

**EFFECTS OF OPERATING ENVIRONMENT FACTORS ON INFRASTRUCTURE
FINANCE FLOWS IN THE CAPITAL MARKETS IN KENYA**

BY:

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DECLARATION

Declaration by candidate:

This research project is my original work and has not been presented for a degree in any other University.

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Declaration by supervisor:

I confirm that the work in this research project was done by the candidate under my supervision and has been submitted with my approval as the University Supervisor.

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God bless you all.

DEDICATION

To my siblings Njuhi, Njeri, Wangari, Wanjiru and in loving memory to my late mother Phyllis Wanjiku Mwangi.

ABSTRACT

Capital markets play a very important role in mobilization of financial resources to meet various investment needs in both public and private sectors. Financing of infrastructure investments remains a big challenge in Kenya due to limited sources of funds mainly from tax revenues and foreign borrowing. This means that more infrastructure financing has to come from the private sector than it is currently available. Policy framework, legal environment, regulations and institutions are the operating environment factors which influence the infrastructure finance flows through the capital markets. This study sought to establish whether these operating environment factors affect development of infrastructure finance in the Kenyan capital markets. The study sought to answer the following research questions: Are policy, legal, regulatory and institutional arrangements adequate? Does policy, legal, regulatory and institutional settings affect financing of infrastructure projects? Is there a need to review the existing policy, legal, regulatory and institutional frameworks? Empirical studies have shown that political and business leaders design policies, laws, regulations and institutions to cater for self-interests other than the wider public interest. The study was undertaken using descriptive research design where a questionnaire was used. Data was collected from a population of 100 infrastructure related institutions. Descriptive and regression analysis were conducted on the data to show how each independent variable of the operating environment factors influences the infrastructure finance flows. The study found that majority of respondents think that there are inadequate policies, laws and regulations while half of these respondents believe that the institutions lack the necessary capacity to operate efficiently and effectively. The study also found that majority of respondents agreed that there is need for an urgent review of the existing financial sector policies and institutions. Half of the respondents want the regulations revised but majority of the respondents believe that the existing laws do not require review. From the study, ANOVA results show that the operating environment factors are good predictors of infrastructure finance flows which means that using the model is better than guessing the predicted values. From these findings, it can be concluded that there are no adequate policy, legal, regulatory and institutional arrangements to facilitate the uptake of infrastructure finance in the capital markets. The study recommends that financial sector policies, laws, regulations and institutions need to be reviewed in order to create a conducive environment for financing of infrastructure investments. Further research is recommended on effects of operating environment factors on infrastructure finance flows in the capital markets in Kenya.

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ABBREVIATION AND ACRONYMS

AKI	Association of Kenya Insurers
BPS	Budget Policy Statement
CBK	Central Bank of Kenya
CMA	Capital Markets Authority
ICT	Information and Communication Technology
KASIB	Kenya Association of Stockbrokers and Investment Banks
KBA	Kenya Bankers Association
KES	Kenya Shillings
NHIF	National Hospital Insurance Fund
NSE	Nairobi Securities Exchange
NSSF	National Social Security Fund
PPPs	Public-private partnerships
RBA	Retirement Benefits Authority
US	United States of America
USD	United States dollars

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

The global demand for public services will continue to increase exponentially with the rising population and dwindling government revenues available for infrastructure investments. Infrastructure provides direct services to the people or facilitates individuals to efficiently engage in other productive activities. The two classes of infrastructure are social and economic. Social infrastructure facilitates provision of services which improve the social welfare of the people. Examples of social infrastructure are schools, water supplies, hospitals, social halls and stadiums. Economic infrastructure facilitates people to undertake activities which improve on their livelihoods. Examples of economic infrastructure are roads, airports, seaports, waterways, irrigation, and information and communication technology (Ehlers, 2014).

According to the McKinsey Global Institute (2013), the global requirement for investment in new infrastructure is about USD 57 trillion over the next 18 years through year 2030. This means that global infrastructure investment should be increased by 60% from a cumulative investment of about USD 36 trillion in the last 18 years. This infrastructure gap and the serious challenge in acquiring funds to close the deficit has dominated political debate and aroused a lot of public interest (McKinsey Global Institute, 2013). According to Africa Infrastructure Country Diagnostic (AICD) 2008, infrastructure deficit in Africa requires annual investment estimated at USD 38 billion, and an additional USD 37 billion per year for operations and maintenance (Foster, 2008).

In Kenya, like in any other developing country, infrastructure is mainly developed and provided by the public sector with financing mainly coming from tax revenues, grants and borrowing from bilateral and multilateral agencies. In the last decade, there has been increased participation of the private sector in financing, development, and operations and maintenance of major infrastructure projects in the developing countries (Ehlers, 2014). In Kenya, the public sector has successfully raised infrastructure funds from the capital markets through issuance of treasury bonds and infrastructure bonds. The private sector has also successfully financed infrastructure

projects through equity funds and bonds from the capital markets (Capital Markets Authority [CMA], 2009; Central Bank of Kenya [CBK], 2014).

The flow of private infrastructure financing has been low as compared to the available financial resources in the capital markets. An analysis of all Initial Public Offers (IPOs) at the capital markets for the period from 2000 to 2016 shows a subscription of 423% with an oversubscribed amount of KES 248.73 billion. Subscription on IPOs for Safaricom was at 463%, Kengen at 340% and Access Kenya at 363% (CMA, 2009). Treasury Bonds issued/ re-opened during the period from July 2015 to March 2016 were subscribed at 116%, oversubscription being KES 36.66 billion (CBK, 2014). This analysis shows that the investors hold huge amounts of funds which are available for investment in the primary market, without even taking to account the funds available in the secondary market. This poses a question as to why the infrastructure investments are not able to absorb these funds held by the investors in the capital markets.

This study has explored some theories which have been formulated in relation to decision making in the public sector. The Partisan theory describes how macroeconomic policy is dependent on the political party in power because politicians base their decisions on party cycles rather than political business cycle (Froyen, 2009). The theory of administrative rationality puts a different perspective that administrative structures within governments should provide analytical techniques to assist senior public officials and politicians to make rational policy decisions (Smith, 1976). When it comes to developing regulations, the Public-Interest theory emphasize the important role the government plays as the guarantor of the public good through regulation of private functions in order to maximize the welfare of the public (Gerston, 1988). Finally, the Systems theory says that adaptive systems have the ability to monitor and regulate its own performance, and modify its behavior to respond to changes in the environment (Cole & Kelly, 2011). This means that political, economic, financial, markets, legal, regulatory, institutional systems should be open and adaptive in nature in order to respond to public needs.

1.1.1 Operating Environment

Operating environment consists of policies, laws, regulations and institutions which create harmony in financial sector management. Policies provide the general guiding principles of addressing public issues and goals which will be achieved by a given national agenda (Kenya Law Reform Commission [KLRC], 2015). Legislation is used to enforce policies, allocate and distribute rights to citizens and influence the behavior of people and organizations (Tucker & Henkel, 1992). Formulation of policies and legislation is conducted by institutions which are established by law.

Operating environment consists of independent variables which require operationalization for measurement. An independent variable tries to explain the changes in the observed outcomes (Hyndman, 2008). The measurement of these variables is on the Likert scale 1 to 5 based on responses from the target population. The independent variables are policy framework, legal environment, regulations and institutions. The variables were measured by adequacy of policies, laws, regulations and institutions respectively.

1.1.2 Infrastructure finance flows

Infrastructure finance flows defines how financial resources are tapped from investors to fund infrastructure investments. Development of infrastructure finance provides opportunities to fund large scale physical infrastructure projects using new sources of finance from both domestic and international investors. These sources consist of private finance from the capital markets, which supplement traditional sources of taxes revenues, and loans and grants from foreign governments and multilateral agencies (Ehlers, 2014).

Investors provide equity and debt funds to potential borrowers for long term investments with an expectation of getting returns. In addition to equity and debt instruments, capital markets provide derivatives to suppliers of funds. Derivatives derive their value from the underlying value of other assets such as equity, bonds, foreign currencies and commodities (Bodie, Merton & Cleetion, 2009).

Infrastructure finance flows is the dependent variable which were measured by adequacy of finance provided by the capital markets to fund public infrastructure investments. This is based on answers to the questionnaire from the respondents on Likert scale 1 to 5.

1.1.3 Operating environment and infrastructure finance flows

Effective policy, legal, regulatory and institutional frameworks are critical to stimulate private funding of infrastructure investments in a given country. Sound policies provide certainty in the financial sector, thus attracting investors to fund long term investment projects. Good laws ensure that financial contracts are adequately enforced to protect providers of long term funds with recourse in case of breach of such contract. Therefore, these laws provide assurance to investors on safety of their funds which subsequently enhances the level of finance flows from these investors to infrastructure investment projects (Tucker & Henkel, 1992). Regulations are anchored on sector specific laws with a purpose of expounding and clarifying the expected behavior and compliance to those statutory laws.

Regulations are established to influence the behavior of an industry in order to create order and efficiency (United Nations Industrial Development Organization [UNIDO], 2006). Institutions are established to enforce compliance with the set policies, laws, rules, regulations, treaties, covenants, procedures and codes of a society. Effective institutions ensure that fairness is accorded to all the players in the capital market, therefore boosting investor confidence when it comes to funding infrastructure projects. A well-managed financial sector will be attractive to investors which will result in increased finance flows to long term investments such as infrastructure projects.

1.1.4 Capital Markets in Kenya

Capital markets provide large amounts of funds for long-term finance with low interest rates from institutional investors such as insurance companies, pension funds, mutual funds and credit unions. These institutional investors hold funds as long-term liabilities which need to be invested in form of long-term assets to subsequently generate returns (Ehlers, 2014). In addition, capital markets provide a platform for individual investors to finance capital investments. Aduda, Chogii, and Murayi (2014) find that capital markets are key sources of infrastructure funds for major projects

under Vision 2030. The Kenyan capital markets consist of equity market, debt market, pooled funds and derivative market (CMA, 2013). While equity and bond markets are fairly developed, the derivative market is still at the nascent stages of development.

Capital markets offer great funding opportunities for infrastructure investments given that there are huge amounts of funds held by the private sector investors. However, there has been disparity between the requirements for infrastructure investment and available supply of infrastructure finance (Ehlers, 2014). Ehlers (2014) suggests that this disparity is due to inadequate pipeline of properly structured projects to attract appropriate financing. Investment in infrastructure projects requires complex legal and financial arrangements to ensure adequate resources are channeled towards these projects.

1.2 Research Problem

Infrastructure financing from tax revenues and foreign borrowing remains a big challenge in Kenya. This source of funds has been inadequate to meet the growing infrastructure investment demands as the need to finance other equally important sectors such as social services, national security, and operations and maintenance of existing infrastructure increases. This means that more infrastructure financing has to come from the private sector than it is currently available (Ehlers, 2014).

The Infrastructure Consortium for Africa (ICA) conducted the African Infrastructure Investment Survey to assess the private sector response when it comes to investing in infrastructure projects. According to Infrastructure Consortium for Africa (2014), ability to fund infrastructure investments was no longer an issue of concern, indicating that there is abundant availability of finance in Africa. Infrastructure Consortium for Africa (2014) found that lack of political goodwill and policy uncertainty were the greatest challenges facing private investors. The private sector also considered country and political risks and lack of institutional capacity as key obstacles to funding of infrastructure projects.

Cambridge Economic Policy Associates (2015) carried out a study on “factors constraining provision of private finance to support infrastructure investment in DFID’s focus countries”. The study took a general view of the market for infrastructure finance in Kenya and concluded that constraints are due to inadequacy

in bankability of projects, inappropriate skills by developers, insufficient capital and low government commitment.

Odero (2010) carried out a study on understanding and resolution of infrastructure related public-private partnership (PPP) disputes in Kenya. Odero (2010) argues that resolution of the PPP disputes is lengthy and consumes huge resources due to the demands and complexity of PPP agreements. In order to encourage investment in infrastructure through sustainable PPP arrangements, there is need for development of adequate legal and regulatory framework. In addition, there is need to develop a framework to address shortcomings in PPP arrangements in order to solve the conflicts which may arise at the various levels of dispute hierarchy.

The above studies recognize that there are serious challenges in funding of infrastructure projects by private investors due to weak operating environment factors. However, the studies have not established the cause-effect relationship between the operating environment factors and private finance flows in the capitals to fund infrastructure projects. This study sought to establish the extent to which existing policy, legal, regulatory and institutional frameworks impede development of infrastructure finance in the Kenyan capital markets. The study also sought to highlight any other peculiar obstacle to reduction of the gap between finance supply and infrastructure investment demand.

The study sought to answer the following research questions; Are there adequate policy, legal, regulatory and institutional arrangements to facilitate the uptake of infrastructure finance in the capital markets? To what extent does policy, legal, regulatory and institutional settings affect financing of infrastructure projects in the capital markets of Kenya? Is there a need to review the existing policy, legal, regulatory and institutional frameworks?

1.3 Research Objective

The study sought to establish the whether the operating environment factors affect efficient infrastructure finance flows in the capital markets in Kenya.

1.4 Value of the Study

The study analyzed the effects of the elements of operating environment on increasing or reducing the flow of private financial resources through the capital market mechanism in view of demand for infrastructure investment in Kenya. The study came up with findings and specific recommendations to enhance the conduciveness of the operating environment for optimal access private finance to fund infrastructure investment.

The findings from the study will provoke further research on how policy, legal, regulatory and institutional regimes affect efficient delivery of private financial resources to meet the requirements of infrastructure investment projects. This will contribute to increased academic knowledge and create new frontiers for future academic research. The study sought to provide an insight to policy makers and regulators to form a basis for formulation of policies that promote efficient access to infrastructure finance from the Kenyan capital markets. Investment advisors, financiers, investors and other stakeholders benefit from the study by enabling them to enhance their participation in the capital markets.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews some existing theoretical and empirical literature on operating environment and how it affects private financing of investment in public infrastructure. This chapter consists of six sections which are introduction, theoretical framework, determinants of infrastructure finance flows, empirical review, conceptual framework and summary of the literature review.

2.2 Theoretical framework

There are a number of theories which support creation of policies, laws, regulations and institutions for efficient and effective management of public affairs in order to enhance the welfare of all the people. There are also theories against the establishment of these policies, laws, regulations and institutions arguing that they benefit a few self-seeking individuals. Some of these theories have been selected to demonstrate how the different schools of thought argue on whether or not to establish policy, legal, regulatory and institutional frameworks for efficient and effective delivery of public services.

2.2.1 The Partisan Theory

Politics play a greater role in macroeconomic policy decisions than pragmatic, rational and rigorous economic analysis. Fiscal and monetary policies are the main tools used to influence the macroeconomic outcomes of a country (Blanchard, 2009). According to Partisan theory developed by Douglas A. Hibbs in 1977, macroeconomic policy outcomes result from decisions by ideologically motivated leaders of competing political parties which represent constituents with varying preferences for macroeconomic variables. Macroeconomic policy is therefore dependent on the political party in power because politicians base their decisions on party cycles rather than political business cycle (Froyen, 2009).

A government under left-wing political party uses expansionary fiscal policy in order to stimulate demand hence increase employment resulting in increased levels of

inflation. When right-wing political party takes over power, it uses contractionary fiscal policy in order to combat inflation which may result in rising unemployment. Similarly, policymakers can use loose or tight monetary policy to sway the macroeconomic outcomes depending on the political party in power (Froyen, 2009). Partisan theory can accurately be applied only in countries which have well developed political systems where parties have clearly defined political ideologies. Partisan theory was used to assess whether public policy decisions are dependent on politics to maximize individual interests of political leaders or to serve public good.

2.2.2 The Theory of Administrative Rationality

Partisan party cycles and political business cycles can be dampened through a rigorous policy-making process as advocated by Theory of administrative rationality. The Theory of administrative rationality was proposed by Herbert A. Simon in 1947 which suggests that governments have increased expectations that the administrative structures should provide the required analytical capability in the policy making process. These administrative organs should develop analytical techniques to assist senior public officials and politicians to carry out both *ex ante* and *ex post* evaluations of policies in order to bring rationality in the policy decision-making process (Smith, 1976).

The techniques which have been enumerated by Smith (1976) are problem identification, development of alternative strategies, prediction of consequences from each policy option, selection of best policy, and review of ongoing policies. Through this analytical approach, the Theory of administrative rationality provides for use of evidence in the policy making process in order to attain optimal macroeconomic outcomes. Theory of administrative rationality was used to establish the extent to which senior government officials are involved in rigorous policy analysis to provide evidence to political leaders so that these leaders can make sound policy decisions.

2.2.3 Public-Interest Theory

The importance of the theories of regulation is that they facilitate understanding the functions of regulation. In addition, these theories predict the effectiveness of regulation in any given circumstances and evaluate the outcomes of regulatory

policies. The Public-interest theory was developed by A.C. Pigou in 1938 whose proposition is that “regulation is supplied in response to demand of the public for correction of inefficient or inequitable market practices”. The Public-interest theory underscores the important role the government plays as the guarantor of the public good through regulation of private functions in order to maximize the welfare of the public (Gerston, 1988). The theory is prescriptive and focuses on the need of establishing regulatory agencies with clear emphasis on their organization, structure and operations.

The Public-interest theory does not take to account that businesspeople are known to influence the formulation of regulations. The incumbent firms capture the regulations or co-opt regulatory agencies to serve business interests rather than the public interest (Gerston, 1988). The problems facing society are both economic and social in nature. The people in power in both public and private sectors tend to make decisions without the members of the society in mind, but in pursuit of their own individual interests (Gerston, 1988). Public-interest theory was used to review the effectiveness of financial sector regulations in guaranteeing public interest.

2.2.4 Systems Theory

The General systems theory was proposed by Ludwig von Bertalanffy in 1928. Systems theory is the interdisciplinary study of complex interrelated and interdependent systems. A system is composed of interrelated parts which form a whole. Systems can be classified as “closed” or “open” depending on their ability to interact with the environment. Systems are separated from the environment in which they are operating in by “boundaries” (Cole & Kelly, 2011). Organizations, like all other social systems, are always “open” systems.

Systems theory makes it possible to break complex organizations into smaller components for studying. A system can be subdivided into subsystems, and system can be a subsystem of a larger system (Cole & Kelly, 2011). The capital market is subsystem of the financial market system, while the financial market is a subsystem of the larger economic system. The economic system should be properly established such that it is adaptive to the environment and able to maintain its stability in order to achieve its predetermined goals. Systems theory was used to evaluate the

effectiveness of capital markets in responding to demands brought about by changes in the economic environment.

2.3 Determinants of Infrastructure Finance Flows

This section explores the factors which are critical to the effective financing of infrastructure investments. These critical factors are policy framework, legal environment, regulations and institutions.

2.3.1 Policy Framework

Governments use various policies to influence the levels of investment in their respective countries. *Merriam-Webster Online Dictionary* (2016) defines a policy as “a definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions”. Therefore, a policy provides the general guiding principles of addressing public issues and goals which will be achieved by a given national agenda. Fiscal and monetary policies are the main tools used to influence the macroeconomic outcomes of a country. Monetary policy is functionally similar to fiscal policy in that it is supposed to achieve macroeconomic objectives but through the actions of a central monetary authority. Formulation of sound fiscal, monetary and other policies is therefore critical for optimization of investments through mobilization of adequate financial resources in a given economy.

2.3.2 Legal Environment

In most democratic societies, policies which have been developed through an open and participatory process are enforced by legislation. However, not all policies require enactment of legislation to effect their implementation. These kinds of policies are said to be self-executing in nature. Through a clear administrative framework, these policies strengthen and subsequently use the existing structures for their implementation (KLRC, 2015). Black's Law Dictionary defines legislation as “a written law, formally ordained or passed by the legislative power of a state” (Black, 1968, p. 42).

Legislation could be in form of statutory law enacted by the legislature or delegated legislation drafted by the executive authority of the government. Delegated legislation includes regulations, rules, orders and codes made by cabinet executive in order to cause an effective implementation of a government policy. Laws are used for dispute resolution, enforcement of contracts, and establishment and allocation of rights and duties of individuals, groups and governments (Tucker & Henkel, 1992). Legislation is enforced by the state agencies where non-compliance of these laws attracts criminal liability.

2.3.3 Regulations

Regulations are anchored on sector specific laws with a purpose of expounding and clarifying the expected behavior and compliance to those statutory laws. Regulations are established to influence the behavior of an industry in order to create order and efficiency. In a broader context, regulations can be by public or private sector depending on the nature and structure of the industry. The most commonly used types of regulations are command and control, self-regulation, incentive based regulation and market controls sanctions (UNIDO, 2006).

Command and control regulation are enforced by a statutory agency which imposes set rules and standards in which non-compliance leads to criminal sanctions. Self-regulation is where rules are set, monitored and enforced by a non-statutory organization or association together with its members. Incentive based regulation is where the government uses taxes or subsidies and grants to encourage compliance. Market controls regulations applies when market forces are guided through competition laws, tradable permits, disclosure and other requirements in order to create fair competition (UNIDO, 2006). Financial sector regulations should be efficient and be aligned the overall economic policy objectives of the country. Efficient regulations are those whose total benefits exceed the total costs of enforcing them.

2.3.4 Institutions

Institutions are established to enforce compliance with the set policies, laws, rules, regulations, treaties, covenants, procedures and codes of a society. Hodgson (2006)

defines institutions as systems of “established and prevalent social rules that structure social interactions”. Hodgson (2006) further defines rules to be prescriptive sanctions which are collectively conveyed to members of a particular social group. Written laws, regulations, contracts and agreements which are enforceable by a third party constitute formal institutions. Informal institutions are characterized by unwritten principles, norms, customs, rules and practices which are entrenched in a particular culture (Leftwich & Sen, 2010).

According to Hodgson (2006), organizations are unique institutions that are able to define their boundaries, membership, structures, and systems of power, authority and responsibility. Organizations therefore are vehicles to cater for collective interests of various groups which provide vital linkages between people and decision-making organs of the state. The key institutions in the Kenyan capital markets are the National Treasury, Capital Markets Authority (CMA), Nairobi Securities Exchange (NSE), Central Depository and Settlement Corporation (CDSC) and Kenya Association of Stockbrokers and Investment Banks (KASIB). Effectiveness of institutions is influenced by the extent to which these institutions interact with organizations and individuals in a given community.

2.4 Empirical Review

The review explores empirical literature on operating environment and private infrastructure financing at global and local levels.

2.4.1 Global studies

China and Malaysia are among the few countries that can meet their financing requirements by private investors from the domestic capital markets (Ray, 2015). Other countries like India and Indonesia lack enabling environment for attracting investors to fund their infrastructure needs. The investors fear uncertainties in policy and ad hoc changes in laws governing investments in these countries. Poor policies hamper private participation while weak legal and regulatory frameworks expose investors to higher levels of risk (Ray, 2015). Ray (2015) found that restrictive policies and regulations have made insurance firms and pension funds constrained to provide funds for infrastructure investment. According to Ray (2015), political

interests determine pricing of user charges by regulators thus distorting the real cost of infrastructure services and the market price of the associated risks.

Financial market constraints do not limit infrastructure investments in the United States of America (U.S.), but there are obstacles due to lack of practical solution to the infrastructure financing challenge. The problem of infrastructure financing is a result of having distorted decision-making process. Bosworth and Milusheva (2011) found that long-term financing is available to state and local governments at very low interest rates, with further subsidy from federal income tax exemption. According to Bosworth and Milusheva (2011), politicians and citizens want infrastructure development, but do not want to pay for their use. These politicians and citizens want free funding of infrastructure projects from the federal government which poses a challenge in generating adequate future revenue streams to pay for the initial capital outlays, and operations and maintenance costs.

A study by Gutman, Sy and Chattopadhyay (2015) found that multilateral and bilateral agencies have been emphasizing governance at the project level. Lack of efforts to enhance good governance at country and sector level has hampered development of policies, laws, regulations and institutional capacity necessary to meet the funding requirements of infrastructure investments. Lack of favorable financing environment has made African countries to continue relying on funding of investments from traditional sources of finance missing out on funds from the private sector.

2.4.2 Local studies

Generally, political business cycles affect the performance of capital markets, which in turn determines the flow of funds for infrastructure investments. Kabiru, Ochieng and Kinyua (2015) carried out a study to establish whether the market performance at the NSE is affected by the general elections in Kenya. Kabiru, Ochieng and Kinyua (2015) found that the market reaction to elections is highly negative or positive depending on the volatility of election at hand. Volatility of Kenyan general elections is characterized by political violence and destruction of business enterprises. It is therefore evident that Kenyan capital markets are not affected by political business cycles, but by other political motivations.

Mburu (2013) tried to establish the relationship between government investment in infrastructure and economic growth in Kenya and found that increased public infrastructure investment had a positive and significant impact on the economic growth. This means that political leaders will always tend to adopt an expansionary fiscal policy in order to attain their political goals. When the political leaders increase borrowing in order to finance budget deficit, the country's sovereign risk rating continues to rise.

Oluoch (2009) took a study on factors that determine the effectiveness of Public Private Partnerships (PPPs) in financing public infrastructure projects in Kenya. Oluoch (2009) found out that PPPs are used to create synergy between the public and private sectors in the delivery of infrastructure projects through financing, risk sharing and adoption of efficient management practices. These findings are supported by Gikabia (2015) who studied the effect of infrastructure bond financing on government's expenditure in Kenya and found that increased uptake of infrastructure bonds enhanced government expenditure leading to increased economic growth. The government can create an enabling environment for enhanced funding of infrastructure investments in order to attain the country's goals of economic growth, poverty reduction and equity.

2.5 Conceptual Framework

The conceptual framework shows how the operating environment influences the financial flows from investors to meet infrastructure investment demand. Policy framework, legal environment, regulations and institutions are independent variables while infrastructure finance flows is the dependent variable. The soundness of policy framework enhances the business environment therefore attracting more private investors to fund infrastructure investments. The effectiveness of legal environment, efficacy of regulations and sustainability of institutions boost the confidence private investors to provide funds for infrastructure development.

The independent and dependent variables were measured on Likert scale 1 to 5 based on answers to the questionnaire. Infrastructure finance flows is the dependent variable while policy framework, legal environment, regulations and institutions are independent variables. These variables were measured by adequacy of finance

provided by the capital markets to fund public infrastructure investments, adequacy of policies to facilitate the uptake of infrastructure finance from the capital markets, adequacy of laws to govern the financial sector and also protect providers of infrastructure funds from incurring any loss as a result of breach of contract or other malpractices, adequacy of regulations to create order and efficiency in the financial sector, adequacy of institutions to enforce laws, regulations, rules and orders efficiently and effectively in the financial sector respectively.

The need to review the existing financial sector policies in order to promote innovativeness in infrastructure financing, whether political leaders make public policy to serve public good and whether these political leaders base their policy decisions on well technical advice from senior government officials will also be measured under the policy framework. The need to review existing laws to enhance delivery of justice will be measured under legal environment. The need to review existing regulations to align them with emerging sector requirements will also be measured. Under the institutions, the adequacy in the response of the capital markets to meet the economic needs of the country and restructuring and strengthening of the institutions to cope with the demanding complexity of the financial sector will be

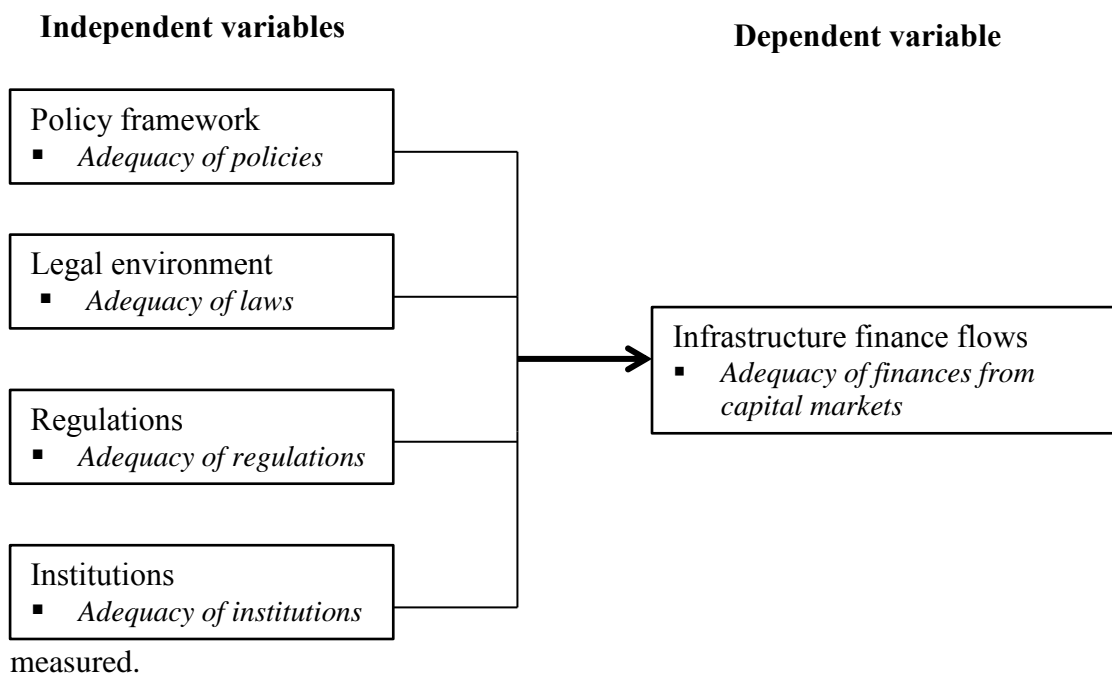


Figure 1: Relationship between the infrastructure finance flows and the operating environment

2.6 Summary of the Literature Review

Politics play a greater role in macroeconomic policy decisions than pragmatic, rational and rigorous economic analysis. Policy decisions provide the foundations of formulating laws, regulations and institutions. Effective policies and regulations are those which cater for the wider public interest as postulated by the public-interest theory, and realized through involvement of stakeholders during the policy development cycle.

Political interests were found to determine pricing of user charges by regulators in South and South East Asia, and decision-making process on infrastructure financing in the U.S. In Africa, lack of political goodwill and uncertain policies were the greatest challenges facing private investors. In Kenya, there is evidence that capital markets are not affected by political business cycles but by other political motivations. Finally, an enabling capital markets environment is critical for enhanced funding of infrastructure investments.

The empirical studies have not specifically analyzed issues relating to infrastructure finance delivery from the capital markets in Kenya. This clearly indicates that there is a lacuna in this area of knowledge which needs to be filled.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter consists of five sections which are introduction, research design, population, sample design, data collection and data analysis. Research design section gives the overall structure of the research methodology. Population section defines the population under study while sample design section shows how sampling will be done. Data collection section gives the tools and methods used to collect data. Data analysis section defines the analytical model for the research, how data was analyzed and the inferential statistics resulting from the analysis.

3.2 Research Design

The study was undertaken using descriptive research design. Dane (1990) explains that descriptive research “involves examining a phenomenon to more fully define it or differentiate it from other phenomena”. The study used qualitative approach to handling of data. Qualitative approach was used to generate primary data which were both quantitative and qualitative in nature. Quantitative data is numerical in form and qualitative data is in form of words rather than numbers (Miles and Hubberman, 1994). The quantitative data under the qualitative approach was Likert scale with numerical scores 1 to 5.

The descriptive research method was appropriate for this study because it is the best approach to shed light on the bottlenecks of delivery of funds to infrastructure investment project through the Kenyan capital markets.

3.3 Population and Sampling

A population is the total collection of elements of interest to someone to make some inferences. A sample is a subset of the population (Hyndman, 2008). The study had a target population of 100 consisting of institutions from the public and private sectors which are relevant to infrastructure investments and infrastructure financing in Kenya. These institutions play key roles in formulation and enforcement of policies, laws and regulations relating to the financial sector. There are also those institutions which

develop infrastructure projects, provide investment funds and facilitate financial transactions at the capital markets. These target institutions for the study are the National Treasury, government ministries, state departments, financial sector regulatory agencies, investment banks/ stock brokers, insurance companies, pension funds, public investment agencies and private investment companies (NSE, 2016; Government of Kenya [GOK], 2016; Retirement Benefits Authority [RBA], 2016; Insurance Regulatory Authority [IRA], 2016). The list of institutions is attached as appendix 2. Due to the small size of the population, no sampling will be done.

3.4 Data collection

Primary data was collected using a survey method. A questionnaire was dropped at each of the identified respondents and later picked for collation and analysis. In addition, the questionnaires were sent through electronic mail to respondents. The questionnaire consists of two sections. Section I is the letter of introduction to the respondents. Section II is the questions to be answered by the respondents. Part A of the section is the background of the questionnaire, part B is the definition of the organization, part C are questions on infrastructure finance, part D are questions on policy framework, part E is questions on legal framework, part F are questions on regulatory framework, part G is questions on institutional framework. Parts H and J are general observations made by the respondent on policy, legal, regulatory and institutional frameworks. The questionnaire used to collect quantitative data was on the Likert scale with numerical scores 1 to 5 and qualitative data from respondents (Field, 2012). The questionnaire is simple and brief in order to elicit inputs from the top leadership of the target organizations.

3.5 Data Analysis

Quantitative data analysis was undertaken for the primary data collected during the study to establish the overall assessment of the relevance and adequacy of operating environment factors in enhancing infrastructure finance flows. SPSS 20.0 was used for data analysis. Regression analysis was conducted on the data to show how each independent variable of the operating environment factors influences the infrastructure finance flows. Qualitative data analysis was also undertaken in order to illuminate on the findings from the quantitative data collected during the study. Miles

and Hubberman (1994) explain that qualitative data analysis process involves data reduction, data display, and drawing of conclusions and verification. The findings are presented in charts, figures and explanatory texts.

3.5.1 Test for data reliability and validity

Likert scale data can be analyzed through parametric tests if there is evidence that components are sufficiently inter-correlated and that the underlying variable is reliably measured by the grouped items (Sullivan & Artino, 2013). Internal consistency is attained when the questions or item measures belong to a construct in which it is included (Babbie & Mouton, 2009).

According to Bell and Bryman (2007), where Cronbach's alpha is used to test reliability of items under study, the values of these items shall always be higher than 0.7. Reliability test was done using Cronbach's alpha coefficient and the results evaluated to see whether parametric tests can be done in order to draw conclusions from inferential statistics and develop a regression model.

Mugenda (2008) says that validity is the correctness and significance of inferences which are founded on the study outcomes. Test for is done for both internal and external validity.

3.5.2 Analytical model

The analytical model is based on the multiple linear regression function

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_nX_n + \varepsilon_i \text{ where } \varepsilon_i \text{ is the standard error and } \sum \varepsilon_i = 0.$$

$$\text{The analytical model is } Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \varepsilon$$

Where Y is the dependent variable and X₁, X₂, X₃ and X₄ are independent variables.

Y is infrastructure finance flows

X₁ is policy framework

X₂ is legal environment

X₃ is regulations

X₄ is institutions

a is the y-intercept

b_1 , b_2 , b_3 and b_4 are regression coefficients of X_1 , X_2 , X_3 and X_4 respectively

3.5.3 Operationalization of study variables

The five variables are operationalized as shown in the table 1 below.

Table 1: Operationalization of study variables

Variable	Type	Measurement	Unit of measure
Infrastructure finance flows (Y)	Dependent	Adequacy of finance provided by the capital markets to fund public infrastructure investments	Scale 1 to 5
Policy framework (X_1)	Independent	Adequacy of policies to facilitate the uptake of infrastructure finance from the capital markets	Scale 1 to 5
Legal environment (X_2)	Independent	Adequacy of existing laws to govern the financial sector and also protect providers of infrastructure funds from incurring any loss as a result of breach of contract or other malpractices	Scale 1 to 5
Regulations(X_3)	Independent	Adequacy of existing regulations to create order and efficiency in the financial sector	Scale 1 to 5
Institutions(X_4)	Independent	Adequacy of existing institutions to enforce laws, regulations, rules and orders efficiently and effectively in the financial sector	Scale 1 to 5

3.5.4 Descriptive statistics

The questionnaires from the respondents were analyzed to provide an understanding on the effects of policy framework, legal environment, regulations and institutions in stimulating infrastructure finance flows in the capital markets in Kenya. These results are presented as tables and charts.

Dichotomous analysis of responses to the questions

Responses to questions for the dependent and independent variables were converted to dichotomous dummy and assigned values 1 (strongly agree and agree) and 0 (for neutral, disagree and strongly disagree) and equated to agree and disagree

respectively. Dichotomous analysis was done on the variables and results presented in tables.

3.5.5 Inferential statistics

Analysis of Variance (ANOVA) was conducted on the variables. Pearson's correlation coefficients (R) were established to show the effects of policy framework, legal environment, regulations and institutions on infrastructure finance flows. Coefficients of determination (R^2) were calculated to establish extent of the contribution of operating environment factors to infrastructure finance flows.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the analysis, findings and discussion with regard to the research objective of the study. All the 100 targeted respondents returned the questionnaires and were recorded. The questionnaires from the respondents were analyzed to provide an understanding on the adequacy of policy framework, legal environment, regulations and institutions in stimulating infrastructure finance flows in the capital markets in Kenya.

4.2 Descriptive analysis

Responses to questions were analyzed under infrastructure finance flows, policy framework, legal environment, regulations and institutions. The respondents were asked to indicate their level of concurrence with the provided statements with rating options of strongly disagree, disagree, neutral, agree or strongly agree.

The analysis below shows the median, mode and range of responses to each questions. In Likert scale data, the mode is very important as a measure of central tendency because it indicates the highest proportion of responses for each question.

4.2.1 Infrastructure finance flows

The study sought to investigate whether the capital markets in Kenya provide adequate finance to fund public infrastructure investments. The results are presented as shown below.

Table 2: Frequency distribution for responses on capital markets in Kenya provide adequate finance

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	10	10.0	10.0	10.0
Disagree	46	46.0	46.0	56.0
Valid Neutral	35	35.0	35.0	91.0
Agree	9	9.0	9.0	100.0
Total	100	100.0	100.0	

Results indicate that only 9% of the respondents agree that capital markets provide adequate finance to fund infrastructure projects. Forty six percent disagree while 35% remained neutral. Only 10% of the respondents said that they strongly disagree with the statement. The responses had a mode 2 (disagree) representing majority of respondents at 46% (46 out of 100). The median of the responses was 2 and the range was 3.

Table 3: Descriptive statistics under infrastructure finance

	Capital markets provide adequate finance
N	100
Valid	
Missing	0
Median	2.00
Mode	2
Range	3
Minimum	1
Maximum	4

4.2.2 Policy framework

- i. The study sought to investigate whether there are adequate policies to facilitate the uptake of infrastructure finance from the capital markets. The results are presented as shown below.

Table 4: Frequency distribution for responses on policies in the financial sector

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	2	2.0	2.0	2.0
Disagree	43	43.0	43.0	45.0
Neutral	29	29.0	29.0	74.0
Agree	24	24.0	24.0	98.0
Strongly Agree	2	2.0	2.0	100.0
Total	100	100.0	100.0	

Results show that only 2% of the respondents strongly agree and another 24% agree that there are adequate policies to facilitate the uptake of infrastructure finance from the capital markets. A proportion of 43% of the respondents disagree while 29% remained neutral. Only 2% of these respondents said that they strongly disagree with the statement. The responses had a mode 2 (disagree) representing majority of respondents at 43%. The median of the responses was 3 and the range was 4.

- ii. The study sought to investigate whether there is a need to urgently review the existing financial sector policies in order to promote innovativeness in infrastructure financing.

Table 5: Frequency distribution for responses on review the existing financial sector policies

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	1	1.0	1.0	1.0
Disagree	3	3.0	3.0	4.0
Neutral	15	15.0	15.0	19.0
Agree	41	41.0	41.0	60.0
Strongly Agree	40	40.0	40.0	100.0
Total	100	100.0	100.0	

From the results, 40% of the respondents strongly agree and another 41% agree that capital markets provide adequate finance to fund infrastructure projects. Only 3% of the respondents disagree while 15% remained neutral. Only 1% of these respondents said that they strongly disagree with the statement. The responses had a mode 4 (agree) representing majority of respondents at 41%. The median of the responses was 4 and the range was 4.

- iii. The study sought to investigate whether political leaders make public policy to serve public good.

Table 6: Frequency distribution for responses on political leaders making policy decisions

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	9	9.0	9.0	9.0
Disagree	21	21.0	21.0	30.0
Neutral	41	41.0	41.0	71.0
Agree	26	26.0	26.0	97.0

Strongly Agree	3	3.0	3.0	100.0
Total	100	100.0	100.0	

Results indicate that only 3% of the respondents strongly agree and another 26% agree that political leaders make public policy to serve public good. A proportion of 21% of the respondents disagree while 41% remained neutral. Only 9% of these respondents said that they strongly disagree with the statement. The responses had a mode 3 (neutral) representing majority of respondents at 41%. The median of the responses was 3 and the range was 4.

- iv. The study sought to investigate whether political leaders base their policy decisions on well defined technical advice from senior government officials.

Table 7: Frequency distribution for responses on policy decisions by political leaders

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	4	4.0	4.0	4.0
Disagree	17	17.0	17.0	21.0
Neutral	43	43.0	43.0	64.0
Agree	31	31.0	31.0	95.0
Strongly Agree	5	5.0	5.0	100.0
Total	100	100.0	100.0	

Results shows that only 5% of the respondents strongly agree and another 31% agree that political leaders base their policy decisions on well defined technical advice from senior government officials. A proportion of 17% of the respondents disagree while 43% remained neutral. Only 4% of the respondents said that they strongly disagree with the statement. The responses had a mode 3 (neutral) representing majority of respondents at 43%. The median of the responses was 3 and the range was 4.

Table 8: Descriptive statistics under policy framework

	Policies are adequate	Policy review needed	Policies by leaders for public good	Policies by leaders based on technical advice
N	100	100	100	100
Valid	100	100	100	100
Missing	0	0	0	0
Median	3.00	4.00	3.00	3.00
Mode	2	4	3	3
Range	4	4	4	4
Minimum	1	1	1	1
Maximum	5	5	5	5

4.2.3 Legal environment

- i. The study sought to investigate whether the existing laws are adequate to govern the financial sector and also protect providers of infrastructure funds from incurring any loss as a result of breach of contract or other malpractices.

Table 9: Frequency distribution for responses on existing laws are adequate

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	7	7.0	7.0	7.0
Disagree	15	15.0	15.0	22.0
Neutral	28	28.0	28.0	50.0
Agree	46	46.0	46.0	96.0
Strongly agree	4	4.0	4.0	100.0
Total	100	100.0	100.0	

Results show that only 4% of the respondents strongly agree and another 46% agree that existing laws are adequate to govern the financial sector. Fifteen percent of the respondents disagree while 28% remained neutral. Only 7% of these respondents said that they strongly disagree with the statement. The responses had a mode 4 (disagree) representing majority of respondents at 46%. The median of the responses was 3.5 and the range was 4.

- ii. The study sought to investigate whether the existing laws need an urgent review to enhance delivery of justice.

Table 10: Frequency distribution for responses on existing laws need an urgent review

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	13	13.0	13.0	13.0
Neutral	28	28.0	28.0	41.0
Valid Agree	43	43.0	43.0	84.0
Strongly Agree	16	16.0	16.0	100.0
Total	100	100.0	100.0	

From the results, 16% of the respondents strongly agree and another 43% agree that existing laws need an urgent review to enhance delivery of justice. A proportion of 13% of the respondents disagree while 28% remained neutral. The responses had a mode 4 (agree) representing majority of respondents at 43%. The median of the responses was 4 and the range was 3.

Table 11: Descriptive statistics under legal environment

		Laws are adequate	Laws review needed
N	Valid	100	100
	Missing	0	0

Median	3.50	4.00
Mode	4	4
Range	4	3
Minimum	1	2
Maximum	5	5

4.2.4 Regulations

- i. The study sought to investigate whether the existing regulations are adequate to create order and efficiency in the financial sector.

Table 12: Frequency distribution for responses on existing regulations are adequate

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	4	4.0	4.0	4.0
Disagree	21	21.0	21.0	25.0
Neutral	32	32.0	32.0	57.0
Agree	32	32.0	32.0	89.0
Strongly Agree	11	11.0	11.0	100.0
Total	100	100.0	100.0	

Results indicate that 11% of the respondents strongly agree and another 32% agree that existing regulations are adequate to create order and efficiency in the financial sector. Twenty one percent of the respondents disagree while 32% remained neutral. Only 4% of these respondents said that they strongly disagree with the statement. The responses were bimodal with modes 4 (agree) and 3 (neutral) representing 32% of respondents each. The median of the responses was 3 and the range was 4.

- ii. The study sought to investigate whether the existing regulations need an urgent review to align them with emerging sector needs.

Table 13: Results of responses to existing regulations need an urgent review

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	10	10.0	10.0	10.0
Neutral	31	31.0	31.0	41.0
Valid Agree	54	54.0	54.0	95.0
Strongly Agree	5	5.0	5.0	100.0
Total	100	100.0	100.0	

Results show that only 5% of the respondents strongly agree while 54% agree that existing regulations need an urgent review to align them with emerging sector needs. Ten percent of these respondents disagree while 31% remained neutral. The responses had a mode 4 (agree) representing majority of respondents at 54%. The median of the responses was 4 and the range was 3.

Table 14: Descriptive statistics under regulations

	Regulations are adequate	Regulations review needed
N Valid	100	100
Missing	0	0
Median	3.00	4.00
Mode	3	4
Range	4	3
Minimum	1	2
Maximum	5	5

4.2.5 Institutions

- i. The study sought to investigate whether the existing institutions are adequate to enforce laws, regulations, rules and orders efficiently and effectively in the financial sector.

Table 15: Frequency distribution for responses on existing institutions are adequate

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	3.0	3.0	3.0
Disagree	22	22.0	22.0	25.0
Neutral	30	30.0	30.0	55.0
Agree	41	41.0	41.0	96.0
Strongly Agree	4	4.0	4.0	100.0
Total	100	100.0	100.0	

From the results, 4% of the respondents strongly agree and another 41% agree that the existing institutions are adequate to enforce laws, regulations, rules and orders. Twenty two percent of these respondents disagree while 30% remained neutral. Only 3% of the respondents said that they strongly disagree with the statement. The responses had a mode 4 (agree) representing majority of respondents at 41%. The median of the responses was 3 and the range was 4.

- ii. The study sought to investigate whether the existing institutions need urgent restructuring and strengthening in order to cope with the demanding complexity of the financial sector.

Table 16: Frequency distribution for responses on existing institutions need urgent review

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	1	1.0	1.0	1.0
Disagree	8	8.0	8.0	9.0
Neutral	43	43.0	43.0	52.0
Agree	42	42.0	42.0	94.0
Strongly Agree	6	6.0	6.0	100.0
Total	100	100.0	100.0	

Results indicate that only 6% of the respondents strongly agree and another 42% agree that existing institutions need urgent restructuring and strengthening. Only 8% of the respondents disagree while 43% remained neutral. A paltry 1% of the respondents said that they strongly disagree with the statement. The responses had a mode 3 (neutral) representing majority of respondents at 43%. The median of the responses was 3 and the range was 4.

- iii. The study sought to investigate whether capital markets respond adequately to meet the economic needs of the country.

Table 17: Frequency distribution for responses on adequacy of capital markets

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	3.0	3.0	3.0
Disagree	54	54.0	54.0	57.0
Neutral	30	30.0	30.0	87.0
Agree	9	9.0	9.0	96.0
Strongly Agree	4	4.0	4.0	100.0
Total	100	100.0	100.0	

From the results, only 4% of the respondents strongly agree and another 9% agree that capital markets respond adequately to meet the economic needs of the country. A proportion of 54% of the respondents disagree while 30% remained neutral. Only 3% of these respondents said that they strongly disagree with the statement. The responses had a mode 2 (disagree) representing majority of respondents at 54%. The median of the responses was 2 and the range was 4.

Table 18: Descriptive statistics under institutions

		Institutions are adequate	Institutions review needed	Capital markets meet economic needs
N	Valid	100	100	100
	Missing	0	0	0
Median		3.00	3.00	2.00
Mode		4	3	2
Range		4	4	4
Minimum		1	1	1
Maximum		5	5	5

a. Multiple modes exist. The smallest value is shown

4.2.6 Dichotomous analysis of responses to the questions

Responses to questions for the dependent and independent variables were converted to dichotomous dummy and assigned values 1 (strongly agree and agree) and 0 (for neutral, disagree and strongly disagree) and equated to agree and disagree respectively as shown in appendix 4. The results from analysis of the dichotomous dummy are as shown below.

(a) Infrastructure finance flows

Table 19: Dichotomous analysis on infrastructure finance flows

Capital markets provide adequate finance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	74	74.0	74.0	74.0
	Agree	26	26.0	26.0	100.0
	Total	100	100.0	100.0	

This analysis is based on the results of table 19 above on frequencies for dichotomous analysis of responses to questions. A proportion of 74% of the respondents (74 out of 100) disagree that capital markets provide adequate finance to fund public infrastructure investments.

(b) Policy framework

Table 20: Dichotomous analysis on policy framework

Policies are adequate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	74	74.0	74.0	74.0
	Agree	26	26.0	26.0	100.0
	Total	100	100.0	100.0	

Policy review needed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	19	19.0	19.0	19.0
	Agree	81	81.0	81.0	100.0

Total	100	100.0	100.0
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Policies by leaders for public good

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	19	19.0	19.0	19.0
Valid Agree	81	81.0	81.0	100.0
Valid Total	100	100.0	100.0	

Policies by leaders based on technical advice

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	71	71.0	71.0	71.0
Valid Agree	29	29.0	29.0	100.0
Valid Total	100	100.0	100.0	

Responses under the policy framework show that 74% of the respondents disagree that there are adequate policies to facilitate the uptake of infrastructure finance from the capital markets. Further, 81% of these respondents agree that there is a need to urgently review the existing financial sector policies in order to promote innovativeness in infrastructure financing. As it relates to leadership, 81% agree that political leaders make public policy to serve public good but 71% disagree that political leaders base their policy decisions on well defined technical advice from senior government officials.

(c) Legal environment

Table 21: Dichotomous analysis on legal environment

Laws are adequate

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	71	71.0	71.0	71.0
Valid Agree	29	29.0	29.0	100.0
Total	100	100.0	100.0	

Laws review needed

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	64	64.0	64.0	64.0
Valid Agree	36	36.0	36.0	100.0
Total	100	100.0	100.0	

Under the legal environment, 71% of the respondents disagree that the existing laws are adequate to govern the financial sector but 64% disagree that the existing laws need an urgent review.

(d) Regulations

Table 22: Dichotomous analysis on regulations

Regulations are adequate

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	64	64.0	64.0	64.0

Agree	36	36.0	36.0	100.0
Total	100	100.0	100.0	

Regulations review needed

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	50	50.0	50.0	50.0
Valid Agree	50	50.0	50.0	100.0
Total	100	100.0	100.0	

A proportion of 64% of the respondents disagree that the existing regulations are adequate to create order and efficiency in the financial sector, and at the same time, 50% of these respondents agree that the existing regulations need an urgent review to align them with emerging sector needs.

(e) Institutions

Table 23: Dichotomous analysis on institutions

Institutions are adequate

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	50	50.0	50.0	50.0
Valid Agree	50	50.0	50.0	100.0
Total	100	100.0	100.0	

Institutions review needed

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	41	41.0	41.0	41.0

Agree	59	59.0	59.0	100.0
Total	100	100.0	100.0	

Capital markets meet economic needs

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	41	41.0	41.0	41.0
Valid Agree	59	59.0	59.0	100.0
Total	100	100.0	100.0	

A proportion of 50% of the respondents agree that the existing institutions are adequate to enforce laws, regulations, rules and orders efficiently and effectively in the financial sector. However, 59% of these respondents agree that the existing institutions need urgent restructuring and strengthening to cope with the demanding complexity of the financial sector. A proportion of 59% of the respondents agree that capital markets respond adequately to meet the economic needs of the country.

4.3 Data reliability and validity

Reliability test was done using Cronbach's alpha coefficient and the results are as shown below.

Table 24: Reliability test was done using Cronbach's alpha coefficient

Case Processing Summary

	N	%
Valid	100	100.0
Cases Excluded ^a	0	.0
Total	100	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.739	.740	5

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Item Means	2.990	2.430	3.250	.820	1.337	.132
Item Variances	.877	.631	1.078	.447	1.708	.030
Inter-Item Covariances	.317	.189	.604	.414	3.187	.013
Inter-Item Correlations	.362	.203	.582	.379	2.870	.011

Summary Item Statistics

	N of Items
Item Means	5
Item Variances	5
Inter-Item Covariances	5
Inter-Item Correlations	5

Analysis in table 24 above shows that had a Cronbach's alpha among the variable items is 0.739 which is higher than 0.7. The variable items were accepted as inter-correlated and therefore underwent parametric analysis.

4.4 Correlation analysis

The analysis of correlation between dependent and independent variables is shown below.

Table 25: Correlation analysis between variables

		Infrastructu re finance	Policy framewor k	Legal environme nt	Regulatio ns	Institutio ns
Infrastructu re finance	Pearson Correlatio n	1	1.000**	.073	.078	.228**
	Sig. (2- tailed)		.000	.468	.441	.023
	N	100	100	100	100	100
Policy framework	Pearson Correlatio n	1.000**	1	.073	.078**	.228
	Sig. (2- tailed)	.000		.468	.441	.023
	N	100	100	100	100	100
Legal environmen t	Pearson Correlatio n	.073	.073	1	.118	.022
	Sig. (2- tailed)	.468	.468		.244	.828
	N	100	100	100	100	100
Regulations	Pearson Correlatio n	.078	.078	.118	1	.375
	Sig. (2- tailed)	.441	.441	.244		.000
	N	100	100	100	100	100

Institutions	Pearson Correlation	.228*	.228*	.022	.375*	1*
	Sig. (2-tailed)	.023	.023	.828	.000	
	N	100	100	100	100	100

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

* . Correlation is significant at the 0.05 level (2-tailed).

Pearson's correlation coefficient (R) is defined within a range $-1 \leq R \leq +1$. When R is +1, the variables are perfectly correlated but when R=0, there is no correlation between the variables. When R=-1, the variables are negatively perfectly correlated (Mugenda, 2008). Infrastructure finance had a perfect positive correlation with policy framework (R=1.000) as shown in table 25 above. This means that policy framework was found to be a perfect predictor of infrastructure finance. Infrastructure finance had a weak positive correlations with legal environment (R=0.073) and regulations (R=0.078), both of which were insignificant at 95% confidence level. Legal environment and regulations were found to be poor predictors of infrastructure finance. Infrastructure finance had a weak positive but significant correlation with institutions (R=0.228) at 95% confidence level. Institutions was found to be a poor but significant predictor of infrastructure finance.

4.5 Regression analysis

This section illustrates the fitness of the model used in the study and also determines the regression coefficients. T-test was undertaken to determine whether the independent variables were statistically significant to affect the infrastructure finance flows. The regression model is represented as $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \epsilon$

Where Y is the dependent variable and X_1 , X_2 , X_3 and X_4 are independent variables.

Y is infrastructure finance flows

X_1 is policy framework

X_2 is legal environment

X_3 is regulations

X₄ is institutions

a is the y-intercept

b₁, b₂, b₃ and b₄ are regression coefficients of X₁, X₂, X₃ and X₄ respectively

Table 26 below shows fitness of the regression model in determining the infrastructure finance flows.

Table 26: Fitness of regression model in determining infrastructure finance flows

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.550 ^a	.302	.273	.678

a. Predictors: (Constant), Institutions, Legal environment, Policy framework, Regulations

The results presented above show an R square of 0.302 which indicates that 30.2% of change the infrastructure finance flows is explained by the combination of the four predictor variables.

Multi-collinearity test

Multi-collinearity is a situation where two or more predictor variables in a multiple regression model are highly correlated. When more than two predictor variables are inter-correlated, then a variable can be linearly determined from the others with accuracy (Gujarat & Porter, 2009). Multi-collinearity tests assist in reduction of variables that have the same effect on the dependent variable therefore removing model redundancy.

Tolerance is defined as the percentage of the variance in a given predictor which cannot be explained by the other predictors. High multi-collinearity occurs when the tolerances are close to zero which elevates the standard error of the regression coefficients. Detection Tolerance and Variance Inflation Factor (VIF) method was used to test for multi-collinearity (Cooper & Schindler, 2008). Multi-collinearity problem occurs when the tolerance is less than 0.20 and the VIF is more than 5.

Multi-collinearity test was conducted as indicated in table 27 below. The results show that all the tolerances for all predictors were more than 0.2 with the least being 0.557. The Variance Inflation Factors (VIFs) for all predictors were less than 5 with the largest being 1.796. The results show that there was no multi-collinearity between predictor variables.

Table 27: Results of multi-collinearity test

Model	95.0% Confidence Interval for B		Collinearity Statistics	
	Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	-.206	1.081		
Policy framework	.021	.347	.855	1.169
Legal environment	-.065	.270	.652	1.533
Regulations	-.049	.300	.557	1.796
Institutions	.068	.390	.804	1.245

a. Dependent Variable: Infrastructure finance

Table 28: Results of collinearity diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Policy framework	Legal environment	Regulations	Institutions
1		4.794	1.000	.00	.00	.00	.00	.00
2		.074	8.049	.01	.36	.27	.13	.08
3		.062	8.776	.01	.49	.06	.00	.53
4		.042	10.699	.44	.10	.14	.50	.02
5		.028	13.058	.54	.04	.52	.37	.37

a. Dependent Variable: Infrastructure finance

Regression analysis of variables

The table below shows the results of regression analysis of variables with t-test value of 0.05 with two-tailed significance.

Table 29: Regression analysis of variables

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.438	.324		1.350	.180
Policy framework	.184	.082	.208	2.240	.027
Legal environment	.102	.084	.129	1.211	.229
Regulations	.125	.088	.164	1.425	.157
Institutions	.229	.081	.270	2.821	.006

Coefficients for the regression model are shown in table 29 above. The regression model is therefore:

$Y = 0.44 + 0.18X_1 + 0.10X_2 + 0.13X_3 + 0.23X_4$; where Y is infrastructure finance flows, X_1 is policy framework, X_2 is legal environment, X_3 is regulations and X_4 is institutions.

All standardized beta coefficients (0.208, 0.129, 0.164 and 0.270) are positive which indicates that the predicted response increases with an increase in each of the predictor variable as shown in table 10 above.

The p-values for the y-intercept, policy framework, legal environment, regulations and institutions are 1.350, 2.240, 1.211, 1.425 and 2.821 respectively. All these p-values are more than 0.05 which indicates that the four independent variables are linearly significant to predict the outcome variable.

4.5.1 Analysis of Variance

Analysis of Variance (ANOVA) was conducted on the variables and results are as shown below.

Table 30: Analysis of Variance (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	18.890	4	4.722	10.285	.000 ^b
Residual	43.620	95	.459		
Total	62.510	99			

a. Dependent Variable: Infrastructure finance

b. Predictors: (Constant), Institutions, Legal environment, Policy framework, Regulations

ANOVA statistics presented above indicate that F statistic (10.285) is significantly different from zero. This means the model showed statistically significant linear association between the predictor variables and the dependent variable.

4.6 Interpretation of findings

4.6.1 Introduction

This section is on discussion of the results based on analyzed responses to questions for the dependent and independent variables after conversion to dichotomous dummy which provides binary answers of agree or disagree. The section further discusses the results of correlation and regression analyses based on the Likert scale data. The independent variables constitute the operating environment factors which are policy framework, legal environment, regulations and institutions. The dependent variable is the infrastructure finance flows.

- (a) The first research question was to establish whether there are adequate policy, legal, regulatory and institutional arrangements to facilitate the uptake of infrastructure finance in the capital markets.

- (b) The second research question was to assess the extent to which policy, legal, regulatory and institutional settings affect financing of infrastructure projects in the capital markets of Kenya.
- (c) The third research question was to assess whether there is need to review the existing policy, legal, regulatory and institutional frameworks.

The model is based on Likert scale data responses on adequacy of policy, legal, regulatory and institutional arrangements to facilitate the uptake of infrastructure finance in the capital markets.

4.6.2 Findings of research question one: Adequate policy, legal, regulatory and institutional arrangements

Results on the policy framework show that about three quarters of the respondents were of the view that there are inadequate policies to facilitate the uptake of infrastructure finance from the capital markets. Results show that policy framework has a perfect positive correlation with infrastructure finance ($R=1.000$). The perfect positive correlation means that policy framework is a perfect predictor of infrastructure finance.

Under the legal environment, close to three quarters of the respondents believed that the existing laws are not adequate to govern the financial sector. Legal environment has a weak positive correlation with infrastructure finance ($R=0.073$) at 0.05 significance level. This correlation is insignificant and shows that legal environment is poor predictor of infrastructure finance.

Nearly two thirds of the respondents thought that the existing regulations are inadequate to create order and efficiency in the financial sector. Regulations has weak positive correlation with infrastructure finance ($R=0.078$) which is insignificant at 0.05 significance level. The weak positive correlation indicates that regulations is a poor predictor of infrastructure finance.

Half of the respondents averred that the existing institutions are adequate to enforce laws, regulations, rules and orders efficiently and effectively in the financial sector. Institutions has a weak positive but significant correlation with infrastructure finance

($R=0.228$) at 0.05 level of significance. This coefficient indicates that institutions is a poor but significant predictor of infrastructure finance.

Results show that almost three quarters of the respondents were of the opinion that the capital markets in Kenya do not provide adequate finance to fund public infrastructure investments. This is evident from the findings that operating environment factors (policy framework, legal environment, regulations and institutions) were inadequate to facilitate mobility of funds from private investors to infrastructure investments.

The reason for this inadequacy of operating environment factors can be explained by Public-interest theory where political and business leaders tend to make decisions without the members of the society in mind, but in pursuit of their own individual interests (Gerston, 1988). This is underscored by studies in other countries like India and Indonesia where lack of enabling environment for attracting investors to fund their infrastructure needs is evident. Poor policies hamper private participation while weak legal and regulatory frameworks expose investors to higher levels of risk (Ray, 2015).

Results of t-test on the regression model show that the p-values for the y-intercept, policy framework, legal environment, regulations and institutions are all more than 0.05 (p values are 1.350, 2.240, 1.211, 1.425 and 2.821 respectively). The t-test at 0.05 level of significance indicates that the four operating environment factors were linearly significant to predict the infrastructure finance flows.

The results also show an R square of 0.302 which indicates that 30.2% of change the infrastructure finance flows is explained by the combination of the four predictor variables. This is a weak contribution of predictor variables to the outcome variable which means that there were other factors contributing the remaining 69.8%. The model was found to be not a good fit between the operating environment factors and the infrastructure finance flows.

ANOVA statistics presented indicate that F statistic (10.285) is significantly different from zero which means that the model shows a statistically significant linear association between independent variables and the dependent variable. The ANOVA results show that the combined operating environment factors are good predictors of infrastructure finance flows.

4.6.3 Findings of research question two: Extent to which policy, legal, regulatory and institutional settings affect financing

Results show that more than four fifths of the respondents believed that political leaders make public policy to serve public good. In the contrary, close to three quarters disagree that political leaders base their policy decisions on well defined technical advice from senior government officials. According to the Theory of administrative rationality, administrative organs should develop analytical techniques to assist senior public officials and politicians to carry out both *ex ante* and *ex post* evaluations of policies in order to bring rationality in the policy decision-making process (Smith, 1976). This shows a great departure of policy making process from the Theory of administrative rationality.

In his studies in East Asia, Ray (2015) found that political interests determine pricing of user charges by regulators thus distorting the real cost of infrastructure services and the market price of the associated risks. This means that political interests become an impediment to the infrastructure finance flows through regulatory “capture” contrary to the proposition Public-interest theory which states that “regulation is supplied in response to demand of the public for correction of inefficient or inequitable market practices” (Gerston, 1988).

Almost three fifths of the respondents agree that capital markets respond adequately to meet the economic needs of the country. Oluoch (2009) found out that PPPs are used to create synergy between the public and private sectors in the delivery of infrastructure projects through financing, risk sharing and adoption of efficient management practices. According to Systems theory, “open” systems have the ability to interact with the environment through constant feedback mechanisms (Cole & Kelly, 2011). The ability for the capital markets in Kenya to respond to the country’s economic needs shows that the markets are fairly open systems.

4.6.4 Findings of research question three: Need to review existing policy, legal, regulatory and institutional frameworks

More than four fifths of the respondents propose urgent review of the existing financial sector policies in order to promote innovativeness in infrastructure

financing. Only slightly more than a third of the respondents propose review of existing laws while a half want regulations revised to support delivery of infrastructure funds. Nearly two fifths of respondents suggest that the existing institutions need restructuring and strengthening to cope with the demanding complexity of the financial sector.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The research objective was to establish the extent to which operating environment factors affect efficient infrastructure finance flows in the capital markets in Kenya. This chapter presents a summary of the key findings of the study as well as the conclusions, limitations of the study, and recommendations for further research.

5.2 Summary

The study found that about three quarters of the respondents were of the view that there are inadequate policies to facilitate the uptake of infrastructure finance from the capital markets while close to three quarters of the same respondents believed that the existing laws are not adequate to govern the financial sector. Nearly two thirds of the respondents thought that the existing regulations are inadequate to create order and efficiency in the financial sector. Half of the respondents averred that the existing institutions are adequate to enforce laws, regulations, rules and orders efficiently and effectively in the financial sector.

Policy framework was found to have a perfect positive correlation with infrastructure finance. This means that policy framework is a perfect predictor of infrastructure finance. Legal environment has weak positive correlation with infrastructure finance. Since this correlation is insignificant, legal environment was found to be a poor predictor of infrastructure finance. Regulations has weak positive correlation with infrastructure finance which was found to be insignificant. Regulations was therefore found to be a poor predictor of infrastructure finance. Institutions has a weak positive but significant correlation with infrastructure finance. Institutions is a poor but significant predictor of infrastructure finance.

Results of t-test on the regression model shows that the p-values for the y-intercept, policy framework, legal environment, regulations and institutions are all more than

0.05. The t-test at 0.05 level of significance indicates that the four operating environment factors are linearly significant to predict the infrastructure finance flows.

The results also show an R square which indicates that about one third of change the infrastructure finance flows is explained by the combination of the four predictor variables. This is a weak contribution of predictor variables to the outcome variable. The model was found to be not a good fit between the operating environment factors and the infrastructure finance flows.

ANOVA statistics presented indicate that F statistic is significantly different from zero which means that the model shows a statistically significant linear association between independent variables and the dependent variable. The ANOVA results show that the operating environment factors are good predictors of infrastructure finance flows which means that using the model is better than guessing the predicted values.

Results show that more than four fifths of the respondents believed that political leaders make public policy to serve public good. In the contrary, close to three quarters disagreed that political leaders base their policy decisions on well technical advice from senior government officials. This shows a great departure of policy making process from the Theory of administrative rationality.

Almost three fifths of respondents agreed that capital markets respond adequately to meet the economic needs of the country. The ability for the capital markets of Kenya to fairly respond to the country's economic needs shows that the markets are fairly open systems.

More than four fifths of the respondents proposed urgent review of the existing financial sector policies in order to promote innovativeness in infrastructure financing. Only slightly more than a third of the respondents proposed review of existing laws while a half of these respondents wanted regulations revised to support delivery of infrastructure funds. Nearly two fifths of the respondents suggested that the existing institutions need restructuring and strengthening to cope with the demanding complexity of the financial sector.

Results shows that almost three quarters of the respondents suggested that the capital markets in Kenya do not provide adequate finance to fund public infrastructure investments. This is due to inadequate policies, laws, regulations and institutional

arrangements to facilitate mobility of funds from private investors to infrastructure investments.

5.3 Conclusions

This study has resulted in three main conclusions. Firstly, the study found out that majority of the respondents stated that there was lack of adequate policies, laws and regulations to promote good governance in the capital markets. Half of these respondents thought that the institutions lack the necessary capacity to operate efficiently and effectively. From these findings, it can be concluded that there are no adequate policy, legal, regulatory and institutional arrangements to facilitate the uptake of infrastructure finance in the capital markets.

Secondly, the study found out that majority of the respondents believed that policy makers do not base their decisions on competent technical advice from senior government officials as proposed by the Theory of administrative rationality. However, majority of the respondents agreed that capital markets respond adequately to meet the country's economic needs but do not provide adequate finance to fund public infrastructure investments. It can therefore be concluded that the policy, legal, regulatory and institutional regimes are poorly configured to deliver financing of infrastructure projects in the capital markets of Kenya. It is worth noting that with an effective operating environment, the capital markets have the capacity to deliver finance to fund infrastructure investments.

Finally, the study found that majority of the respondents agreed that there is need for an urgent review of the existing financial sector policies in order to promote innovativeness in infrastructure financing. Majority of the respondents believed that the existing laws do not require review. Half of the respondents wanted the regulations revised to support delivery of infrastructure funds while a majority of these respondents suggested that the existing institutions need restructuring and strengthening to cope with the demanding complexity of the financial sector. It can be concluded that the financial sector policies, regulations and institutions are not strong enough to provide a supportive environment in delivery of infrastructure finance.

5.4 Limitation of the Study

Limitations are potential weaknesses which might have an impact on the results of the study, but are beyond the control of the researcher (Mugenda, 2008). This section identifies the limitations which could have influenced the outcomes of the study. The institutions used for the study are three technical departments of the National Treasury; government ministries, state departments and state corporation which develop roads, airports, seaports, water and sanitation, waterways, irrigation, and information and communication technology infrastructure; financial sector regulatory agencies; investment banks/ stock brokers which are members of Kenya Association of Stockbrokers and Investment Banks (KASIB); insurance companies listed in the NSE; pension funds registered with Retirement Benefits Authority (RBA); National Social Security Fund (NSSF) and National Hospital Insurance Fund (NHIF); private investment companies listed in the NSE; Association of Kenya Insurers (AKI), KASIB and Kenya Bankers Association (KBA); Ministry of Devolution and Planning; and Vision 2030 Secretariat. The list of institutions under the study is attached as appendix 2.

The study did not take to account 12 technical departments of the National Treasury; government ministries, state departments and state corporations which develop other infrastructure including houses, hospitals, schools, social halls and stadiums; investment banks/ stock brokers which are not members of KASIB; insurance companies not listed in the NSE; private investment companies not listed in the NSE. Exclusion of the institutions developing small scale infrastructure could compromise the completeness of the study. However, study covering only institutions which develop large scale infrastructure is justified because it is this huge infrastructure which face financing challenges.

Writings on infrastructure financing in Kenya was scarce, therefore literature review becoming a challenge. The study used PPP and other closely related written material to undertake literature review. Poor understanding of infrastructure finance by most of the respondents led to long delays in filling the questionnaires. Explanations were made to the respondents and persistent follow ups done in order to ensure that the questionnaires were done.

5.5 Recommendations

Infrastructure financing through the capital markets remains a big challenge in Kenya. From the findings and the conclusion of the research, the following recommendations are made.

5.5.1 Policy Recommendations

Financial sector policies need to be reviewed in order to create a conducive environment for financing of infrastructure investments. The revision of these policies should be backed by evidence and be based on the international best practices. Expert advice and participation of all key stakeholders is required for effectiveness of these policies in addressing the challenges of infrastructure financing in Kenya.

The existing legal and regulatory frameworks also needs to be reviewed in line with revised financial sector policies. The revised laws will offer the requisite protection to the providers of infrastructure finance while the new regulations will create efficiency in the capital markets. The institutional set up should be restructured and strengthened in conformity with the revised policies and laws. The reformed institutions will be able to cope with demands of the financial sector. There is need to establish an infrastructure finance unit at the National Treasury to enhance management of policy issues relating to infrastructure finance in Kenya.

5.5.2 Practice

The findings indicate that the policy framework, legal environment, regulations and institutions significantly affect the infrastructure finance flows through the capital markets in Kenya. Benchmarking studies can be conducted to enable enhancement of policies, laws, regulations and institutions for efficient and effective delivery of infrastructure finance through the capital markets in Kenya.

5.5.3 Theory

The findings have contributed to the knowledge in the area of infrastructure finance. Researchers should explore other areas which affect infrastructure financing of

investments projects in order to come up with models which will enhance the knowledge in this area.

5.6 Recommendations for further research

It is recommended that further research be undertaken on effects of operating environment factors on infrastructure finance flows in the capital markets in Kenya. The research can focus on carefully selected respondents with expert knowledge in infrastructure finance. The respondents may include those in multilateral and bilateral institutions involved in infrastructure financing and development in Kenya.

It is also recommended that the research be extended to cover some countries with good practices in infrastructure financing and capital markets in Africa. The extended research will provide a comparative analysis between Kenya and other African countries on issues of infrastructure finance and capital markets.

Finally, it is recommended that research be conducted separately for each of the independent variables. An example is a study of how financial sector policies impact on infrastructure financing. Further research can also be conducted on other factors which affect infrastructure financing of investment projects.

REFERENCES

- Aduda, J., Chogii, R., & Murayi, M. T. (2014). The effect of capital market deepening on economic growth in Kenya. *Journal of Applied Finance & Banking*, vol. 4(no. 1), 141-159.
- Babbie, E., & Mouton, J. (2009). *The practice of social research*. Cape Town: Oxford University Press.
- Bell, E., & Bryman, A. (2007). The ethics of management research: an exploratory content analysis. *British Journal of Management*, 18, 63-77.
- Black, H. C. (1968). *Black's law dictionary* (4th ed.). St. Paul, MINN. : West Publishing Co.
- Blanchard, O. (2009). *Macroeconomics* (5th ed.). New Jersey: Prentice Hall.
- Bodie, Z., Merton, R. C., & Cleeton, D. L. (2009). *Financial economics* (2nd ed.). New Jersey: Prentice Hall.
- Bosworth, B., & Milusheva, S. (2011). *Innovations in U.S. infrastructure financing: An evaluation*. Brookings institution. Retrieved July 14, 2016, from http://www.brookings.edu/~media/research/files/papers/2011/10/20%20infrastructure%20financing%20bosworth%20milusheva/1020_infrastructure_financing_bosworth_milusheva.pdf
- Cambridge Economic Policy Associates Ltd. (2015). *Mobilizing finance for infrastructure*. Manchester: University of Manchester.
- Capital Markets Authority. (2009). *CMA Quarterly statistical bulletin*. Issue 1/2009, Nairobi.
- Capital Markets Authority. (2013). *Capital Market Authority strategic plan 2013-2017*. Nairobi.
- Central Bank of Kenya. (2014). Nairobi. Retrieved June 19, 2016, from <https://www.centralbank.go.ke/images/results%2012-year%20ifb1-2014-12%20dated%2027-10-2014.pdf>
- Cole, G. A., & Kelly, P. (2011). *Management: Theory and practise* (7th ed.). Hampshire: Cengage Learning.
- Cooper, D. R., & Schinder, P. S. (2008). (.). *Business Research Methods* (10th ed.). New York: McGraw Hill.

- Dane, F. C. (1990). *Research methods*. Belmont, CA: Brooks / Cole Publishing Company.
- Ehlers, T. (2014). *Understanding the challenges for infrastructure finance: BIS Working Papers No 454*. Bank for International Settlements, Geneva.
- Field, A. (2012). *Discovering Statistics Using SPSS* (3rd ed.). New Delhi: SAGE Publications Inc.
- Foster, V. (2008). *Overhauling the engine of growth: Infrastructure in Africa*. Washington: World Bank.
- Froyen, R. T. (2009). *Macroeconomic theories and policy*. New Jersey: Pearson Education.
- Gerston, L. N. (1988). *The deregulated society*. Belmont, CA: Brooks/ Cole Publishing Company.
- Gikabia, R. (2015). *The effect of public infrastructure bond financing on Government expenditure in Kenya*. MBA Project, University of Nairobi.
- GOK. (2016, May). Executive Order No. 1/2016. Nairobi.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics*. Tata: McGraw-Hill Education.
- Gutman, J., Sy, A., & Chattopadhyay, S. (2015, March). Retrieved June 18, 2016, from <http://www.brookings.edu/~media/events/2015/04/21-financing-african-infrastructure/financing-african-infrastructurepresentation.pdf>
- Hodgson, G. M. (2006, March). What are institutions? *Journal of Economic Issues*, XL(1), 18. Retrieved June 27, 2016, from <http://www.geoffrey-hodgson.info/user/image/whatarestitutions.pdf>
- Hyndman, R. (2008). Retrieved from www.robhyndman.info
- Hyndman, R. J. (2008). *Quantitative business research methods*. Melbourne: Monash University.
- IRA. (2016). Retrieved August 18, 2016, from www.ira.go.ke
- Kabiru, J. N., Ochieng, D. E., & Kinyua, H. W. (2015, October). The effects of general elections on stock returns at the Nairobi Securities Exchange. *European Scientific Journal*, II(28), 435-460.
- Kenya Law Reform Commission. (2015). *A guide to the legislative process in Kenya*. Nairobi.

- Leftwich, A., & Sen, K. (2010). *Beyond institutions: Institutions and organisations in the politics and economics of poverty reduction – a thematic synthesis of research evidence*. Manchester: University of Manchester.
- Mburu, J. M. (2013). *The relationship between government investment in infrastructure and economic growth in Kenya*. MSc (Finance) Project, University of Nairobi.
- McKinsey Global Institute. (2013). *Infrastructure productivity. How to save \$1 trillion a year*. McKinsey Global Institute.
- Miles, M. B., & Hubberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). New York: SAGE publications Inc.
- Mugenda, A. (2008). *Social Science Research: Theory and Principles*. . Nairobi: Applied Research and Training Services.
- NSE. (2016). <https://www.nse.co.ke/member-firms/firms.html>. Retrieved August 18, 2016, from www.nse.co.ke
- Odero, M. L. (2010). *Public-Private Partnerships and the development of Infrastructure in Kenya: Understanding and resolving disputes*. LLM Thesis, University of Nairobi.
- Oluoch, J. O. (2009). *Critical review of literature on the factors that determine the effectiveness of public private partnerships in financing public infrastructure projects*. PHD (Finance) Independent Study Paper, University of Nairobi.
- policy. (2016). *merriam-webster.com*. Retrieved June 18, 2016, from merriam-webster.com/dictionary/policy
- Ray, S. (2015). *Infrastructure finance and financial sector development*. Asian Development Bank Institute. Tokyo: Asian Development Bank Institute. Retrieved July 10, 2016, from <http://www.adbi.org/working-paper/2015/04/13/6593.investment.finance.sector.dev/>
- RBA. (2016). <http://www.rba.go.ke/index.php/en/retirement-benefits-schemes/retirement-benefits-schemes-col-280/registered-schemes>. Retrieved August 18, 2016, from <http://www.rba.go.ke>
- Smith, B. (1976). *Policy-making in British government: An analysis of power & rationality*. London: Martin Robertson and Company Ltd.
- Sullivan, G. M., & Artino, A. R. (2013, December). Analyzing and Interpreting Data From Likert-Type Scales. *Journal of Graduate Medical Education*, 541-542. doi:10.4300/JGME-5-4-18

The Infrastructure Consortium for Africa Secretariat. (2014). Retrieved July 16, 2016, from
http://www.icafrica.org/fileadmin/documents/Annual_Reports/INFRASTRUCTURE_FINANCING_TRENDS_IN_AFRICA_%E2%80%93_2014.pdf

Tucker, E. W., & Henkel, J. W. (1992). *The legal & ethical environment of business*. Illinois: Richard D. Irwin, Inc.

UNIDO. (2006). (J. New, & M. Matteini, Eds.) Retrieved June 28, 2016, from
https://www.unido.org/fileadmin/user_media/Publications/Pub_free/training_manual_on_sustainable_energy_regulation_and_policymaking_for_Africa.pdf

APPENDICES

Appendix 1: Questionnaire

SECTION I: LETTER OF INTRODUCTION TO RESPONDENTS

Date: _____

Dear respondent,

The purpose of this questionnaire is to collect data and information for academic research project on “Effects of operating environment factors on infrastructure finance flows in the capital markets in Kenya” in partial fulfillment of the requirement for the award of the degree of Master of Business Administration, University of Nairobi.

Please rest assured that all information collected through this questionnaire shall be treated with utmost confidence and shall be used for this research purpose only. In addition, ethical standards shall be strictly observed to ensure that the study outcomes and any other reports will not include reference names of any respondent or their institutions. For any clarification, you can contact me through steve.mwangi2000@gmail.com or 0721639527.

I thank you in advance for your patience, time and cooperation.

Yours Sincerely,

Stephen Mwangi
Student, MBA, Finance
School of Business, University of Nairobi
Reg. No. D61/60287/2011

SECTION II: QUESTIONNAIRE

A. Background

Inadequate infrastructure investments in Kenya are not due to lack of available sources of funds, but due to bottlenecks which impede efficient delivery of funds for infrastructure investments projects

The study will establish whether existing policy, legal, regulatory and institutional frameworks impede development of infrastructure finance in the Kenyan capital markets.

The study will provide an insight to policy makers, practitioners, academicians, regulators, researcher and other actors to form a basis for formulation of policies that promote efficient access to infrastructure finance from the Kenyan capital markets.

B. Name of the Organization: _____

Which one of the following best describes your organization? Please tick or put an *X* as appropriate in the corresponding box.

	Organization	Tick one
1.	National Treasury	
2.	Ministry/ State Department	
3.	State Corporation	
4.	Regulatory agency (financial services sector)	
5.	Investment bank/ Stock broker	
6.	Finance company (e.g. insurance companies, pension funds, unit trusts, mutual funds)	
7.	Other (specify):	

C. Infrastructure finance

Infrastructure finance is provided by the capital markets to bridge the gap left through funding from traditional sources (tax revenues, foreign grants and loans) of public infrastructure investments.

Please tick or put an *X* as appropriate in the corresponding box. Use a scale of 1 to 5, where 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

Infrastructure finance	1	2	3	4	5
The capital markets in Kenya provide adequate finance to fund public infrastructure investments.					
Comments (optional):					

D. Policy framework

The policies in question are those which impact on the financial sector.

Please tick or put an **X** as appropriate in the corresponding box. Use a scale of 1 to 5, where 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

Policies	1	2	3	4	5
There are adequate policies to facilitate the uptake of infrastructure finance from the capital markets					
There is a need to urgently review the existing financial sector policies in order to promote innovativeness in infrastructure financing					
Political leaders make public policy to serve public good					
Political leaders base their policy decisions on well defined technical advice from senior government officials					
Comments (optional):					

E. Legal environment

Laws are not only those governing the financial sector but also those which have an impact on financial sector such as laws of contract and other commercial laws.

Please tick or put an **X** as appropriate in the corresponding box. Use a scale of 1 to 5, where 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

Laws	1	2	3	4	5
The existing laws are adequate to govern the financial sector					

and also protect providers of infrastructure funds from incurring any loss as a result of breach of contract or other malpractices					
The existing laws need an urgent review to enhance delivery of justice					
Comments (optional):					

F. Regulations

Regulations can be enforced by a state agency, a market agency (such as NSE) a business association (e.g. KASIB) or professional body (e.g. ICPAK).

Please tick or put an **X** as appropriate in the corresponding box. Use a scale of 1 to 5, where 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

Regulations	1	2	3	4	5
The existing regulations are adequate to create order and efficiency in the financial sector					
The existing regulations need an urgent review to align them with emerging sector needs					
Comments (optional):					

--

G. Institutions

Public institutions enforce laws, regulations, rules, codes and guidelines created by the state. Private institutions enforce rules, codes and guidelines created by members of those institutions. Both public and private institutions are important when they function for the common good of the wider public.

Please tick or put an *X* as appropriate in the corresponding box. Use a scale of 1 to 5, where 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

Institutions	1	2	3	4	5
The existing institutions are adequate to enforce laws, regulations, rules and orders efficiently and effectively in the financial sector					
The existing institutions need urgent restructuring and strengthening to cope with the demanding complexity of the financial sector					
Capital markets respond adequately to meet the economic needs of the country					
Comments (optional):					

H. Is there coherence between policy, legal, regulatory and institutional frameworks in the financial sector?

I. General comments (optional):

In this part you may also interrogate other fundamental issues that affect funding of infrastructure investment projects from the Kenyan capital markets.

J. Personal Information:

1. Name of Respondent (optional):
2. Position (optional):

**THANK YOU VERY MUCH FOR YOUR INVALUABLE TIME WHICH YOU
HAVE CONTRIBUTED TO MAKE THIS EXERCISE A SUCCESS.**

Appendix 2: Population of the institutions to be surveyed

I. Financial sector policy institutions

1. Macro Department – National Treasury
2. Financial Sector Department – National Treasury
3. Public Private Partnership Unit – National Treasury

II. Infrastructure development policy institutions

4. State Department for Transport
5. State Department for Infrastructure
6. State Department for Water Services
7. State Department for Irrigation
8. State Department for Information Communications and Technology & Innovation
9. State Department for Broadcasting & Telecommunications
10. State Department for Energy
11. State Department for Petroleum

III. Financial sector regulatory agencies

12. Capital Markets Authority (CMA)
13. Central Bank of Kenya (CBK)
14. Nairobi Securities Exchange (NSE)
15. Central Depository & Settlement Corporation Limited (CDSC)
16. SACCO Societies Regulatory Authority (SASRA)
17. Insurance Regulatory Authority (IRA)
18. Retirement Benefits Authority (RBA)

IV. Public infrastructure investment agencies

Energy, oil and gas:

19. Kenya Power and Lighting Company Limited (KPLC)
20. Rural Electrification Authority (REA)
21. Kenya Pipeline Company Ltd. (KPC)
22. National Oil Corporation of Kenya (National Oil)
23. Kenya Electricity Generating Company Ltd. (KenGen)
24. Geothermal Development Company Ltd. (GDC)
25. Kenya Electricity Transmission Company Ltd. (KETRACO)

Transportation:

26. The Kenya National Highways Authority (KeNHA)
27. The Kenya Rural Roads Authority (KeRRA)

28. Kenya Urban Roads Authority (KURA)
29. Kenya Airports Authority (KAA)
30. Kenya Ports Authority (KPA)
31. Kenya Railways Corporation (KRC)

Information, Communications and Technology:

32. Konza Technopolis Development Authority (KoTDA)
33. Telkom Kenya Ltd.

Water and sanitation:

34. Athi Water Services Board (AWSB)
35. Tana Water Services Board (TWSB)
36. Tanathi Water Services Board (TAWSB)
37. Lake Victoria South Water Services Board (LVSWSB)
38. Lake Victoria North Water Services Board (LVNWSB)
39. Rift Valley Water Services Board (RVWSB)
40. Coast Water Services Board (CWSB)
41. Northern Water Services Board (NWSB)
42. Water Services Regulatory Board (WASREB)

Irrigation:

43. National Irrigation Board (NIB)

V. Investment Banks/ Stock brokers

44. Dyer & Blair Investment Bank Ltd
45. Francis Drummond & Company Limited
46. Ngenye Kariuki & Co. Ltd
47. Suntra Investment Bank Ltd
48. Old Mutual Securities Ltd
49. SBG Securities Ltd
50. Kingdom Securities Ltd
51. Afrika Investment Bank Ltd
52. ABC Capital Ltd
53. Discount Securities Ltd
54. KCB Capital
55. Barclays Financial Services Limited
56. Genghis Capital Ltd
57. CBA Capital Limited
58. Equity Investment Bank Limited
59. African Alliance Kenya Investment Bank Ltd
60. Renaissance Capital (Kenya) Ltd
61. NIC Securities Limited
62. Standard Investment Bank Ltd
63. Kestrel Capital (EA) Limited
64. Sterling Capital Ltd
65. ApexAfrica Capital Ltd

66. Faida Investment Bank Ltd

VI. Public investment funds

- 67. National Social Security Fund
- 68. National Hospital Insurance Fund

VII. Fund managers (excludes those listed as investment banks in part V above)

- 69. Alpha Africa Asset Managers Limited
- 70. Amana Capital Limited
- 71. Apollo Asset Management Company Limited
- 72. British-American Asset Managers Limited
- 73. CIC Asset Management Limited
- 74. Co-op Trust Investment Services Limited
- 75. Dry Associates Limited
- 76. Fusion Investment Management Limited
- 77. Genafrika Asset Managers Limited
- 78. ICEA Lion Asset Management Limited
- 79. Kenindia Asset Management Company Limited
- 80. Madison Asset Management Services Limited
- 81. Old Mutual Investment Group Limited
- 82. Pinebridge Investments East Africa Limited
- 83. Pan Africa Asset Management Limited
- 84. Stanlib Kenya Limited
- 85. UAP Investments Limited
- 86. Zimele Asset Management Company Limited

VIII. Insurance companies listed in the NSE

- 87. Jubilee Holdings Ltd
- 88. Pan Africa Insurance Holdings Ltd
- 89. Kenya Re-Insurance Corporation Ltd
- 90. Liberty Kenya Holdings Ltd
- 91. Britam Holdings Ltd
- 92. CIC Insurance Group Ltd
- 93. Olympia Capital Holdings Ltd

IX. Investment companies listed in the NSE

- 94. Centum Investment Co Ltd
- 95. Trans-Century Ltd

X. Business associations in the financial sector

- 96. Association of Kenya Insurers (AKI)

97. Kenya Bankers Association (KBA)
98. Kenya Association of Stockbrokers and Investment Banks (KASIB)

XI. National Development Planning institutions

99. Vision 2030 Delivery Secretariat
100. State Department for Planning and Statistics

Appendix 3: Data from the institutions enumerated

Respondent	Org_type	Infra Fin	Po l1	Po l2	Po l3	Po l4	La w1	La w2	Re g1	Re g2	Ins t1	Ins t2	Ins t3
001	1	1	4	5	5	4	1	2	4	5	4	4	3
002	1	2	2	5	2	2	4	2	3	4	3	4	2
003	1	2	2	5	4	2	2	5	2	5	4	4	2
004	2	1	2	5	3	3	2	4	4	4	3	4	2
005	2	4	2	4	2	2	2	4	3	4	4	4	2
006	2	1	2	5	2	5	4	2	4	2	1	5	3
007	2	1	1	5	5	1	1	5	1	5	1	5	1
008	2	4	4	3	3	2	3	4	3	4	2	4	2
009	2	2	3	4	4	4	3	3	2	3	4	3	4
010	2	3	4	4	2	3	5	3	5	2	4	3	4
011	2	2	4	5	3	3	4	2	4	4	2	4	2
012	4	4	2	4	3	5	4	3	3	4	5	2	5
013	4	1	2	5	2	1	2	4	2	5	4	5	2
014	4	2	2	4	3	4	3	3	3	4	4	4	2
015	4	3	2	3	3	4	4	3	3	4	4	4	5
016	4	2	4	3	3	4	3	3	5	4	5	3	5
017	4	4	5	4	4	5	5	4	5	4	5	4	5
018	4	2	3	3	4	3	2	4	3	4	2	2	3
019	3	3	2	4	3	3	4	2	4	3	4	3	2
020	3	3	3	4	3	4	4	2	4	3	4	3	2
021	3	3	2	4	3	4	4	3	4	4	4	4	2
022	3	3	2	4	3	4	4	3	4	4	4	4	2
023	3	2	2	3	3	2	3	2	3	3	3	3	2
024	3	3	3	4	3	2	3	4	3	4	4	4	2
025	3	3	3	3	3	4	4	3	4	4	3	4	2
026	3	2	3	4	3	3	3	3	4	3	3	4	2
027	3	2	2	5	4	5	4	3	4	5	4	5	2
028	3	2	2	2	3	2	3	3	3	3	2	2	2
029	3	2	2	3	3	2	3	3	3	3	2	2	2
030	3	2	3	5	1	1	3	5	4	4	2	4	1
031	3	3	4	3	4	3	4	2	4	2	4	3	3
032	3	3	4	5	1	2	4	2	5	2	4	3	2
033	3	4	5	1	4	4	5	2	5	2	4	2	2
034	3	4	2	4	3	4	4	3	5	4	4	4	4
035	3	4	4	4	3	5	4	4	3	4	4	4	2
036	3	4	3	4	2	1	3	4	4	4	4	3	3
037	3	3	4	2	4	3	4	4	4	4	2	4	2
038	3	1	1	2	4	2	2	3	2	2	1	1	1

Respondent	Org_type	Infra Fin	Po l1	Po l2	Po l3	Po l4	La w1	La w2	Re g1	Re g2	Ins t1	Ins t2	Ins t3
039	3	2	3	5	3	3	4	3	4	3	4	3	4
040	3	3	2	4	2	2	3	4	3	4	4	5	3
041	3	4	4	4	3	3	4	4	4	4	4	5	4
042	3	2	4	3	5	4	5	4	5	3	4	3	4
043	3	1	2	5	3	2	4	3	4	3	4	4	3
044	5	2	2	4	4	4	3	4	3	4	3	3	2
045	5	3	2	4	4	4	4	3	4	4	3	4	3
046	5	2	2	3	4	3	3	3	3	3	2	2	2
047	5	3	2	4	4	3	4	3	4	3	3	3	3
048	5	2	2	4	3	3	3	4	3	3	3	3	3
049	5	3	3	4	4	3	4	4	4	4	4	4	4
050	5	3	3	4	3	3	4	5	4	4	4	4	3
051	5	3	4	4	4	3	4	4	5	3	4	4	3
052	5	3	4	5	2	2	4	3	5	3	4	4	2
053	5	2	3	3	2	2	3	2	3	2	3	2	2
054	5	2	2	3	2	2	3	2	3	2	3	2	2
055	5	2	2	3	3	3	2	3	3	3	2	3	2
056	5	2	2	4	4	4	3	4	4	4	3	3	2
057	5	3	2	4	4	4	4	3	4	4	3	3	3
058	5	3	2	4	4	4	4	3	4	4	3	3	3
059	5	3	2	4	4	3	3	4	4	3	3	3	3
060	5	3	3	4	4	3	4	4	4	4	4	4	4
061	5	3	3	4	3	3	4	4	4	4	4	4	3
062	5	3	4	4	4	3	4	4	5	4	4	4	3
063	5	3	4	4	3	3	4	4	5	4	4	4	3
064	5	3	4	4	3	3	4	3	4	3	4	3	3
065	5	3	3	4	2	2	3	3	4	2	3	3	2
066	5	2	2	3	2	2	3	2	3	2	3	3	2
067	6	2	2	5	1	4	4	5	3	4	2	4	2
068	6	2	3	5	2	3	3	4	1	3	2	3	3
069	6	3	4	4	4	4	3	5	3	3	3	4	2
070	6	3	2	5	3	3	1	4	2	4	4	3	2
071	6	2	2	3	1	4	4	5	3	3	2	4	2
072	6	2	3	5	2	4	4	5	2	4	2	3	2
073	6	3	4	5	3	3	2	4	2	4	3	3	3
074	6	1	2	5	1	4	4	5	3	4	2	4	2
075	6	2	3	5	4	3	3	4	2	3	3	3	2
076	6	3	2	4	3	3	1	4	2	4	2	3	3
077	6	2	2	5	3	3	2	4	2	4	4	3	2
078	6	3	4	5	2	4	2	5	3	4	2	4	2

Respon dent	Org_t ype	Infra Fin	Po l1	Po l2	Po l3	Po l4	La w1	La w2	Re g1	Re g2	Ins t1	Ins t2	Ins t3
079	6	1	3	5	2	3	4	4	2	3	3	3	3
080	6	2	4	5	3	3	1	4	1	4	3	3	2
081	6	2	4	5	1	4	4	5	3	4	2	4	2
082	6	3	4	5	2	4	4	5	2	4	3	4	3
083	6	2	3	5	3	3	4	3	2	4	4	3	2
084	6	2	3	4	3	3	1	4	2	4	3	3	3
085	6	3	3	5	1	4	4	5	3	3	2	4	3
086	6	2	3	5	3	3	3	4	1	4	3	3	2
087	6	2	4	4	2	3	2	4	2	4	4	3	2
088	6	1	2	5	2	4	4	5	2	3	2	4	3
089	6	2	2	5	3	3	2	4	2	4	3	3	2
090	6	2	3	5	2	3	2	4	3	3	3	3	3
091	6	2	2	5	1	4	4	5	3	4	2	4	2
092	6	2	3	5	4	3	1	4	3	4	4	3	2
093	6	2	2	5	3	3	2	4	2	4	3	3	3
094	6	2	4	5	1	4	4	5	3	4	2	4	2
095	6	2	2	5	3	3	2	4	2	3	3	3	2
096	4	2	3	4	4	3	4	4	3	4	4	4	2
097	4	2	3	5	2	3	3	4	2	3	2	3	2
098	4	2	2	4	3	3	3	4	2	3	3	3	2
099	7	2	3	5	4	4	3	4	4	3	5	4	3
100	2	3	3	4	3	4	4	3	4	3	4	3	4

Appendix 4: Dichotomous dummy values of the population of the institutions surveyed

Dichotomous data (agree = 1, disagree = 0)

Respondent	Org_type	Infra Fin	Po l1	Po l2	Po l3	Po l4	La w1	La w2	Re g1	Re g2	Ins t1	Ins t2	Ins t3
001	1	1	1	1	1	1	1	1	1	0	0	0	0
002	1	0	0	1	1	0	0	0	0	1	1	0	0
003	1	0	0	1	1	1	1	0	0	0	0	1	1
004	2	0	0	1	1	0	0	0	0	0	0	1	1
005	2	0	0	1	1	0	0	0	0	0	0	1	1
006	2	0	0	1	1	0	0	1	1	1	1	0	0
007	2	0	0	1	1	1	1	0	0	0	0	1	1
008	2	1	1	0	0	0	0	0	0	0	0	1	1
009	2	0	0	1	1	1	1	1	1	0	0	0	0
010	2	1	1	1	1	0	0	0	0	1	1	0	0
011	2	1	1	1	1	0	0	0	0	1	1	0	0
012	4	0	0	1	1	0	0	1	1	1	1	0	0
013	4	0	0	1	1	0	0	0	0	0	0	1	1
014	4	0	0	1	1	0	0	1	1	0	0	0	0
015	4	0	0	0	0	0	0	1	1	1	1	0	0
016	4	1	1	0	0	0	0	1	1	0	0	0	0
017	4	1	1	1	1	1	1	1	1	1	1	1	1
018	4	0	0	0	0	1	1	0	0	0	0	1	1
019	3	0	0	1	1	0	0	0	0	1	1	0	0
020	3	0	0	1	1	0	0	1	1	1	1	0	0
021	3	0	0	1	1	0	0	1	1	1	1	0	0
022	3	0	0	1	1	0	0	1	1	1	1	0	0
023	3	0	0	0	0	0	0	0	0	0	0	0	0
024	3	0	0	1	1	0	0	0	0	0	0	1	1
025	3	0	0	0	0	0	0	1	1	1	1	0	0
026	3	0	0	1	1	0	0	0	0	0	0	0	0
027	3	0	0	1	1	1	1	1	1	1	1	0	0
028	3	0	0	0	0	0	0	0	0	0	0	0	0
029	3	0	0	0	0	0	0	0	0	0	0	0	0
030	3	0	0	1	1	0	0	0	0	0	0	1	1
031	3	1	1	0	0	1	1	0	0	1	1	0	0
032	3	1	1	1	1	0	0	0	0	1	1	0	0
033	3	1	1	0	0	1	1	1	1	1	1	0	0

Respondent	Org_type	Infra Fin	Po l1	Po l2	Po l3	Po l4	La w1	La w2	Re g1	Re g2	Ins t1	Ins t2	Ins t3
034	3	0	0	1	1	0	0	1	1	1	1	0	0
035	3	1	1	1	1	0	0	1	1	1	1	1	1
036	3	0	0	1	1	0	0	0	0	0	0	1	1
037	3	1	1	0	0	1	1	0	0	1	1	1	1
038	3	0	0	0	0	1	1	0	0	0	0	0	0
039	3	0	0	1	1	0	0	0	0	1	1	0	0
040	3	0	0	1	1	0	0	0	0	0	0	1	1
041	3	1	1	1	1	0	0	0	0	1	1	1	1
042	3	1	1	0	0	1	1	1	1	1	1	1	1
043	3	0	0	1	1	0	0	0	0	1	1	0	0
044	5	0	0	1	1	1	1	1	1	0	0	1	1
045	5	0	0	1	1	1	1	1	1	1	1	0	0
046	5	0	0	0	0	1	1	0	0	0	0	0	0
047	5	0	0	1	1	1	1	0	0	1	1	0	0
048	5	0	0	1	1	0	0	0	0	0	0	1	1
049	5	0	0	1	1	1	1	0	0	1	1	1	1
050	5	0	0	1	1	0	0	0	0	1	1	1	1
051	5	1	1	1	1	1	1	0	0	1	1	1	1
052	5	1	1	1	1	0	0	0	0	1	1	0	0
053	5	0	0	0	0	0	0	0	0	0	0	0	0
054	5	0	0	0	0	0	0	0	0	0	0	0	0
055	5	0	0	0	0	0	0	0	0	0	0	0	0
056	5	0	0	1	1	1	1	1	1	0	0	1	1
057	5	0	0	1	1	1	1	1	1	1	1	0	0
058	5	0	0	1	1	1	1	1	1	1	1	0	0
059	5	0	0	1	1	1	1	0	0	0	0	1	1
060	5	0	0	1	1	1	1	0	0	1	1	1	1
061	5	0	0	1	1	0	0	0	0	1	1	1	1
062	5	1	1	1	1	1	1	0	0	1	1	1	1
063	5	1	1	1	1	0	0	0	0	1	1	1	1
064	5	1	1	1	1	0	0	0	0	1	1	0	0
065	5	0	0	1	1	0	0	0	0	0	0	0	0
066	5	0	0	0	0	0	0	0	0	0	0	0	0
067	6	0	0	1	1	0	0	1	1	1	1	1	1
068	6	0	0	1	1	0	0	0	0	0	0	1	1
069	6	1	1	1	1	1	1	1	1	0	0	1	1
070	6	0	0	1	1	0	0	0	0	0	0	1	1
071	6	0	0	0	0	0	0	1	1	1	1	1	1
072	6	0	0	1	1	0	0	1	1	1	1	1	1
073	6	1	1	1	1	0	0	0	0	0	0	1	1

Respon dent	Org_t ype	Infra Fin	Po l1	Po l2	Po l3	Po l4	La w1	La w2	Re g1	Re g2	Ins t1	Ins t2	Ins t3
074	6	0	0	1	1	0	0	1	1	1	1	1	1
075	6	0	0	1	1	1	1	0	0	0	0	1	1
076	6	0	0	1	1	0	0	0	0	0	0	1	1
077	6	0	0	1	1	0	0	0	0	0	0	1	1
078	6	1	1	1	1	0	0	1	1	0	0	1	1
079	6	0	0	1	1	0	0	0	0	1	1	1	1
080	6	1	1	1	1	0	0	0	0	0	0	1	1
081	6	1	1	1	1	0	0	1	1	1	1	1	1
082	6	1	1	1	1	0	0	1	1	1	1	1	1
083	6	0	0	1	1	0	0	0	0	1	1	0	0
084	6	0	0	1	1	0	0	0	0	0	0	1	1
085	6	0	0	1	1	0	0	1	1	1	1	1	1
086	6	0	0	1	1	0	0	0	0	0	0	1	1
087	6	1	1	1	1	0	0	0	0	0	0	1	1
088	6	0	0	1	1	0	0	1	1	1	1	1	1
089	6	0	0	1	1	0	0	0	0	0	0	1	1
090	6	0	0	1	1	0	0	0	0	0	0	1	1
091	6	0	0	1	1	0	0	1	1	1	1	1	1
092	6	0	0	1	1	1	1	0	0	0	0	1	1
093	6	0	0	1	1	0	0	0	0	0	0	1	1
094	6	1	1	1	1	0	0	1	1	1	1	1	1
095	6	0	0	1	1	0	0	0	0	0	0	1	1
096	4	0	0	1	1	1	1	0	0	1	1	1	1
097	4	0	0	1	1	0	0	0	0	0	0	1	1
098	4	0	0	1	1	0	0	0	0	0	0	1	1
099	7	0	0	1	1	1	1	1	1	0	0	1	1
100	2	0	0	1	1	0	0	1	1	1	1	0	0