) defines a financing theory as a positive model that describes how a business's financing policy is defined. Some of the financial theories that have been offered by various authors are explained below:

2.3.1 Capital Structure Theory (Modigliani-Miller Theorem)

Modigliani and Miller (1963) in their capital structure theorem postulate that a company's' net worth is not affected by its capital structure. Many scholars have argued, however that the theory, was proposed under some serious assumptions which can themselves be argued to be very important factors e.g. frictionless markets, no taxes, no bankruptcy costs, and no market growth.

2.3.2 Trade off Theory of capital structure (TTO)

The tradeoff theory works with taxes and bankruptcies. The soul of the theory is that an organization debt-equity assessment is informed by the trade-off between the tax shield from debt and all costs associated that would be incurred in the event of bankruptcy or financial distress (Robichek & Myers, 1966; Marsh, 1982). The theory postulates that a company defines an optimal balance between debt and equity where the marginal costs and the marginal benefits of a debt exactly offset against each other. The company then works towards moving towards the pre-set target ratio. In practice, the target debt-equity ratio differs from one organization to the other. Companies whose taxable income is enough to cover external sources of funds have high debt-equity ratios. Unprofitable firms on the other hand tend to lean more towards equity financing. Some empirical studies endeavoring to explain the determinants of capital structure include those by Fem and Jones (1979), Marsh (1982), and Castanias (1983). Bradley et al. (1984) offered an overall review of the theory and empirical studies. He argued that the problem

with the TTO theory, which was also fronted by Brealey and Myers (1984) is that it is not adequate to explain the real-life capital structure phenomenon which is adopted by most profitable companies which succeed with little debt.

2.3.3 The Pecking Order Theory

Donaldson (1961) contends that organizations prefer internal funding (in the form of retained earnings or excess current assets) to external funding. As opposed to TTO the pecking order theory does not work with an optimal capital structure a yardstick.

In an American firms survey (Donaldson 1961) found that that where internal financing is not adequate to fund investment opportunities, companies chose to avoid using external funding, and when they do, they tend to be guided by a deliberate attempt to minimise additional costs.

2.3.4 The Market timing theory

This theory argues that organizations time their equity financing to coincide with the time when their stock price is overvalued, buying back their own shares when there is perceived to be an undervaluation. Ffluctuations in stock prices however affect a company's capital structure. There are two types of equity market timing that create similar capital structure dynamics. The first is based on the assumption that economic agents are rational. One assumption is that firms seeking funds issue equity immediately after a positive information release which reduces the differences between the management and shareholders. The decrease in differences coincides with improved share price. In reaction, companies create their own unique timing opportunities.

The next assumption is that economic agents are irrational (Baker & Wurgler, 2002). The perceived irrational behavior leads to a time-varying mispricing of the share. Managers issue shares when they perceive the share price to be irrationally low and repurchase the same when they believe its price is irrationally high. However, it is worth noting that this second assumption does not work or require the market to be inefficient. In addition, it does not require managers to accurately predict return on investment. The assumption here is that a company's management believes they can actually time the market. In a study by Graham and Harvey (2001), senior management admitted to attempting to time the equity market. Most of those that have

contemplated issuing ordinary shares report that the level of the undervaluation or over- valued or an ordinary share was an important consideration (Baker & Wurgler, 2002).

2.4 Conventional sources of funding

Many venture capitalists prefer to provide funds to start-ups, a form of funding otherwise known as direct sales. Companies can also sell shares indirectly to the public through investment banks or pension funds a way of raising funds known as private placement (Fabozi & Peterson, 2003). A survey carried out on private equity in Africa indicates arise in the venture capitalists setting camp in East Africa (Deloitte, 2012). These funds are targeted at medium and small startups with high potential for growth with a bias for consumer-driven sectors (Deloitte, 2012). The survey estimates that 66 deals worth approximately $3 billion were completed in Sub-Saharan Africa through private equity in 2011.

The capital market is made up of two markets, the primary market and the secondary market.

2.4.1 Primary Markets

This is a market where securities are sold directly to investors.

There are three ways to raise funds in primary markets: Directly to investors, through a financial institution and through an investment banker. These avenues are discussed in detail below.

i) Directly to investors: This is where investors buy shares directly from the issuer. Most venture capitalists prefer this method given that most issuers customize the security to the preference of investors in a bid to woo the investor (Fabozi & Peterson, 2003).

ii) Through a financial institution: This is where banks and other get funds from investors in exchange for security and then they go ahead to invest the same (Fabozi & Peterson, 2003). Mutual funds like old mutual in Kenya and pension funds like NSSF in Kenya also act as financial institutions.

iii) Through an investment banker: This is where investment banks where these act as brokers by buying shares issued by companies and selling them to investors at a higher price (Fabozi & Peterson, 2003). This process is commonly known as

underwriting and has seen two telecommunication companies listed in the Nairobi Securities Exchange i.e. Access Kenya and Safaricom (Mark, 2010).

2.4.2 Secondary Markets

This is a market where shares are resold among investors, no new capital is realized and the issuer of the shares does not profit from the sale (Fabozi & Peterson, 2003). Such investors engage stock brokers. Stock brokers are companies which buy or sell shares for their clients.

There are three ways to raise funds in primary markets: Directly to investors, through a financial institution and through an investment banker. These avenues are discussed in detail below.

Secondary markets can be categorized into two: securities exchanges like the Nairobi securities exchange where traders meet to buy or sell listed shares and over the counter (OTC) arrangements where traders do not have to meet but still buy or sell non-listed shares. Trading is done online using systems that might be owned by the members e.g. NASDAQ; a system run by the National Association of Securities Dealers (NASD) (Fabozi & Peterson, 2003).

Pricing for shares is done through two methods; auction and dealer market. In the first method, interested parties submit bids through their brokers, these are sent to a centralized system and matched to offers electronically and the transaction completed. In the dealer market, interested parties trade one on one with each other (Fabozi & Peterson, 2003).

2.4.3 Money Markets

This is similar to capital markets and sometimes trading is done on the same location; together these make up financial markets. Trading is done over the counter through a system inter-linking all interested parties. Various instruments are traded in the money market for instance commercial papers, treasury bills, treasury bonds, corporate bonds and debentures (Fabozi & Peterson, 2003).

Large commercial banks act as brokers in the bond market, and negotiate directly with the seller /investors and the buyer/investor. This is done through a computerized system and all parties can follow the indices of their instruments of trade. Banks can in turn negotiate with large investors like pension funds, insurance companies and investment banks (Lavanya & Solomon, 2006).

2.5 Sources of Financing Telecommunication Companies

There are various sources of funding for telecommunications firms which can be classed under three broad categories:

- Public: Here we have government supported access initiatives which could be direct or indirect as is the case in investment subsidies
- Private: We may include, private equity, self-financing, FDIs, donor, capital markets.
- Private Public Partnership

The following sub sections analyze the funding sources under the categories mentioned above.

2.5.1 Government Supported Access Initiatives

Government financing is common in telecoms funding especially in countries that depends on government support. Australia is an example of this where funding in telecommunications is in excess of $4 billion (Patala & Solomon, 2006). Moreover, developing countries sometimes privatize telecommunication sectors and fail to monitor the impact of such actions (Merna & Njiru, 2002).

Some of the solutions to this involve taking advantage of the government's role as part owners of the infrastructure. The governments in most countries are key users of ICT services. When they fund rollout of their operations in rural areas, they offer impetus for private companies to serve local communities (Merna & Njiru, 2002).

Governments have been known to own strategic infrastructure services like rail and road networks and some even have their own private telecommunications networks. Sometimes governments will have redundant capacity that can be made availed to private companies (Merna & Njiru, 2002). This calls for governments to support tele- access initiatives through the deployment of both broadband international and national backbone. Subsidised loans to telecenter owners have been used to improve roll out access (Merna & Njiru, 2002).

Universal access funds are another way to finance such investments. These operate by levying operators sourcing for additional funds from government and donors where need arises. Although a diverse array of firms providing remittance research indicates that the banking

sector dominates the market, handling over US$2 billion globally, if all countries worked harder this could improve.

2.5.2 Donor Community

The donor community plays a relatively small role in overall financing of Telecommunications. The gift of money deployed in different forms to developing countries is mostly used to raise their communities' social welfare (Merna & Njiru, 2002). Support to public operators has been going down since the 90s as a result of the private sector taking over the leading role. Despite support for private telcos from IFIs going up, the contribution amounted to around 16% of private participation in infrastructure (PPI) investment investments in the 90s.

2.5.3 Freedom to borrow without state guarantee from capital market

Financial autonomy should include freedom from borrowing without state intervention and the state should come in where donor demands for such guarantee (Tocatlian, 1995). However, the freedom to borrow would not imply operation of communication networks without any state control indeed the borrowing would imply operations would be carried out in the framework of the objectives laid down jointly with the state and within debts limits acceptable to the company.

Access to the capital market should be achieved freely for even public communication companies. In this regard we could point to the experience of France Telecoms with respect to financing its needs. Although being a public company it borrows under its own name and finances its short term loans through credit lines with banks as well as enjoys the possibilities offered by national communication fund. The long-term loans are financed mainly on finance market by borrowing on international markets in Euro-currencies.

While it is true that many African countries lack capital market, it is also just as true that the individualization of the economy is opening new horizons and the creation of regional development poles should offer better prospect. There are examples of such cases where share have been on stock exchange in West Africa region, Abidjan, Accra, and Lagos. These are possibilities that should be exploited further.

2.5.4 Private Capital

Gayle and Goodrich, 1990 define privatization as the process of caping the government role while ramping up that of private sector. According to (Merna & Njiru, 2002) privatization is the best way of financing infrastructure projects. During the 70s and 80s developing countries 'economic instability was associated to public ownership given that with privatization in late 1980s, the economies of these same countries improved notably, Donaldson (1961). Case in point: in Latvia the government offloaded 60% of its telecommunication sector assets to private companies, leading to entry of telecommunication giants like Telia, Telekom Finland, France Telecom, Tele Danmark, OTE (Greece) and Deutsche Telekom. This has also helped in opening up the market to international competition.

2.5.5 Self-Financing

Self-financing can be defined as the funding of company projects and operations through internally generated cash flow (Gu, 1997). Gu(1997), Donaldson (1961) observed that many companies strongly preferred internal generation of capital as a source of new funds even to the exclusion of external funds, except for occasional unfavorable 'bulges' in the need for funds. These studies point out that if firms needed external financing, then managers rarely thought of issuing common stocks.

Some examples of this are in Ukraine where self-financing is used by smaller companies which are discouraged byhigh interest rates on loans. To promote effective self-generation requires tariffs restructuring, cost reductions from efficient gains, implementation of new services and stimulating traffic growth.

2.5.6 Foreign Direct Investments

A Foreign Direct Investment (FDI) is a cross-border venture by a foreign investor who holds an interest of at least 10% in equity capital. There is a support in theoretical and empirical research towards support that increased FDI leads to an increase in economic growth. FDI not only contributes to capital accumulation, but also acting a s a medium for technology transfer which increases factor productivity hence fostering growth (Deloitte, 2012).

An important source of investment funds for telecommunication comes from foreign direct investment. This could include the sale of shares of the operator to foreign interest, new market entry, and schemes such as build and operate transfer. Many countries in the past were reluctant to allow foreign interest ownership in telecommunication viewing this area as a national resource and politically sensitive. The benefits a foreign investor brings through investment, technology and operating know-how by far outweighs any hypothetical risks of foreign ownership.

2.5.7 Telecoms Subsidies

A subsidy is a grant usually from the government to a project (Cannock, 2001). This can also be in the form of reduction in taxes which is a form of saving which can be reinvested by the beneficiary company. The subsidiary method is good for financing telecommunications projects in general.

Other methods of financing Telecommunications include among others: Joint venture loans, Cross-border initiatives, Guarantees, Vendor and supplier financing, junk bonds and Reverse bids.

2.6 Expansion of Telecommunications Services as a Factor in Funding

The economic development of the 1970s to the 1990s saw emergence of newly industrialized countries especially in Asia and failure of many nations in Africa. This and other reviewed literature makes Kenya a case study significant enough for those concerned with development strategies especially given its role in economic development in Kenya (Tyler et al, 1991). The contribution of the telecommunications sector in Kenya has been the subject of more business research than academic research.

In its formative stage, minimal investment was required in communication. This is because communication began with the use of medieval tools such as smoke signals and drums (Waburi, 2009). The first real evidence of modern Tele-Communication could be said to have begun in the 1790s when the first fixed semaphore system emerged followed by electrical telecommunication systems.

In Kenya the earliest telecommunication connections to the outside world were the submarine cables linking Zanzibar, Mombasa, and Dar es Salaam in 1888 (Waburi, 2009). The subsequent

history of Kenya's network was one of gradual but sustained expansion. In the 1980s, growth of Kenya's improved significantly. Kenya Post and Telecommunications Company undertook different development programs that ran from 1979 to 1992 (Tyler et al, 1991). This led to the introduction of mobile telephones in the Kenyan market around this time, but the real diffusion started in 1999 when the Communications Commission of Kenya (CCK) was established Safaricom and Airtel Kenya were licensed by CCK. The entrance of Telkom Kenya (Orange) and Essar Telecom (YU) led to increased competition necessitating the need for continued investment in network expansion.

2.7 Financing Telecommunication Companies

According to an equity survey carried out in 2011, East Africa was the beneficiary of a high influx of private equity (Deloitte, 2012). The equity was channeled towards infrastructure, real estate, health, agribusiness and green energy, as well as to consumer-driven sectors. The survey also identified venture capitalists to be shying away from East Africa with the exception of Kenya. International venture capitalists were seen to have taken a key interest on Kenya which has gradually been emerging as an ICT hub. Historically private equity has been channeled to South Africa but firms like Helios have been gradually investing in Telecommunication tower companies in Africa (Deloitte, 2012).

2.7.1 Telecommunications growth potential

Globally, communications is at the heart of all business activities (Madden and Savage, 2000). Recent advancement in technology is opening up new horizons for new services capable of contributing towards economic growth (Deloitte, 2012). Due to the size of world-wide investments in telecommunication infrastructure, various studies have been carried out in a bid to determine the link between such investments and business growth (Wyman, Seldin and Worzala, 2011). Studies on East Africa portray a higher business confidence than that of her counterparts in West Africa. The general feeling is that East Africa is more politically stable and has better governance than West Africa (Deloitte, 2012).

The telecoms industry in Kenya, just like the rest of the world, is changing. In the past decade, this has transformed the industry leading to massive investment of capital - much of it originating from both local and foreign private sector participants. Market liberalization efforts have also picked up ensuring the successful partial privatization of Telecoms Kenya Ltd in

December 2007 (CCK, 2009), investment of GoK's 25% stake in Safaricom Ltd through a public listing in May 2008, and the launch of fourth mobile operator Econet Wireless Kenya in November 2008 (CCK, 2009). This has resulted into some of the world's best known telecommunication providers – Vodafone, France Telecoms and Essar Communications becoming the main players in the Kenyan market through their investments in Safaricom Limited, Telkom Kenya Limited and Eco net limited respectively. Ongoing infrastructural developments by operators have largely been focused on network expansion for increased nationwide coverage.

An economic research paper reports that the private sector has played a minimal, but increasing role in the telecommunication sector in Africa (Oshikoya & Hussain, 2006). The bigger parts of investments have come from self-financing and from bilateral and multilateral sources. Compared to other countries, the level of self-financing locally is high, indicative of the lack of capital from other sources. On the other hand, lending from bilateral sources is declining (Oshikoya & Hussain, 2006).

2.7.2 Telecommunications and Private Equity

There is no information on firms' desired amount of external finance; only the amount of external funds raised by the firms is observed. Vartia (2004) argues that in the perfect financial market the availability of willing investors is perfectly elastic implying that firms are able to raise the total amount of desired external funds at the proper risk-adjusted rate. Trying to solve this problem of financing telecommunication without a comprehensive understanding of the real technological, economic and financial long term implication, is very unproductive and may easily lead to wrong costs and without economic benefits resulting from investment.

Sector financing in developing countries is largely determined by regional growth fundamentals. Country dynamics play a significant role in wooing (potential) investors into a certain country (Deloitte, 2012). Poor infrastructure, currency risks, double digit inflation and governance play a significant role in making a country attractive to investors. Telecommunications has played a key role in making African telecommunication firms attract potential investors.

Globally, determining whether there is a direct relationship between potential for investments in telecommunications and country dynamics is a big challenge. Jipp (1963) was the first to

successfully front empirical evidence of the link between national teledensity and country dynamics across a number of countries. In African countries, there was a fundamental shift in growth dynamics in that Africa went straight from low tele-density in landlines to very high tele-density in mobile phones. For instance, Alleman et al. (1994) proved Jipps's evidence to hold for Botswana, Lesotho, Malawi, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe for teledensity and GDP growth.

Empirical evidence has also established a potential link between telecoms and economic growth where ROI is greater for emerging economies (Madden and Savage, 2000). Measurement of the dependence on external finance draws upon this study, which defined a firm's demand for external finance as "the amount of intended investment that cannot be funded through internal cash flows". According to Madden and Savage (2000) and Edirisurija (1995), telecommunications infrastructure investment augments economic activity and hence economic growth. This growth results in a higher percentage of national income used on telecommunications services, and stimulates further investment.

According to Maddock (1995) and Welfens (1995) telecommunications can be isolated as a leading sector because where it grows faster than the overall economic growth; it results into overall national productivity. Zhao and Junjia (1994) cite investments in China which resulted into improved production, distribution, exchange and consumption. Such externalities were also attributed to significant improvement in efficient use of energy, labour and capital. Kenya has been used in numerous occasions as a case study in telecommunications growth. The growth of Kenya as an ICT hub has been largely attributed to the growth in mobile connections (Deloitte, 2012). Mpesa, a vodafone invention, performed so well that it was able to repay all research and development costs to Vodafone within one year of its launch in Kenya (CCK, 2011). This put Kenya in the global map as a country that embraces innovation and attracted all top global technology firms who now have a regional office in Kenya. Growth has also seen demand for faster internet speeds which saw the setup of fibre optic cables. Konza City is another example of how telecommunications can attract funding from private equity.

In Nigeria, the year of 1999 marked the beginning of a sustained transformation of the country (Oladokun, 2011). This was largely driven by the government's quest to reform the economy through pragmatic policies that edged more towards the privatisation and commercialization of

its enterprises, the impact of which was largely in the telecommunications sector (Ndukwe, 2009). Nigerian Telecommunications Limited, which had been a monopoly for 3 years, ended in 2001 with the setting up of shop by 5 other GSM companies. Other benefits from this development in Nigeria were foreign direct investments, capital investment, improved teledensity, and improved availability of services, job creation and most significantly revenue

Prior to commencement, and as part of the efforts to sustain operations, telecommunications firms also invest in real estate in form of office space and sites for setting up telecommunication equipment and other infrastructure (Oladokun, 2011). According to Dasso et al (1989) all businesses make real estate decisions for initial office location, relocation, setting up of a branch, or for expansion purposes.

2.8 Challenges of Financing Telecommunications

Financing of telecommunications is faced by many challenges which are highlighted below:

2.8.1 Deregulation

The **deregulation** of telecommunications conjures negative emotions in the hearts of many and failure to deregulate may lead to a drop in connectivity rates in Africa (ITU, 1998). This was clearly noted at the G7 Conference held in South Africa in 1996 where there a push by developing countries against throwing open their networks to foreign operators (ITU, 1998). The argument was that first world countries had their home markets saturated and scrambling for Africa which still had a virgin market with less competition. Others felt that they should be given more time.

2.8.2 Property Rights

Another concern was about information flow and intellectual **property**. It was felt that that if these two were determined by the North, developing countries could end up as absorbers of information from the developed world, and Africa could lose its valuable cultural value.

Despite foreseen issues about the electronic future, African governments will play a big role in universal information in their respective countries. They do not have to necessarily become regulatory organs, but can ensure provision of services to the poor. This can be accomplished through community-based arrangements that cover a throng of service applications and content

through versatile community centers, such as the phone kiosks installed in South African communities. These kiosks can be run on a commercial basis, without excluding the marginalized. Developing countries governments have a responsibility to take tactical positions in tackling the coming digital world.

2.8.3 Low Private sector participation

Low private sector **participation**. The private sector has played a small, but important, role in the telecommunication sector investment in Africa. Majority of investments have been achieved through self-financing and bilateral and multilateral sources. When related to other developing countries, self-financing by local operators is big, a pointer to lack of funding from other sources while on the other hand lending from other sources is declining.

2.8.4 Political Instability

Political instability in developing countries is a key hindrance to funding in telecommunication companies. According to Deloitte (2012), investors shy away from countries which they perceive to be politically unstable.

2.8.5 Governance and Transparency

Governance and Transparency is another aspect that may curtail availability of funds to telecommunication companies as they make investors less attracted. The developed world has a perception that there are relative risks of doing business in Africa.

2.9 The future of funding in telecommunication companies

The future of the telecommunications industry is simple. In the last few years there have been numerous devices and applications directed towards interconnectivity with wireless devices beating wired devices (Gerstner, 2009).

As evolution continues to happen, the industry came to terms with the two major global blows that exposed it in 2011. The first shock was the global economic meltdown that still remains to date affecting the performance of operators in markets globally (Gerstner, 2009). As a result the sector was forced to slow down in terms of growth and expansion, against a backdrop of marginal credit markets and acceleration of the commoditization of informal telecom services, while reducing operator asset valuations regardless of size of operations (Gerstner, 2009). As a

result, operators concentrated on managing costs and improving on operational efficiency to avoid profit dips (Sabbagh et al. 2011). This also forced telecommunication companies to avoid mergers and acquisitions (Sabbagh et al. 2011).

The second shock was the upset that resulted from by mass digitization. Customers are becoming more difficult, expecting services wherever they go, and making operators to expand and improve network capacity (Sabbagh et al. 2011). All types of industries are also adopting mobile technology and demanding an unchartered services like mobile money platforms and cloud computing. The market for mobile apps is growing exponentially, creating yet another upsetting force that telecommunication companies must learn to profit from (Sabbagh et al., 2011).

At the same time, technology ecosystems including critical applications and service platforms have continued to grow, are growing increasingly modular and open (El-Darwiche, Friedrich et al, 2010). As a result, the industry has become more competitive, with entry of new players from adjacent industries look to tap into customer expectations (El-Darwiche, Friedrich et al, 2010).

In the middle of these challenges, the industry arrived at a consensus on how to progress in a bid to transform itself. This took the form operators moving away from the traditional integrated business models to four new business models that are aligned to modern customer demands and the resultant opportunities. This was achieved through the four business models that emphasize reliability and cost-effectiveness; flexible, integrated business enablers; innovation, customer-facing experience creator; and the wide-ranging, synergistic global multimarket (El-Darwiche, Friedrich et al, 2010). The effort towards perfecting these models calls for an ongoing process of aligning costs with business goals.

Players who adopted these models are already reaping; players who took up the network guarantor model were rewarded with accelerated growth in broadband. Business enablers have seen improved revenues from virtual networks and cloud computing platforms. New experience creators have reaped from services that enhance user experiences, and additional revenues from apps and content revenues (El-Darwiche, Friedrich et al, 2010).

The outlook of the telecom industry looks promising with complete transformation expected from the earliest of 2015 and 2010. An analysis of revenue sources reveals that earnings from

voice and text services will continue to dip (Sabbagh et al., 2011). Future revenues will come from broadband and from business-to-business and not from end users but this will require a substantial amount of effort. In future, operators must start to adopt strategic choices in line with their future direction, adopting the model or a combination out of the four models that work for them. Such a decision will be based on whether they can leverage the capabilities they have and their capacity to build new ones (El-Darwiche, Friedrich et al, 2010).

In Africa, the mobile market boom is over, as a result of overcrowding by operators in addition to cut-throat competition. The industry points to a trend where new and existing operators are investing significant funds in networks and distribution channels to reduce churn rates and attract new customers (El-Darwiche, Friedrich et al, 2010).

A report by Morgan Stanley, a global investing firm, says Africa will continue to pose challenges to potential investors as well-funded companies like Bharti Airtel continue to channel more funds towards network coverage and low tariffs, with lower average revenue per minute. This has forced older investors in Sub-Saharan Africa MTN and Safaricom, which have been enjoying market dominance and super profits (El-Darwiche, Friedrich et al, 2010). The report points towards the future market being innovation driven, with a bias towards data and value added services the most outstanding being mobile money services like M-Pesa (El-Darwiche, Friedrich et al, 2010).

The Kenyan mobile market has almost reached saturation levels, with no room for new entrants due to competition from existing ones (CCK, 2011). This stiff competition in the local market has seen the four companies Safaricom, Bharti Airtel, Yu Mobile and Orange tussle for subscribers, with tariff cuts in both voice calls and data services.

Industry analysts are in consensus that the mobile telephony boom is almost over which has led to a myriad of factors like the supernormal profits some telecoms have been reporting over the years (Deloitte, 2012).

The next frontier in the industry will be adoption of 4G (fourth generation) and LTE networks, and value addition services. In the rest of sub-Sahara Africa, excluding South Africa, Nigeria is a major market where the prospects for Bharti, MTN and Etisalat will be determined by the ever changing face of competition (Deloitte, 2011). Dr Bitange, the permanent secretary in the

ministry of information in Kenya, however indicates there is room for expansion in the data market in Kenya, with its current 30 per cent penetration rate. This is an area for growth which is also fueled by the fibre optic cables expansion that is being rolled out all over the country (Deloitte, 2011). This is what the telecommunications industry and Africa at large should be looking at for future revenues (El-Darwiche, Friedrich et al, 2010).

2.10 Chapter Summary

Although the literature reviewed in this chapter points to significant amounts of studies and information on the topic of financing in the telecommunications sector in Africa. Pertinent gaps and questions are still imminent on the topic in the Kenyan context. Many of the studies conducted on the telecommunication sector in Kenya, have over-focused on publicly owned telecommunication firms (Deloitte, 2012; CCK, 2012; Mark, 2010; Patala & Solomon, 2006; Merna & Njiru, 2002). Safaricom, being a listed company with the backing of the Government of Kenya and Vodafone means that Safaricom has access to funds from all possible sources. As such, the study sought to fill an information gap on how this can be replicated in the yet-to-be listed private telecommunication companies with limited sources of the capital for expansion.

Analysis done by Greenstein and Spiller (1995) shows that contribution of telecommunications to growth is greatest for telecommunications related industries. In their multi-sectorial analysis, they consider insurance, emergency service, real estate and manufacturing. Their cross-sectional study identifies a causal relationship between increased telecommunications infrastructure investment and the productivity of insurance, fire and real estate sectors. This relationship was identified to emanate from the fact that the sector uses a higher proportion of advanced technological equipment, when compared to the manufacturing sector.

Despite the fact that funding decisions in most organizations are associated with funding business activities, this literature review postulates that organizational age could be a moderating factor that plays a significant role in the funding decision. The study therefore sought to establish the extent to which company size has influenced the source of fund available and the source of funding sought.

The literature review further identifies the factors and challenges that affect the financing telecommunications firms in different contextual frameworks; it is unclear whether these factors

and challenges are relevant in the Kenyan context. This study therefore seeks to establish if these factors are significant to the Kenyan private telecommunication firms and how important they are in influencing the external financing decisions in the companies.

2.11 Conceptual Framework

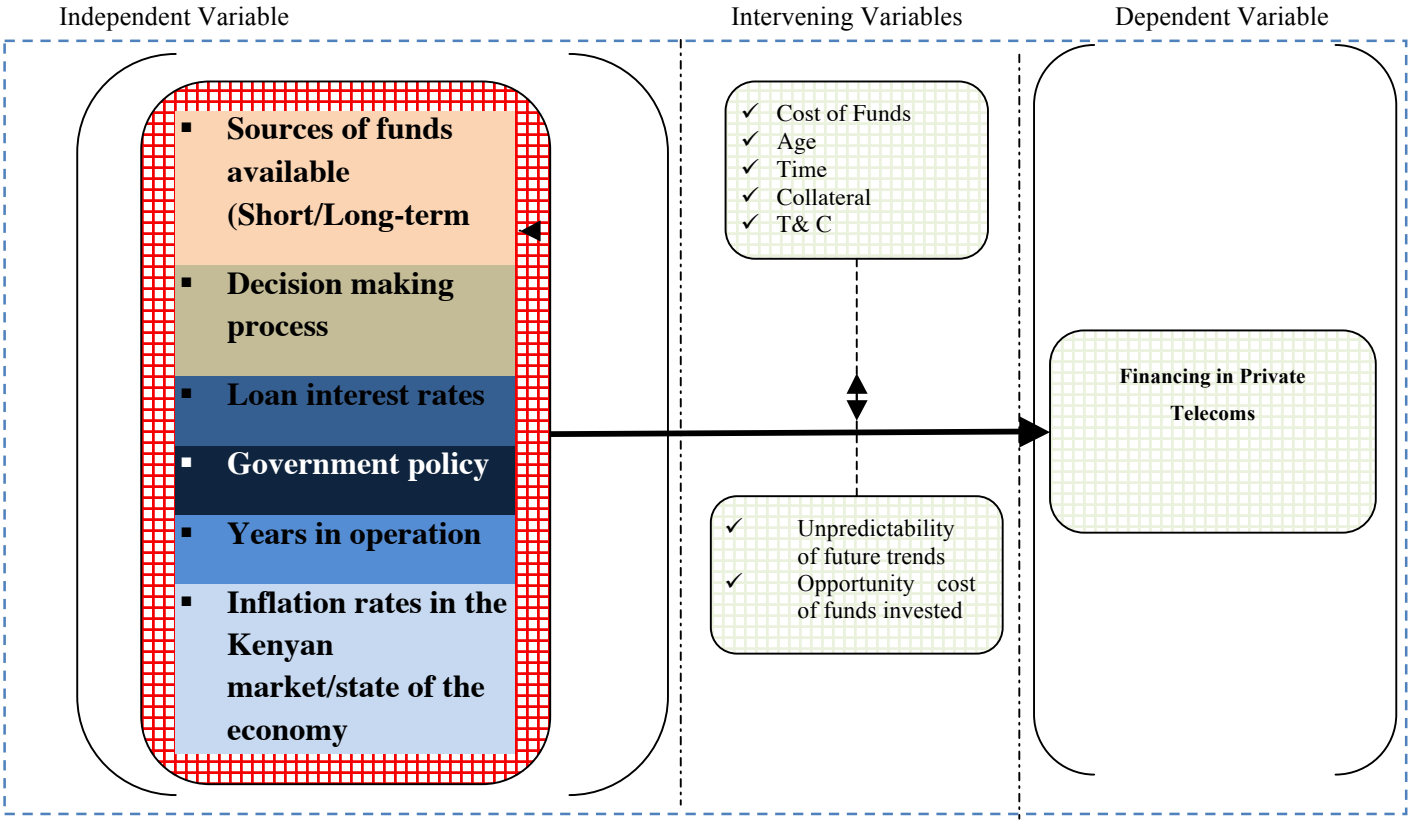
2.11.1 Variables Studied

The key variable for this study were characterized as independent and dependent variables. In this study the independent variables were classified under: sources of funds, decision, interest rates, government policy, age of firm and inflation while the while the dependent variable in this study was financing in private telecoms. The moderating variables were: cost of funds, age, time, collateral, terms and conditions, unpredictability of future trends and opportunity cost.

The conceptual framework of this study is based on the literature review which views general financing theories and factors affecting their funding and growth of firms, especially as they grow in multi-regulated business environments. The research will seek to identify the factors affecting financing of business activities in private telecommunication companies and the challenges they faced. The Kenya telecommunication sector has grown significantly in a short period, making it a relevant candidate for this study (Graham, 2010). In particular the research will seek to establish if factors such as company age or history influences the funding decision or the type of funding they go for.

This framework posits a central role of the interactions of the firms with effects of government regulation of the telecommunications sector, government regulation of the banking sector and the impact of these on the economy. Financing in private telecoms may not be related to one factor but interplay of the variables as diagrammatically presented as the conceptual framework.

Figure 2.1 Conceptual Framework



Source: Constructed from Literature on Telecommunications

2.11.2 Operationalization of the Conceptual Framework

Item	Operational definition	Questions
Sources of funds available (Short/Long-term	Modes of raising finance -Sources -Constraints	3,4
Decision making process	Reasons for seeking funds: -Activity -Level of funding -Responsibility	1-2
Loan interest rates	Issues affecting:	5,6

	-Loan maturity -Size -Past loans	
Government policy	Factors considered during process of seeking funds	7,8,9
Years in operation	Organizational Experience	5
Inflation rates in the Kenyan market/state of the economy	Factors influencing source of funds	4

CHAPTER THREE-RESEARCH METHODOLOGY

3.1 Introduction

According to Frey, Botan, Friedman and Kreps (1991), research methodology is the process researchers use to collect data which acts as evidence that is necessary to build and test theories. The research methodology also helps to explain both what and how the research activities will be conducted. To research is to carry out a diligent inquiry or critical examination of a given phenomenon. It implies exhaustive study investigation or experimentation following some logical sequence.

This chapter presents the data collection strategies and procedures deployed by the researcher during the research process. It outlines the steps that were used to identify the population and sample size, why the sample was chosen how the outcome was analysed and the tools used in data collection.

3.2 Research Design

According to Oso and Onen (2008) the delicate balance between quality and quantity of information is useful for a fuller explanation of the phenomena under investigation. The study thus adopted a similar approach due to limited research in the topic of external funding in private telecommunication firms in Kenya.

The main objective of conducting an investigative research is to describe current issues affecting a particular area or topic of a researchers' interest at the time of research (Kothari, 1992). An exploratory research design is used when the problems to be encountered during a study are not clear.

(Kothari, 1992) states that an exploratory research is concerned with finding out who, what, where and how of a phenomenon which constitutes the main concern of a study. It provides data about the population being studied; it is used when the objective is to provide a systematic description that is as factual and accurate as possible. Research design is what lays the foundation for research and can be broken down into four parts: study questions, which data is useful, the data to collect and data analysis.

3.3 Validity and Reliability of the Research Instruments

3.3.1 Instrument Reliability

Reliability refers to the degree a research tool would yield the same results after being subjected to repeated trials (Mugenda, 2008). It therefore refers to the consistency of the measurement (Orodho, 2003). Instrument reliability on the other hand refers to the level of internal consistency or stability of the research or data collection tool.

The study validity was measured using content validity, construct validity and overall model fit test using absolute fit indices. The content validity for this study was assessed using tools used in another study as a benchmark (Dimba, 2009). Thereafter, Pearson correlation test was used to evaluate the content validity from the benchmark study; a correlation coefficient greater than 0.80 indicated that the content validity was acceptable.

Construct validity was employed to appraise validity of operationalization of the variables studied. Construct validity is used as an indication that the operational definition of the variables reflect the theoretical meanings of a concept. The research tool was developed from the concepts of the theories adopted in this study. Therefore, this study may have high validity because Mugenda and Mugenda (2003) opine that if measurements are consistent with the theoretical expectation, then the data has construct validity. In addition to the theories, the construct validity was tested using exploratory factor analysis.

Chi-square on the other hand was used to test the overall model fit and was chosen as it is insensitive to sample size given the small sample of 31 in this study.

3.4 Population and Sampling

This research was an exploratory study across privately owned telecommunication companies operating in Kenya. The study targeted large and medium sized telecommunication service provider firms licensed by the communications commission of Kenya and who are members of the Telecommunications Service Providers (TESPOK). TESPOK was founded in 1999 by players in the telecommunications industry as a channel through which key Telecommunications Industry players would engage government on sector policy and regulatory issues.

There are one hundred and forty (140) licensed telecommunications service providers in Kenya, in different service categories, thirty of which are members of Telecommunications Service Providers in Kenya (TESPOK).

3.4.1 Target Population

The target population of this study was telecommunication firms registered with the Communications Commission of Kenya (CCK). The specific target population included firms who are members of the Telecommunications Service Providers (TESPOK). TESPOK –member firms are considered active and influential in shaping the telecommunication industries activities and policy direction.

In Kenya, an organizations' workforce is used in most cases to determine the size (Waburi 2009), in the context of this study, firms which have been in operation for more than five years and employing more than 50 employees were considered medium and large and were considered in the data collection process.

3.4.2 Sampling Procedure and Sample Size Determination

This study was a cross sectional survey of all telecommunication service providers who are members of Tespok. There are 50 members registered with Tespok and CCK. The number of service providers was deemed manageable and therefore a census study was carried out. The whole population was targeted for more complete information and due to the small number of service providers in Kenya. The key informants in the study were managers in investor relations, finance or technical departments. These informants were selected as they are the ones who have deeper knowledge of the topic under study.

According to Chava and Nachimias (2003), a representative sample should have at least 30 Units. Further, as Kothari (1992) observed, in a homogeneous population the number of members in the sample size may not affect the results of the research if the sample is drawn in a proper manner.

Nassiuma (2000) proclaims that a coefficient of variation of 30% or below is acceptable at a margin of error below 5%. This study used a coefficient of variation of 10% and a standard error of 1% due to the relatively small size of the target population. The formula is as follows:

$$S = \frac{NC^2}{C^2+(N-1)e^2}$$ ……..……formula (i)

Where;

N- Population size (Population of TESPOK and CCK Members)
S- Sample size
C- Coefficient of Variation
e- Error margin

Therefore, based on the information in table 1, the appropriate sample size was estimated as:

Eqn...(i)

$$S = \frac{50(0.1)^2}{(0.1)^2+(50-1)0.01^2} \equiv 34$$

To enhance sample representativeness, avoid bias and increase reliability and validity of the analysis, this study identified two factors that may increase sampling error. First, different TESPOK members have different population organizations in different sub-sectors, age/years of operations and mode of financing operations. Secondly, age and/or gender may be an important distinguishing factor that needs to be accounted for across respondents. Therefore, in light of the argument above, the study used stratified random sampling process in the selection of the respondents during the census.

The following table represents the sample breakdown by demographics

Table 3.3 Sample Breakdown by demographics [n=31]

Gender	Frequency	Percent
Male	14	45%
Female	17	55%
Total	31	100
Age	Frequency	Percent
25 & below	9	29%
26-35	17	55%
36-45	3	10%
46-55	2	6%
Total	31	100
No of years the company has been in operation	Frequency	Percent
0-2	4	13%
3-5	6	19%
6-8	1	3%
More than 8	20	65%
Total	31	100%

There were 31 responses representing a response rate of 62% [Out of a population of 50]

3.5 Data Collection Strategy

An evaluation can be formative when it is designed to inform the process of development or summative where the intention is to judge the effects. An evaluation will usually have both elements. Where it relates to a situation in where the researcher doubles up as a participant it may be described as 'action research' (Kombo & Tromp, 2006). Evaluations will usually use case studies and survey methods with a summative evaluation usually using experimental methods.

This study adopted the descriptive research design. According to Chava and Nachimias (2003), a descriptive study aims at determining the what, when and how of the phenomena. This study's aim was to assess the factors affecting financing in telecommunication companies in Kenya. It therefore fits the descriptive research design, which has been successfully used by researchers in other areas such as Njuguna (2011) and Njoroge (2003).

According to Kothari (1992), descriptive survey is a means by which views, opinions, attitudes and suggestions for improvement of performance practices and methods can be collected. The rationale behind this is that survey may reveal areas of interest where more in-depth data collection is needed. Descriptive survey is suited for explaining and exploring two or more variables at a given time and is efficient in collecting large amounts of information within a short time. It also enables the researcher to get qualitative information from sample to facilitate decision making as well as generalize findings to other organizations (Kothari, 2000).

This study adopted a descriptive survey design

3.6 Data Analysis

This involves the evaluation of the data collected (responses) during the research where it is analysed in order to make any logical conclusions. The analysis can be either through quantitative or qualitative means. Quantitative method is where data collected is expressed in numerical form. Qualitative method on the other hand is non-numerical and focuses on the participant's views or experience.

The data collected was first edited then code numbers assigned to each answer of the question to generate a coding list or frame, which was then fed into SPSS. The Data was analyzed using descriptive statistics such as mean scores, frequencies, and measures of dispersion including variance and standard deviation to quantify the number of telecoms by level of effect of variables under study. Qualitative data was analyzed using content analysis.

The profile of the telecommunications firms studied was measured in various ways, i.e. number of years of operation, asset base, number of employees, number of branch networks and value added. This study used the number of years of operation, asset base of the firms and their license categories to measure size according to the classification of the Communications Commission of Kenya.

3.6.1 Chi-Square Analysis

To test the relationship between the variables and the decision to outsource, the Chi-square test of independence was computed on each of the variables influencing funding in telecommunication firms and the relationship was considered significant for P value between 0.0000 and 0.0500 level of confidence. Each of the independent variable was tested independently.

Firm size and experience level can be measured in various ways, i.e. number of projects implemented, asset base, number of years of operation and number of branches. This study largely used the number of years a company has been in operation in Kenya to gauge the experience and measure size and according to the classification of Tespok and CCK.

3.6.2 Exploratory Factor Analysis

The researcher used the exploratory factor analysis to discover the factor structure of the measures and also to examine the internal reliability of the factors. This exploratory factor analysis was relevant since this study had no hypotheses about the nature of the underlying factor structure and their influence on the dependent variable. The Principal component analysis with varimax rotation was conducted to assess the underling structure for the five variables identified in the questionnaire and ranked by respondents in a likert scale. Once the number of factors is decided the researcher runs another factor analysis to get the loadings for each of the factors.

CHAPTER FOUR-PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

In this chapter, the key research findings are analysed and presented in response to the study objectives. The data collected, analyzed and presented was collected between February 2013 and April 2013. The data collection involved the use of face-to-face administered questionnaires and allowed the researcher to clarify the questions to the respondents and achieve a higher response rate than in the handed questionnaire. From the targeted 50 companies, only 31 responded representing a response rate of 62%. The data analysis involved the coding of the questionnaires using alpha numerical values. The alphanumerical coding helps to maintain confidentiality (Dimba, 2009). The research findings are presented in tables, charts and bar graphs are presented in order of the key research objectives.

4.2 External Funding needs in Kenyan Telecommunications Firms

In this section the study sought to identify and establish factors that necessitate the need for external funding for telecommunications firms in Kenya. The results of the study are presented in sections below.

4.2.1 Funding Requirements

The study established that 100% of the telecommunications firms which have been in operation for less than eight years need external funds for business expansion projects, equipment upgrades etc. Ninety Six per cent (96%) of the telecommunication companies which have been in operations for more than 8 years require external funding of their business activities. Four percent (4%) of the respondents did not respond to this question. This is presented in Figure 4.1 below.

Findings indicate that companies require external funding in the first years of operation but become self-sustaining financially by the 8th year as shown in figure 4.1 below.

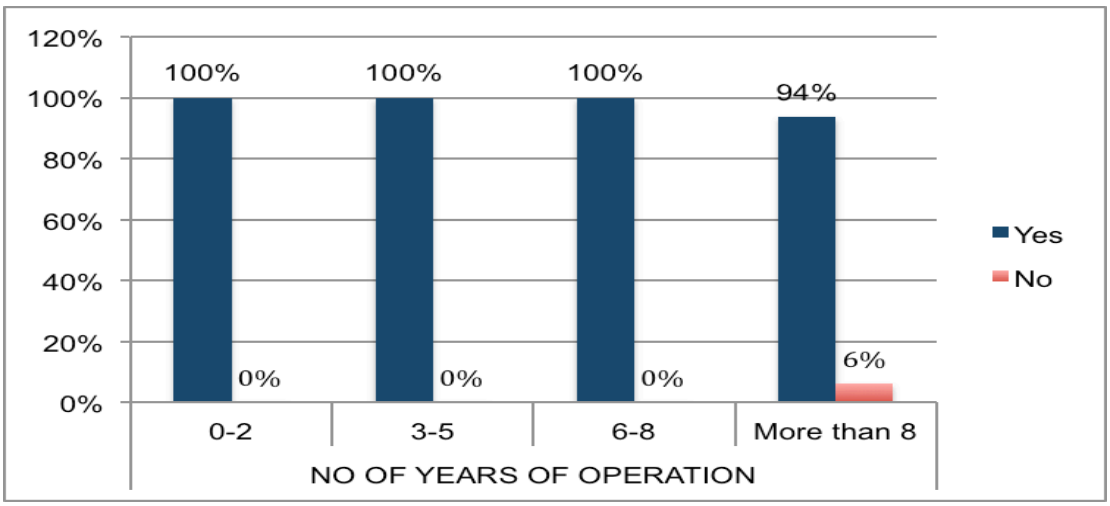


Figure 4.1 Percentage of Companies that require External Funding

4.2.2 Business Activities that Require External Financing

Respondents were then asked to identify the key business activities that required external sources of financing in their respective companies business lines. The findings of the study show that all the listed activities required funding. 95% of the respondents said that they required funding for various projects, 46% required funding for business expansion and the new equipment requirement that comes with expansion, 17% of the companies required funding for equipment repairs and maintenance while 8% of the companies required funding for equipment upgrade. (See Chart 4.2 below)

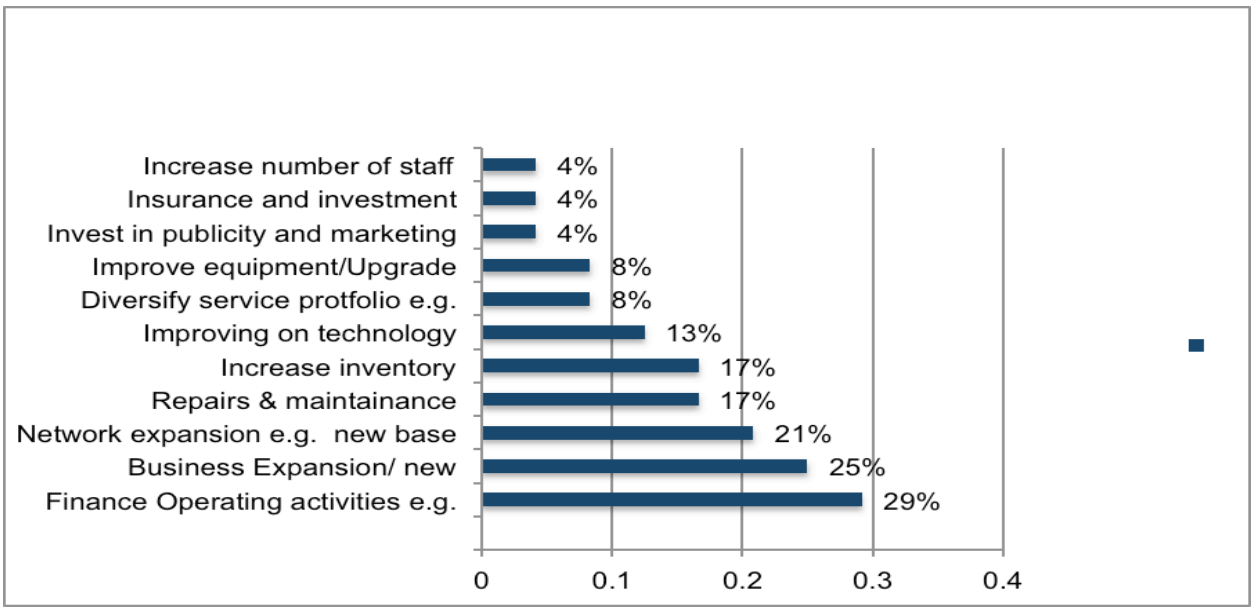


Figure 4.2 Company Activities that Require Funding

4.2.3. Sources of funding Available to Private telecommunication Companies

The study sought to establish the various sources of financing that are available to telecommunication firms in Kenya. The findings indicate that all the respondent companies raise finances through self-financing for their working capital and only source external funds for special projects. While most (58%) of the companies utilize working capital from operating revenues to self-finance, investment subsidies were noted to have been utilized in the sector in a bid to encourage ICT growth as highlighted in 48% of the companies while 19% sourced funds from venture capital sources through equity and 13% from foreign direct investments. 67% of the firms that source external funds through venture capital are foreign owned. The least utilized source of external funding is from donations. Table 4.1 below presents this information:

Table 4.1: Decision Making on Funding [n=31]

	Freq.	**%**
BASE	**31**	**100%**
Self-Financing	18	58%
Subsidies	15	48%
Venture capitalists	6	19%
Foreign Direct Investment	4	13%
Donors	3	10%

Note: This was a multiple response question.

4.2.1 Sources of Funding

To respond to objective two of the study, the respondents were asked to identify the specific funding sources currently utilized by their respective companies. . The findings indicate that profits reinvestments and loans from finance institutions are the main source of funding commonly utilized at 48% respectively followed by self-financing which is not direct ploughing back of profits, but the reutilization of operating revenues to finance expansion projects, asset finance and system upgrades, stock improvements and inventory increase among other business expansions projects. The scores obtained from this indicate that the least utilized sources of funding were capital markets, donors and foreign direct investments at 4% respectively.

To establish whether the funding sources utilized by private telecommunications firms varied by the factors such company years of operations, the data was analysed with this variable in mind. The analysis indicate further that all (100%) telecommunications companies which have been in operation for more than 8 years utilize internal funds or working capital to finance different business needs. 18% of companies which have been in operation from more than 8 years have received business support in form of donations from foreign governments or multinational funds. This information is as presented below.

Table 4.2 Percentage of Funding Sources Utilized [n=31]

	Total	NO OF YEARS OF OPERATION			
		0-2	3-5	6-8	More than 8
Self-Financing	100%	100%	100%	100%	100%
Investment Subsidies	75%	67%	60%	100%	82%
Financial institutions e.g. commercial banks	30%	0%	20%	100%	36%
Foreign Direct Investment	20%	0%	40%	0%	18%
Venture capitalists	15%	0%	20%	0%	18%
Donors	15%	0%	20%	0%	18%

These findings can also point to the possibility that the number of years that a company has operated has an effect on the financing source they go for. The findings point to a trend that the greater the number of years a company has operated, the more the likelihood that it will succeed in sourcing for external funding. None of the respondent companies in operation for between 0-2 years have benefited from funding from financial institutions (loans), foreign direct investments, Venture capital, and donors etc.

4.2.2 How Funding Decisions are made in the Telecommunication Companies

This study sought to establish how funding decisions are arrived at in the telecommunication firms are made and also understand the funding decision making process in the telecommunications firms. The findings indicate that 61% of the companies leave funding decisions to the senior management in which no other management levels are consulted. In 10% of the organizations, the decisions were made by the directors.

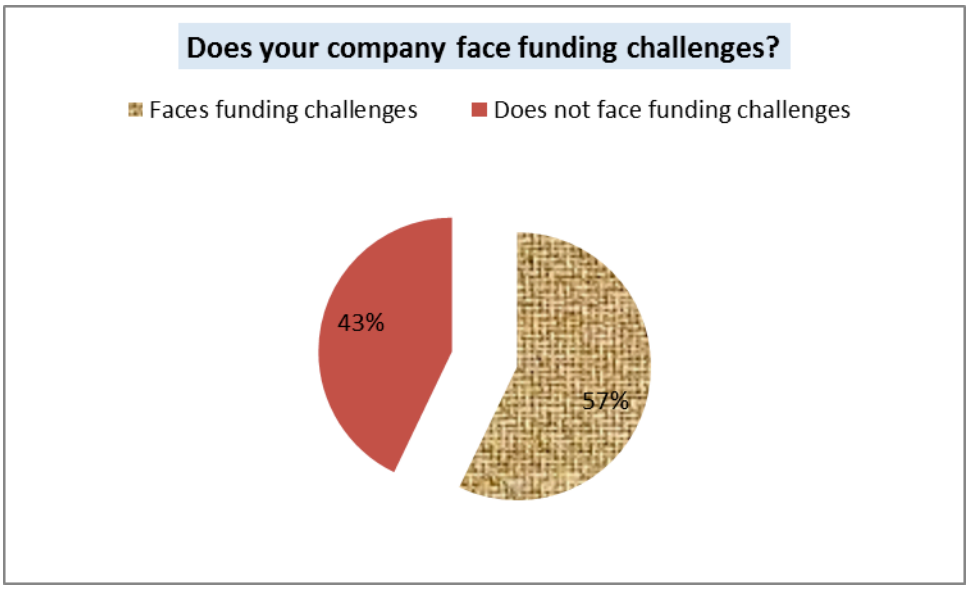
Table 4.3 Decision making on Funding [n=31]

	Freq.	**%**
BASE	**31**	**100%**
Is made by the senior management	19	61%
Consulting the middle level management	5	16%
By the directors	3	10%
Board of directors	2	6%
Made by finance committee	2	6%
Made by the CEO	2	6%
Individual	1	3%
Holding annual general meetings AGM's	1	3%

4.2.3 Constraints Faced by Companies in Sourcing for External Funding

Respondents were asked to indicate whether their companies faced any in sourcing for external funding and identify these challenges. Fifty seven percent (57%) of the telecommunication companies face funding challenges. 43% of the respondents did not respond to this question. Figure 4.3.6 below presents this data.

Figure 3.3 Percentage of Companies that face funding Challenges



4.2.4 Challenges by Source of Funding

Respondents were then asked to indicate the challenge faced from each source of funding. This is presented in Table 4.3.7 below.

Table 4.4 Challenges by Source of Funding [n=31]

Source of Funding	**Challenge Faced**	**Freq.**	**%**
Venture capitalists investors	Takes time to secure	1	50%
	Only for very large companies	1	50%
Self-Financing	Money raised is less to expand to reach the target	3	38%
	Inconsistencies in internal company policies	2	25%
	Low number of clients impact finances	2	25%
		1	13%
Investment Subsidies	High-volume business plans required Subsidies limited to companies from EU	1	100%
Foreign Direct Investment	No challenges faced Level of controls required by foreign companies	1	20%
Investment Grants	Slow in making decisions	2	40%
	Money raised is less to expand to reach the target	2	40%
	Inconsistencies in internal company policies	1	20%
Donations	Low number of clients impact finances	1	100%

4.3. Factors Affecting External Funding Decisions

In this section the study sought to establish the factors that had an influence over the funding avenue that the companies take. These factors are perceived to have shaped the companies' decisions on the type of external funding to pursue. The results are presented in the subsections that follow.

4.3.1 Extent to which Factors Influence funding decisions

The study sought to identify the impact of the intervening variables on the respondent companies funding decisions. The impact of each variable was subjected to a rating of between 5 and 1 where 5 symbolized high impact while 1 symbolized low impact. From the findings, cost of funds, maturity, opportunity cost of funds and payment schedule has the highest impact on small telecommunication companies. Collateral and conditions and restrictions have the highest impact on large telecommunication companies. While unpredictability of future affects all organizations, it has the highest impact on medium size companies. These findings are presented in table 4.6 below.

Table 4.5 Rating of Intervening variables [n=31]

Rating of Intervening variables		TOTAL	Firm Size		
			Large	Medium	Small
Cost of Funds	Mean	3.18	2.67	3.21	3.67
	Std Deviation	*.81*	*.82*	*1.05*	*.58*
Age	Mean	3.40	3.17	3.36	3.67
	Std Deviation	*.95*	*.98*	*1.28*	*.58*
Time	Mean	3.40	3.17	3.36	3.67
	Std Deviation	*.95*	*.98*	*1.28*	*.58*
Collateral	Mean	3.09	3.67	2.93	2.67
	Std Deviation	*1.00*	*1.21*	*1.21*	*.58*
Conditions and restrictions	Mean	3.24	3.83	3.21	2.67
	Std Deviation	*1.01*	*1.33*	*1.12*	*.58*
Unpredictability of future	Mean	3.15	3.16	3.54	2.75
	Std Deviation	*1.14*	*1.18*	*1.27*	*.97*
Opportunity cost of funds	Mean	3.11	2.67	3.00	3.67
	Std Deviation	*1.05*	*.58*	*1.41*	*1.15*

4.3.2 Ranking of Factors Influencing Funding

In this section the study sought to establish how various factors are perceived by the respondent companies to influence the process involved in sourcing and getting funds. According to the results in Table 4.7, delay in decision making within the sourcing telecommunication firm and in the funding firm was the main challenge of sourcing for funds by telecommunication companies followed by interest rates, government policy, and size of organization, source of funds, price fluctuations and arrangement fee.

Table 4.6. Ranking of Factors Influencing decision on sourcing of funding According to Importance

Factors Influencing Funding Decision	Importance	Rank
Decision making process	96%	1
Loan interest rates	64%	2
Government policy	60%	3
Years in operation	56%	4
Inflation rates in the Kenyan market/state of the economy	44%	5
Sources of funds available	24%	6

4.4 Ranking of Challenges Influencing Funding

In this section the study sought to establish how various factors perceived to influence the process involved in sourcing and getting funds. According to the results in Table 4.4.2, delay in decision making was the main challenge of sourcing for funds by telecommunication companies followed by interest rates, government policy, size of organization, source of funds and price fluctuations.

From the analysis, telecommunication companies can be classified into two broad categories. I.e. Business to business service providers and business to retail service providers. Business to business service providers are those telecommunications firms who provide services to support the larger telecommunications service providers who provide services to other telecommunications service providers. Business to retail refer to companies who provide

telecommunication services to the retail markets i.e. the masses. From the responses on the challenges received, most companies offering services to the retail market have few funding challenges than the companies offering services to the other businesses.

4.5 Exploratory Factor Analysis

The first table 4.7 is a **correlation matrix** showing how each of the 5 factors identified are associated with each of the other 5. Some of the correlations are high (e.g., + or - .537) and some are low (i.e., near zero). The high correlations indicate that two items are associated and will probably be grouped together by the factor analysis.

The **determinant** (located under the correlation matrix) should be more than .00001. From the table below, it is 0.219 meaning that the assumption is met. The underlying factor is that if the determinant is zero, then a factor analytic solution cannot be obtained, because this would require dividing by zero meaning that at least one of the variables can be understood as a linear combination of some set of the other variables.

Table 4.6 Correlation Matrix

		Deregulation of telecommunication companies	Intellectual property rights	Low private sector participation	Political instability	Governance and Transparency
Correlation	Deregulation of telecommunication companies	1.000	.262	.436	-.199	-.145
	Intellectual property rights	.262	1.000	.537	.374	-.039
	Low private sector participation	.436	.537	1.000	.511	.255
	Political instability	-.199	.374	.511	1.000	.400
	Governance and Transparency	-.145	-.039	.255	.400	1.000

a. Determinant = .219

Statistically, the **Kaiser-Meyer-Olkin (KMO)** measure should be greater than .70, and is inadequate if less than .50. From the findings, the measure score is .507 implying that there are enough variables to run the factor. The KMO test is important because it communicates as to whether or not enough variables are predicted by each factor. The **Bartlett** test should be

significant (i.e., a significance value of less than .05); this means that the variables are correlated highly enough to provide a reasonable basis for factor analysis.

4.6 Chi-Square Analysis

From the figure below, the Kaiser-Meyer-OIkin (KMO) being at .51 implies that it is adequate while the Barlett test is significant at .000

Table 4.7 KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.507
Bartlett's Test of Sphericity	Approx. Chi-Square	32.605
	df	10
	Sig.	.000

Table 4.8 Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.244[a]	12	.285
Likelihood Ratio	16.209	12	.182
Linear-by-Linear Association	5.045	1	.025
N of Valid Cases	31		

a. 17 cells (85.0%) have expected count less than 5. The minimum expected count is .03.

reliability coefficient can vary from 0.00 (no reliability) to +1.00 (perfect reliability, which is never attained). A coefficient of 0.80 or higher is considered very good.

Table 4.9 Symmetric measures

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.410	.122	2.421	.022[c]
Ordinal by Ordinal	Spearman Correlation	.354	.154	2.036	.051[c]
N of Valid Cases		31			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

The Total Variance Explained table shows how the variance is divided among the 5 possible factors. Table 1.3 below shows that two factors have **eigenvalues** (a measure of explained

variance) greater than 1.0, which is a common criterion for a factor to be useful. An eigenvalue less than 1.0 implies that the factor explains less information than a single item would have explained.

Table 4.10 Total Variance Explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.129	42.577	42.577	2.129	42.577	42.577	1.934	38.679	38.679
2	1.439	28.785	71.362	1.439	28.785	71.362	1.634	32.683	71.362
3	.812	16.231	87.593						
4	.399	7.987	95.579						
5	.221	4.421	100.000						

Extraction Method: Principal Component Analysis.

Rotated Factor Matrix

The Rotated Factor Matrix table contains the factor loadings. The 5 variables have been sorted into two overlapping groups.
Within each factor, the variables were sorted from the one with the highest factor weight or loading for that to the one with the lowest loading on that first factor.

Loadings resulting from an orthogonal rotation are correlation coefficients of each variable with the factor, so they range from -1.0 through 0 to + 1.0.

4.7 Chapter Summary

Principal component analysis with varimax rotation was conducted to assess the underling structure for the five variables identified in the questionnaire and ranked by respondents in the
Two factors were requested. After rotation, the first factor accounted for 32.45% of the variance, and the second factor accounted for 28.78%, Table 4.10 displays the items and factor loadings for the rotated factors, with loadings less than .30 omitted to improve clarity.

Table 4.11 Factor Matrices

	Factor		
	1	**2**	**Communality**
Deregulation of telecommunication companies	.336	.792	.739
Intellectual property rights	.731		.621
Low private sector participation	.895		.828
Political instability	.727	-.513	.792
Governance and Transparency	.391	-.659	.587
Eigen value	2.13	1.44	
% of variance	**32.45%**	**28.78%**	

The first factor, which seems to **index environmental stability,** loads most strongly on the first three variables, with loadings in the first column. "*Low private sector participation "*had its highest loading on the first factor.

The second factor, which seemed to **index market regulations,** is composed of the 2 variables with loadings in column 2 of the table. *"Deregulation* of telecommunication companies*"* had its highest loading on the second factor,

This analysis implies that for privately owned telecommunication companies to prosper there is need for a stable regulatory environment. There should be regulations to make the telecommunication vibrant and instill confidence to the investors.

The variance of the factors mentioned above is beyond the score of 32. The factors can therefore be deduced as prominent and are therefore likely to influence the external funding process. This conforms to the data in chapter two of this report i.e. the mentioned factors are significant in the decision of companies on which funding to go for.

CHAPTER FIVE-DISCUSSION

5.1 Introduction

This chapter presents an analysis and interpretation of the research findings. The analysis is presented in order of the research objectives.

5.1.1 External funding to Privately Owned Telecommunication Companies in Kenya.

The study established that up to 95 per cent of the respondent companies' source for external funding. The findings of the study show that all activities listed as core to the business processes activities required funding. 95% of the respondents said that they required funding for various projects, 32% required funding for business expansion and new equipment requirement that come with expansion, 21% of the companies required funding for equipment repairs and maintenance while 5% of the companies required funding for equipment upgrade. This demand for external funding indicates that external funding is an area of need in the telecommunications industry in Kenya.

5.1.2 Sources of External Funding for Private Telecommunication Firms in Kenya

The results of the study indicate that profits and loans from financial institutions are the main source of funding for the private telecommunication firms surveyed at 35% followed by self-financing. The least utilized sources of funding were capital markets, donors and investors at 5% respectively. This explains why high interest rates and low private sector participation still ranks as a critical factor in the funding for the telecommunications firms. The high levels of regulation in the capital markets also ranks as an influential factor on the funding type that companies should go for. Most telecommunication firms participating in this study identify the capital markets as the ultimate source of funds for different business activities e.g. expansion projects. Firms which have been in operation for 5 years and less cite stringent regulation in the capital markets as a deterrent factor.

The 2011 East Africa Private Equity Confidence Survey (Deloitte 2011) identified financial institutions (banks) and other venture capital funds as putting their focus on the Kenyan and Eastern Africa markets. The findings of this study indicate that a number of telecommunications firms (up to 35%) have benefited from funding from banks and other financial institutions; this finding can therefore be attributed to this market trend of investors showing interest in investing in East Africa.

Zeithaml, 1988, argued that organizations can self-finance by adopting different market strategies. This study finds out that self-financing is a common occurrence in the telecommunications industry in Kenya. 100% of the respondent companies finance their operating expenditures internally through the reinvestment of internally generated cash flow. Although this funding source is limited i.e. cannot finance major capital-intensive projects due to minimal margins as a result of price wars and competition, which have negatively affected the profitability of the telecommunications firms.

5.1.3 How Funding Decisions are made in respondent Companies.

The study established that in 61% of the companies', funding decisions were made by the senior management of the respective companies, after which they advise the board to ratify these decisions. In 10% of the organizations, the decisions were made by the directors. This possibly points out to the fact that the C-level executives in telecommunication firms are entrusted with most of the strategic business funding decisions that affect the operations of the firms.

These findings indicate that the financing decision making process in these companies do not conform to any financing theory or particular model. The responses also do not point to any correlation between the funding decision-making process and what type or source of funding companies go for. The respondent companies do not also identify or list any theories or models on their debt/equity targets that they apply in their decision making process. This is an area that requires further research.

The study further established that all companies self-finance to carry out normal operational business demands and only source external funds for special projects, which include new market entire, network expansion, support new operations etc. This can be argued to conform to the proposal that internally generated funds are the most preferred by companies followed by debt if external financing is required (Gu and Ku 1997). Gu and Ku (1997) further proposed that a company's preference for self or internal financing is due to its management's unwillingness to be subjected to market scrutiny when raising funds in the capital market. Donaldson (1961), this is however out of the scope of this study.

Seventy five percent (75%) of the companies utilize investment subsidies which were prevalent in the sector in a bid to encourage ICT growth as highlighted in 75% of the companies while 30% sourced funds from the capital markets through equity financing. It is interesting to note

than most of the companies benefiting from investment subsidies are foreign owned. This points out to a possible foreign investment support from home country governments. The rest have financed their capital and operational expenditures through foreign direct investments, the government owned financial agencies and grants.

5.1.4 Factors Influencing Decision to seek External Funding

The decision making process of towards the funding type varies with the company structure. The factors that influence these decisions are as well varied with the company ownership structure. The following factors were mentioned by respondents as influential to the funding decision within their companies:

- Loan interest rates/ cost of finance
- Political environment
- State of the economy/ performance/profitability of the company
- Venture capital terms and conditions
- Regulation by the government i.e. through the CMA
- Company strategy/ strategic plan/ growth targets
- The company management and board structure / CEOs plans

The study ranked the factors that influenced which type of external funding that companies went for. Loan interest rate was ranked as the most important factor (96% of respondents) followed by the political environment (64 per cent of the respondents). The study results further established that in term of importance, company strategic plan and state of the economy ranked as the least important followed by the senior management and board experience, skill or CEOs plans and management practice.

Table 5.12 Factors Influencing Funding Decision

Factors Influencing Funding Decision	Importance	Rank
Loan interest rates/ cost of finance	96%	1
Political environment	64%	2
State of the economy/ performance/profitability of the company	60%	3
Venture capital terms and conditions	56%	4
Regulation by the government i.e. through the CMA	44%	5
Company strategy/ strategic plan/ growth targets	24%	6
The company management and board structure / CEOs plans	15%	7

These findings indicate to a possible influence that the factors have on the decision on the type and form or external financing that the companies go for.

5.2 Analysis of Factors Affecting Sources of External Funding

Some factors that were identified by respondents as having an influence on the funding of telecommunications firms include

5.2.1 Loan interest rates/ cost of finance

Most respondents argue that with low interest rates, they will be investing more in research and development, and business expansion programmes. This implies that the lower the cost of finance, then more investment that telecommunications companies will make in the country the opposite is true when interest rate rises.

Fabozi & Peterson (2003) argued that interest rate helps to determine the trend of investment in an economy. When the interest rates are high, borrowing becomes quite expensive for investors so they make fewer investments.

5.2.2 Political Environment

Political stability as a telecommunications funding influencing factor was mentioned by 4% of the respondents as an influential factor in the telecommunications industry. Whereas the study findings do not point to a direct correlation between political situation and funding for telecommunications firms, with the literature reviewed (chapter two). Beltratti A, Stulz M 2009,

have argued that there is a direct correlation between political stability and regulatory structures in a country. We can therefore argue that the mention of government policy regulations in funding (60%) is directly related to the political stability and as such is likely to influence the funding decision of a company or investor in a market.

The political forces can have a great influence on the financial structure of a country; this is because there is a large proportion of funding that is facilitated via government or government-controlled institutions. Political stability was a key factor with business leaders in Kenya during the elections period of January to March 2013, this study was conducted during a similar period.

5.2.3 Economic Environment

Economic Environment and Return on Investment (RoI) as a funding influencing factor is also mentioned in this study, this seems to conform to the empirical evidence that establishes a potential link between telecoms and economic growth where the return on investment is perceived to be greater for emerging economies (Madden and Savage, 2000). Measurement of the dependence on external finance draws upon this study, which defined a firm's demand for external finance as the total sum of investment a company needs that, cannot be funded through internal cash flows generated by the same business.

CHAPTER SIX - CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the interpretation and implications of the study findings based on the main research objectives raised in chapter one. Each of the research objectives will be addressed in separate sub-sections. Finally, the research recommendations, limitations of the study and suggestion for further studies are presented.

The aim of this study was to explore the factors influencing the process of private telecommunications firms sourcing of external funding in Kenya. The study also sought to rank the factors identified in order of importance and understand the funding decision making process in the respondent companies.

6.2 Conclusions

6.2.1. Sources of External Funds for Privately Owned Telecommunications Firms

This study identifies the sources of external funds for privately owned telecommunication firms in Kenya. The major funding sources available for the telecommunications firms in Kenya are debt and equity. Funding sources such as self-financing for operating capital (80%), foreign investment subsidies, capital markets, foreign direct investments, donor funding are mentioned by respondent firms. The external funding sources are utilized by firms for equipment and technology upgrade, expansion, financing operating expenditures, increase of workforce, amongst other business activities.

Companies which have operated for more than 8 years utilize funding sources such as the capital markets, investment subsidies and government supported funding sources than others. Firms which have been in operation for two years or less utilize self-financing and financial institutions more than finance from other external sources. The external financing needs and the sources of the companies studied point to a possible gap in the financing for the telecommunications companies between companies which have operated for more than 8 years and companies which have operated for between 0 to 5 years. This can be attributed to factors such as company ownership and management, decision making process, political and economic environment amongst others, this is however an area than needs further investigation.

These findings conform to the literature that shows that internally generated funds are the most preferred by companies followed by debt (if external financing is required). There are indications in the data that points to new equity as the last source for financing consideration that most firms turn to.

The study doesn't however find out of any correlation between the funding decision-making process and what type or source of funding companies go for. The respondent companies do not also identify or list any theories or models on their debt/equity targets that they apply in their decision making process. This is an area that requires constant addition of knowledge.

6.2.2. Funding Options Available to Private Telecommunication Firms

These research findings indicate that the main sources of external financing for Telecommunications firms in Kenya were: self-financing 35%, the least utilized sources of funding were capital markets, donors and investors at 5% respectively. All the respondent firms have used self-financing mainly to finance for operational expenditure (Opex). Financing from foreign investors, capital markets, through investment subsidies are mostly utilized by the companies in implementing large and capital-intensive expansion projects, technology and equipment upgrades amongst other businesses requirements The study did not identify any direct correlation between the funding decision making process and the type of funding pursued by the firms.

A Chi square analysis of the factors identified in the literature such as Deregulation of telecommunication companies, Intellectual property rights, Low private sector participation, Political instability and Governance and Transparency, yields a value of 32.605, which implies that there is a correlation between these factors and the form of financing sought by the telecommunications companies. The factors can be said to be important to telecommunications firms in deciding which funding to go for.

Though the decision to source for funding by the telecommunication companies in Kenya was a function of factors such as decision making process, interest rates and government policy, the study further established that telecommunication companies which have been in operation for less than eight years benefit from a lower level of external funding compared to the large telecommunication companies most of which have been in operation for more than 8 years. This

argument points to a possibility that the size of the telecommunication company largely determines its decision to source for external funding.

6.2.3 Constraints Faced By Privately Owned Telecommunications Firms in Sourcing for External Funding

Privately owned Telecommunications firms in Kenya face a number of challenges in sourcing for external funding. Sixty per cent (60%) of the telecommunication companies' face funding challenges, some of which include 40% of the respondents did not respond to this question. It is interesting to note than companies which have operated for more than 8 years generally face few challenges than firms which have operated for less than eight years specifically zero to five years. These findings point to a possibility that the number of years of operation is a factor in the ease to which a company is able to attract external funding.

Some of the key constraints facing telecommunication firms in order of the most mentioned include delays in financiers making decisions (40%) and Stringent regulatory & statutory requirements (20%).

6.3 Recommendations

Though the study established that the telecommunication companies in Kenya to a large extent source for funds externally (95%), many early life telecommunication companies (0-5 years) have not fully benefited from the external funding both for their short and long-term business finance needs. Those that have benefited from the funding are still faced with a myriad of challenges as identified in section 6.2 above. Some of these challenges can be addressed through the involvement of the regulator e.g. Capital markets participation as well as the industry players. Retail telecommunications service providers are perceived as doing better in capital sourcing than the business to business (B2B) service providers, this creates a new industry category of players who do not have the resource base that their retail counterparts have access to. It leads to a situation where the B2B companies do not realize the full benefits of sourcing for external funding.

There is need for a more proactive engagement of investors and venture capital firms more in order to reap the benefits of business categories and market segments as defined in chapter two of this thesis. More telecommunication industry investors need to get into new geographical, cultural, and development-limited realms.

The involvement of the government as a facilitator through the provision of favourable policy and economic environment will continue to be more critical as a stable regulatory and economic environment is identified in this study as critical to the sourcing of external funds. Current investors have been and will continue to be more cautious with their capital investments, in environments they perceive as not fertile enough to yield the Returns on Investment (RoI) targets that they set. As the findings of this study reveals, the role of the private sector players in external funding for telecommunications cannot be emphasized further.

There needs to be more studies to understand the priorities of telecommunications investors and the donor community and thus begin the process of creating a valuable relationship for both investor and recipient companies. The study also recommends that telecommunication companies should not only look at external funding as a source of expansion or operating capital raising strategy but also as a long-term business continuity strategy aimed at ensuring that they become competitive in the telecoms market.

Telecommunication companies should also pursue increased external funding for project financing and purchase and upgrade of telecommunications equipment which can end up cutting on support and maintenance costs in the long run. This is likely to leads in shorter communication paths, higher staff involvement in management, faster decision making, increase in profits and business growth.

The regulatory bodies e.g. the Capital Markets Authority, Communications Commission of Kenya (CCK) and Industry Associations e.g. TESPOK, should extend more technical support in the area of external funding for early life companies (0-5 years) as most of them (25%) do not have any set procedures or expert advice when it comes to external funding challenges. This could easily lead to the reason for their failure to attract significant levels of external funding.

There needs to be more dialogue between industry players to help encourage knowledge sharing and attract more investments and address the constraints facing the telecommunications industry players. Such sector – specific dialogues should support specific external funding framework and initiatives that supportive to early-life telecommunications service firms.

Lastly, this study recommends that more industry specific data on areas such as Return on Equity (RoE) and Return on Investment (RoI) should be made available through the relevant bodies such as Investment Promotion Councils, KenInvest and other relevant organisations to ensure

that potential external investors have access to telecommunications Investment Indicators in Kenya. Well-founded investments indicators are likely to help develop dependable research to minimize uncertainty on areas such as industry investment and performance trends.

6.4 Study Limitations

Whilst noting that the response rate of 31companies from a population of 50 can be considered satisfactory (62%) It is noted that a significant proportion of the privately owned telecommunication companies in Kenya did not respond to some key questions in the study due to sensitivity of information issues hence the findings of this study can only be cautiously extrapolated to the telecommunication industry in the other markets or countries. The findings are based on responses by investor relations managers, finance managers, technical managers and accountants and the quality of the study will be limited to their knowledge and experience.

In spite of the limitations, the study highlights the benefits and the challenges that privately owned Kenyan telecommunication companies face in sourcing for funds, the factors that influence their decision making process and the sources of external funds currently utilized by the firms. The fact that the independent variables explained 60% of the dependent variable (decision to source for funding) means that there are other explanatory variables not captured in the model.

6.5 Recommendations for Further Research

The study sought to establish the various sources of funding used by private telecommunication companies operating in Kenya. From the findings of this study, the researcher recommends that further research can be done on areas such as the impact of funding in the telecommunications companies on the organizational performance and service delivery standards, similar studies can be replicated in other sectors of the economy.

The study also sought to determine how private telecommunication companies in Kenya raise funds to support their business needs, factors that influence them and constraints that they faced. Since this study is generally orientated towards the demand side of the telecommunications funding, more industry specific studies should be conducted in Kenya on the supply side i.e. that targets the investors and other institutions that invest in other sectors in the east African markets.

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LIST OF APPENDICES

Appendix I: Questionnaire

***SECTION A (*Background Information)**

1. Name of respondent (optional) ……..

2. Gender Male ……

   Female …… (Tick one)

3. Age

Age (Years)	***Tick one***
25 and below	
26-35	
36-45	
46-55	
Over 55	

4. Name of the Company ……..

5. How many years has the Company been in operation?

Years	***Tick one***
0-2	
3-5	
6-8	
More than 8	

6. How many staff does your company have?

Tick one	
1-10	1
11-20	2
21-30	3
31-40	4
41 and above	5

7. Which of the following best describes your role in the Company?

Rank	***Tick***
General Manager/CEO	
Investor Relations Manager	
Finance Manager	
Technical Staff	
Other (Specify)	

7. Please indicate the length of time that you have been in this Company.

Time in Years	***Tick***
0 – 1	
>1 – 3	
>3 - 5	
>5 - 7	
Above 7	

SECTION B

1. Does some of your business activities require any form of funding?

	Tick
Yes	
No	

If **yes**, which activities require the most funds? *For every activity mentioned above, ask for the source of funding*

Activity	Source

2. a)Who makes funding decisions in your company?

---

b) Do you have any preferred formula that guides your company on which funding type to go for?

---

3. How does your company raise finances? (tick all that apply)

No	***Forms of financing***	***Tick***
1	Government	
2	Donors	
3	Capital markets	
4	Internal (Self-)Financing	
5	Foreign Direct Investment	
6	Investment Subsidies	
7	Any other(Please specify)	

4. a) Does your company face any constraints in sourcing for funds from any of the above?

	Tick
Yes	
No	

b) What constraints does your company face in sourcing for funds from these? Please tick where appropriate

No	***Forms of financing***	***Constraints***
1	Government	
2	Donors	
3	Capital market	
4	Self-Financing	
5	Foreign Direct Investment	
6	Subsidies	
7	Any other(please specify)	

5. What are the other issues that you think affect financing and investments in your company? **Please specify how**

6. How has your company raised capital in the past for
    a) Expansion projects
    b) Value added services
    c) Recruitment
    d) Any other

7. What are some of the factors that your company considers before adopting a funding? *Tick where appropriate*

Factor	**Response**
Decision making process	
Loan interest rates	
Government policy	
Years in operation	
Inflation rates in the Kenyan market/state of the economy	
Sources of funds available	

8. Are there any other challenges that your company faces in the process of sourcing for funds?

9. How do you rate the following challenges in financing telecommunications? Using a scale of 1 to 5 where 5 is "Very High" and 1 is "Very Low"

Challenge		***Very high***	***High***	***Neutral***	***Low***	***Very low***
Low private sector participation						
Political instability						
Governance and Transparency						
Deregulation of telecommunication companies						
Intellectual property rights						

10.Do you have any other comments on this topic?

_____
_____
_____

Thank you for participating in this study.

Appendix II: Introduction Letter

Strathmore University
P.O Box 59857 – 00200
Nairobi
10th February 2013

Dear Respondent(s),

My name is Edmund Malitt, a Postgraduate student in the Faculty of Commerce, Strathmore University, pursuing a Masters of Commerce degree in Commerce.

The completion of this degree requires that I write a Masters thesis in a commerce related field. Towards this end, I am researching on "an investigation into factors affecting external funding for telecommunications companies in Kenya". This study is beneficial to telecommunication companies as it will highlight the risks and benefits of the various available sources of funding in the sector.

I am requesting that you assist me in this study by answering the attached questionnaire which will help me finalise the study. The Questionnaire will take about 10 to 15 minutes to complete. Should you need to contact me, my contacts are; *Mobile Phone 0712535955, e-mail edyiemalitt@gmail.com*

Your participation is highly valued and your participation is voluntary. The information you will provide will be used for academic purpose ONLY. It is assumed participating in this study means that your responses can be used in the final thesis. The information will be treated with strict confidentiality and your names will be kept as such.

I will provide a copy of the research results to you on request.

Yours faithfully

Edmund Malitt

Appendix III: List of Respondent Companies

No.	Company Name
1	Bharti Airtel Limited
2	Kenya Data Networks Limited
3	Tricomp International Limited
4	Indigo Telecom
5	Shop IT
6	Nokia Siemens
7	Swift Global
8	Centum Learning
9	Bcem Enterprises
10	Telafrique communications
11	Iway Africa Kenya Ltd
12	Tangerine Ltd.
13	Nema
14	Brothers Link
15	Sat Africa
16	KBC
17	Glory Media
18	Mauzito Engineering
19	My ISP Ltd
20	Internet Solutions Ltd.
21	Green Future Limited
22	Indigo Telecom
23	Linksoft Communications
24	Extranet Ltd
25	Africa Tower Company Ltd
26	Dimension Data
27	Tangerine
28	Iconnect
29	SawaSawa.com
30	Virtual Office Systems
31	Virtual City