

**FACTORS INFLUENCING COMPLETION OF CONSTRUCTION
PROJECTS IN KENYA: A CASE OF GOVERNMENT BUILDINGS
CONSTRUCTION PROJECTS IN NAIROBI COUNTY, KENYA**

BY

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DECLARATION

This Research Project is my original work and has not been presented for a degree award in this or any other University.

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DEDICATION

This research is dedicated to my wife Nancy Barrack for her support not forgetting my Daughter Florence Ogeno for being there for me.

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ABBREVIATION AND ACRYROMNS.

CEVP: Cost Estimating and Validation Process

CRA: Cost Risk Assessment

DETR: Department for Environment Transport and the Regions

ICT: Information Communication Technology

KPIs: Key Performance Indicators

PPDA: Public Procurement and Disposal Act

PPDR: Public Procurement and Disposal Regulations

PPOA: Public Procurement Oversight Authority

SPSS: Statistical Package for Social Scientists

TOC: Theory of Constraints

WSDOT: Washington State Department of Transportation

ABSTRACT

The main purpose of the study was to determine the factors influencing completion of projects in Kenya: a case of government buildings construction projects in Nairobi County. The study was guided by four specific objectives: to determine how Political factors influence Completion of Government Buildings Construction Projects; to establish the Economic factors that influences Completion of Government Buildings Construction Projects; to determine how Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects and to determine how Technology influences Completion of Government Buildings Construction Projects in Nairobi County Kenya. The study adopted a descriptive survey research design. The study was carried out in Nairobi County. There were 150 Government construction Projects in the Nairobi, County. Therefore, the targeted population for this study consisted of all the 150 Government Buildings Construction Projects in the Nairobi, County. From each of the 150 Government construction Projects in the Nairobi, County, the study selected 3 members with the information in each project who are the Government architects, structural engineers, civil engineers, construction project managers, mechanical engineers, electrical engineers, quantity surveyors, land surveyors and contractors on site. Therefore, the study comprised of 450 respondents as the target population. a sample of more than 30% was a representative of the whole population, therefore the researcher sampled a target sample of 45 Government Buildings Construction Projects, from the 45 projects, the study obtained 3 members with the information in each project who are the Government making the sample population to 135 respondents. The researcher used purposive sampling to select 135 participants. The questionnaire was used for data collection because it offered considerable advantages in the administration. Data was collected, examined and checked for completeness and clarity. The data collected was analyzed quantitatively. Frequency tables with varying percentages was used to present the findings. Results of went through a critical assessment of each response and examined using thematic interpretation in accordance with the main objectives of the study and thereafter presented in narrative excerpts within the report. The study found out that the Political interference plays a critical but poorly understood role in determining the success or failure of the completion of Construction Projects on a Very high extent with a mean of 3.901. Most respondents agreed that Most government funded projects are hurdled by the financial constraints during the time of their implementation to a very high extent with $M=3.884$ ($SD=0.815$). The management of construction projects requires knowledge of modern management as well as an understanding of the design and construction process. the coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R^2 equals 0.790, that is Organization Political factors influence Completion of Government Buildings Construction Projects, Economic factors that influences Completion of Government Buildings Construction Projects, Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects, Technology have 79% percent influence on Completion of Construction Projects, leaving only 21% percent unexplained. The P- value of 0.004 (Less than 0.05) implies that the model of Completion of Construction Projects is significant at the 5 percent significance

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, delay in construction projects is one of the most common, costly, complex and risky problems encountered in construction projects success. Construction projects takes place all over the world, it entails building works, water works civil works, Road works and many others. Every construction project has the following constraints; time, cost and quality. It is common to experience delays during construction projects. Delays do not always result from a single catastrophic event. Delays can cause substantial damages to a firm. Construction industry has been frequented with occasional delays and disruptions causing time and cost overruns. These delays and disruptions are sources of potential risks that current studies are looking into ways to manage such as technical, social, economic, legal, financial, resource, construction and commercial (Kikwasi, 2012).

Clients finance projects with sole aim of reaping benefits from the investments. Construction industry is known to be a time-consuming and material depleting industry, due to its complexity and volatility occasioned by varied needs, wants and preferences. No investor would invest in a project that seem to last forever, with indefinite cost or budget. There is thus a direct co-relation between time and cost of project. Projects are deemed thus because they have definite start and finish time, consume resources and meet certain criterion in satisfaction to the beneficiaries. In a construction project, contracts are based on price or cost and time period needed to finish a project (Waihenya, 2011).

In a study carried out in Florida State Ahmed, Azhar, Castillo and Kapagantulla (2002) state that delays of construction projects are indeed a universal phenomenon. They are also most always accompanied by cost and time overruns. Construction project delays further have a debilitating effect on all parties (owner, contractor, and consultant). It is therefore correctly deduced that factors affecting construction project completion is a study of interest to all parties. This is in

agreement with Ahmed et al. (2002) observation that project delays have been a topic of concern in the construction industry.

Gaba (2013) refers to the WSDOT formula for CRA and CEVP with the quip for the price we said and when we said... to emphasize this aspect of delivering construction projects on time and within the budget. He therefore narrates the guiding questions of how much will it cost. How long will it take? To identify the two key questions in the mind of every owner as he thinks of investing in a construction project. The two follow up questions are why does it cost that much and why does it take that long? Indeed remaining on this topic Bruce Carnes is quoted as saying “we have perhaps too often, taken a best case scenario and then committed on delivering on it, when in order to deliver on it.

Chai and Yusof (2013) in a study carried out on reclassifying housing delivery delay in Malaysia state that “time is essence” and “time is revenue” this being a way of capturing the relationship between project delay to revenue loss. They further state that to complete the construction projects on time and within schedule is as essential benchmark for proprietor and executors as well as house buyers. They conclude then that the sources of delay should be promoted in order to analyze and classifying so that a more approachable manner is expected.

In a similar research, Sambasivan and Soon (2007) state that in Saudi Arabia 30% of construction projects are completed within the scheduled completion dates and that the average overrun was between 10% and 30%. A similar conclusion was arrived at by Chan and Kumaraswamy (1997) in a study carried out in Hong Kong concluding that timely delivery of projects within budget and to the level of quality standard specified by the client is an index of successful project delivery. This seems to be a conclusion of many studies. They further observe that failure to achieve targeted time, budgeted cost and specified quality result in various unexpected negative effects on the projects. It is further observed that normally when the projects are delayed, they are either extended or accelerated and therefore incur additional cost.

Hussin and Omran (2011) in a study carried out in Malaysia observe that a major criticism facing the construction industry is the growing rate of delay in project delivery. He identifies the conventional approach to managing the extra cost as to include the percentage of project cost as

contingency in the pre-contract budget. In India, in a study about success factors for construction projects, Alaghbari (2014) state that performance of Indian construction projects has not been very encouraging owing to time and cost overruns. They state that time and cost overruns have been a major problem affecting the public sector projects. Their conclusion also agrees with another conclusion by Ramanathan, Narayanan and Idrus (2012) that in their study carried out in Malaysia to examine 41 studies carried out around the world on construction delays conclude that there is an increase in the number of construction projects experiencing delays leading to exceeding the initial time and cost budget. Ramanathan et al state that to the dislike of owners, contractors and consultants, many government projects experience extensive delays and therefore exceed the initial cost and time estimates. They further aver that this problem is more evident in the traditional type of contracts in which the contract is awarded to the lowest bidder. Aibinu and Jagboro (2002) in a study carried out in Singapore observes that the characteristic of the construction industries is uncertainties unpredictability and susceptible to understandings leading to delays. He further observes that delays on constructions can affect the overall projects participants adversely.

In Africa, delays in construction of government funded projects delivery is a common reality Hussin and Omran (2011) state that in Nigeria, seven out of ten projects surveyed suffered delays in their execution. Also cited by the same authors is Al-Moumani (2000) as observing that in Nigeria 5-10% of government construction pre-contract cost is based on contingency. This has been found inadequate which means extra financial commitments occasionally beyond the capacity of the owner. Clients are sometimes not prepared for this and so fund in terms of loans are sought to offset this additional costs. In a study carried out to examine construction projects performance in Sudan, Olatunji (2010) observe that despite large number of reported cases, construction ranging from the simplest to more complex projects platforms have increasingly experienced cost overruns. This phenomenon is also similarly observed in Ghana where Gaba (2013) observes that studies reveal increase in cost overruns, delayed completion, unsatisfactory and unmet project objectives in most construction projects. While investigating the subject of project delays in South Africa, Olatunji (2010) observes that it is a phenomenon that can be

attributed to the inability of the client/his representative and the project team to have a comprehensive view of the construction project from inception to completion. Aibinu and Jagboro (2002), state that construction delay has become endemic in Nigeria. They therefore advance the need to create awareness of the extent to which delays can adversely affect project delivery.

Studies carried out in Tanzania, Uganda, Nigeria, South Africa and Mozambique on causes and effects of risks, procedures, delays and disruptions in construction projects and managerial and environmental impacts resulting to project time and cost overruns to project completion by various researchers such as Kikwasi (2012), Al-Tabtabai (2002), and Bennett and Gordon (1990) found out the major causes of delays and disruptions as; design changes, delays in payment to contractors, information delays, funding problems, poor project management, compensation issues and disagreement on the valuation of work done. Conversely, time overrun, cost overrun, negative social impact, idling of resources and disputes are the main effects of delays and disruptions. The studies suggested that there still exist a number of causes of delays and disruptions and their effects put construction projects at great risk that have an effect on their performance. The studies recommended that adequate construction budget, timely issuing of information, finalization of design and project management skills should be the main focus of the parties in project procurement process.

In Kenya, building and construction industry has been robust Kenya facts and Figures, Kenya National Bureau of Statistics,(2012). Foreign investors have shown a lot of keenness to have a stake in Kenya considered a business hub in east and central Africa and a center from which they can operate with in Africa. As a result of this, Nairobi and its environs has witnessed a boom in construction projects. These projects are government, private individuals, private companies and international businesses and institutions sanctioned.

Kenyan Government has also made positive strides in development such as, improvement in technology where Government adopted e-management, e-filing and e-learning and effort by Government to educate or facilitate staff's personal development in terms of career, availability

of equipment and Softwares among others have also contributed to advancement in technology. Enactment of laws and Acts that govern Government procurement systems such as Public Procurement Oversight Authority (PPOA, 2014), Public Procurement and Disposal Act (PPDA, 2014) and Public Procurement and Disposal Regulations (PPDR, 2006) have gone a long way in helping curb ills associated with cost and time overruns.

Building and construction is quite central to creating numerous employment opportunities which would help in reducing the unemployment levels which are a problem in many countries Kenya included. Many of the projects are labour intensive and thus very many of otherwise unemployed people of the working age are employed in this industry. In Nairobi many government projects fail to be completed in time causing cost overruns and at times complete abandonment. This can be seen in various number of building projects which stand unfinished. Even more are those projects that are in the end finished but at an inflated budget and at a date later than agreed in the project schedule. This research study therefore investigates the various factors that influence completion of construction Projects; a Case Study of Government Buildings Construction Projects in Nairobi County. It is identified that when a construction project is not completed in time, the cost increases, there is denial of use to the developer and at times the projects are completely abandoned.

1.2 Statement of the problem

Failure to achieve targeted time, budgeted cost, designer changes or errors, user changes, weather, late deliveries and specified quality result in various unexpected negative effects on the projects are the reason that delay occur in Construction projects in Nairobi County. Normally, when the projects are delayed, they are either extended or accelerated and therefore, incur additional cost. The normal practices usually allow a percentage of the project cost as an allowance in the contract price and this allowance is usually based on judgment.

Despite all the efforts put in place for the last 10 years or so, Government projects still suffer heavily in cost and time overruns compared with privately funded projects in management and project delivery. Construction delay is one of the most common, costly, complex and risky

problems encountered in construction projects in Nairobi County currently (Olatunji, 2010). Cost overrun is the most frequent effect of delay due to overtime costs in order to continue the construction work and any compensation required as a result of the delay. These delays therefore are badly affecting the sectors reputation directly while loss of productivity and efficiency of the labourers continues to occur due to these delays.

The need for successful implementation arises from the desire for the project to start serving its intended use and thus recouping the investment ploughed in. In the event that this is not realized, various outcomes play into such a reality. This research is therefore relevant and important to the construction industry and general public at large. This research study therefore is intended to look at the factors influencing completion of construction Projects; a case study of government buildings construction projects In Nairobi County. It is hoped that in addressing these factors, the success in completion of construction projects will greatly be enhanced.

1.3 Purpose of the Study

The purpose of this study was to determine the Factors Influencing Completion of Construction Projects: A Case Study of Government Buildings Construction Projects In Nairobi County.

1.4 Objectives of the Study

The objectives of this study was to:

- i. To determine how Political factors influence Completion of Government Buildings Construction Projects in Nairobi County Kenya.
- ii. To establish the Economic factors that influences Completion of Government Buildings Construction Projects in Nairobi County Kenya.
- iii. To determine how Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects in Nairobi County Kenya.
- iv. To determine how Technology influences Completion of Government Buildings Construction Projects in Nairobi County Kenya.

1.5 Research Questions

- i. What was the influence of political factors on Completion of Government Buildings Construction Projects in Nairobi County Kenya?

- ii. How do Economic factor influence Completion of Government Buildings Construction Projects in Nairobi County Kenya?
- iii. How does Timeliness payment of contracts influence Completion of Government Buildings Construction Projects in Nairobi County Kenya?
- iv. To what extent does technology influence Completion of Government Buildings Construction Projects in Nairobi County Kenya?

1.6 Significance of the Study

This study will be of value to policy makers and academicians. The policy makers will use the recommendations of the study in coming with an effective model of involving the sectors stakeholders for effective work schedule. This study was intended to help construction professionals and corporate bodies increase the success of construction projects completion by managing well the factors that will help their successful completion. Government and individual architects, engineers, quantity surveyors, construction project managers and site agents will benefit from this study by applying the results of its findings while carrying out construction projects.

Government funded and Project developers/clients will also benefit from the findings of this study and therefore achieve greater success in their construction projects. This is because they may apply the findings of this study in ensuring the risk factors that may cause their projects not to be delivered successfully mitigated.

1.7 Limitations of the Study

The limitation of the study was the cost that was be incurred due to the vastness of the area which was required significant amount of time to collect adequate data, which the study has no control over. To overcome this limitation, the researcher contracted a research assistant. This ensured that the targeted population was reached.

1.8 Delimitations of the Study

This study targeted construction project carried out within the Nairobi County. Nairobi being the Kenya's capital and the engine of the economy, it also boasts many construction Government projects. The researcher targeted sample population that include Government architects, structural engineers, civil engineers, construction project managers, mechanical engineers, electrical engineers, quantity surveyors, land surveyors and developers.

1.9 Assumptions of the Study

The study assumed that the respondents would be available; they would also be prepared to respond to the research questionnaires. It also assumed that the respondents will be honest and faithful while responding to questions in the research questionnaire.

1.10 Definition of Significant Terms

Construction:	Is the process by which material, equipment, machinery are assembled into a permanent facility
Economic factors:	The set of fundamental information that affects a business or an investment's value. Various economic factors need to be taken into account when determining the current and expected future value of a business or investment portfolio. For a business, key economic factors include labor costs, interest rates, government policy, taxes and management.
Political factors:	An activity related to government policy and its administrative practices that can have an effect on something. Most business operators will keep a watchful eye on any political factor, such as new legislation or regulatory shifts, which could have a substantial impact on how their company operates and its bottom line

Project:	Is an individual or collaborative enterprise that is carefully planned and designed to achieve a particular aim.
Public projects:	Public facilities and improvements financed by the government for the public good. Public works include hospitals, bridges, highways, and dams. These projects may be funded by local, state, or federal appropriations.
Socio-Cultural:	A set of beliefs, customs, practices and behavior that exists within a population. International companies often include an examination of the socio-cultural environment prior to entering their target markets.
Timeliness:	It is the time taken to avail research information of a project by the time decisions are made.
Technology:	The application of scientific knowledge for practical purposes, especially in industry.

1.11 Organization of the Study

This study contained five chapters. Chapter one is the Introduction of the study and entailed the following subtitles: the background of the study; the statement of the problem; purpose of the study; objectives of the study; research questions; significance of the study; limitations; delimitations; assumptions of the study; definition of significant terms and also the organization of the study.

Chapter two of this study was the Literature review: it w comprised of the determinants to success of construction project; the political factors influencing completion of construction projects; economic factors that influence completion of construction projects; timeliness of payment of contracts; the influence of technology in completion of construction projects; the theoretical review; conceptual framework; operationalization of variables; the summary and knowledge gap of the study.

Chapter three of this study was the research methodology which comprehended the research design, target population for the study, sampling procedure, data collection instrument, data collection procedures, data analysis techniques, ethical considerations and operational definition of variables.

Chapter four of the study was the data analysis, presentation and interpretation of findings. This encompassed the analyzed findings of the study and their discussion thereon.

Chapter five of the study covered the summary of findings, conclusions and recommendations in line with the objectives of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covered the literature review of the study as it was important to relate the study with different authors on the factors influencing completion of construction projects. Other subtitles to be covered include: the determinants of completion projects in Kenya; the theoretical review; conceptual framework and the knowledge gap.

2.2 Determinants of success of Construction Project

While individual organizations have been measuring their performance for many years, there has been little consistency in the data, and the way it has been published. The performance can be measured by key indicators for evaluation. Performance is related to many topics and factors such as time, cost, quality, client satisfaction; productivity and safety Ahmed, Azhar, Castillo and Kappagantulla(, 2002).

According to Shaban (2008), Construction industry in the Gaza Strip suffers from many problems and complex issues in performance. For example, construction of 14 dwelling units at Rafah Area suffered from poor performance because of delay for about 110 days. There are many realistic reasons such as closures, amendment of drawings and amendment of the design.

The purpose of Key performance indicators (KPIs) is that clients want their projects delivered: on time, on budget, free from defects, efficiently, right first time, safely, by profitable companies. The KPIs framework consists of seven main groups: time, cost, quality, client satisfaction, client changes, business Performance, health and safety (DETR, 2000). However, this paper concentrates on the major three Key Performance Indicators such as Consultants/PMs, Clients and contractors.

2.3 Political factors influencing Completion of Construction Projects

Politicians are elected by citizens to decide public policy, including the delivery of public projects, whereas bureaucrats are employed by the government to implement these policies. When faced by high levels of political competition in their constituencies, politicians may be incentivized to improve the quality of potentially vote-winning public projects. Consequently, they may seek to overcome barriers such as bureaucrats' indecency, inertia, or corruption.

Existing evidence suggests political competition can improve the delivery of public projects. According to Markus and Tanis (2010), political interference plays a critical but poorly understood role in determining the success or failure of the processes of project management that dominate efforts to form international regimes or, more generally, institutional arrangements in international society. An examination of the nature of project management serves as a springboard both for pinpointing the role of leadership in regime formation and for differentiating three forms of leadership that regularly come into play in efforts to establish international institutions: structural leadership, entrepreneurial leadership, and intellectual leadership Holland *et al.*(, 2009).

The real work of regime formation occurs in the interplay of different types of leadership, the study of interactions among individual leaders is a high priority for those seeking to illuminate the processes involved in the creation of political movements. Not only does such a study help to explain the conditions under which regimes form or fail to form, but it also provides an opportunity to bring the individual back in to an important area of international affairs (Migai, 2008) Politics manifests itself in all organizations as opinions and attitudes of the different stakeholders in these organizations. In addition, the stakeholders relied upon by the project may also have their own agenda and preferences for participating in the project. The relationships to the project by these stakeholders can vary from very supportive to antagonistic, but depending on their field of influence, must be considered and managed. However, neither the sponsor nor the project manager has control over external politics such as political turmoil which may disrupt the project.

Public projects are often left uncompleted or delivered to a poor quality World Bank,(2004). Failure to deliver these projects undermines citizen welfare and leads to an estimated loss of US\$150 billion per year in public resources World Bank, (2007). The extent of these failures varies within and across countries, driving national and global inequalities Adriaanse and Voordijk,(2014). Both politicians and bureaucrats are viewed as critically important agents in the delivery of public projects.

The outstanding puzzle is how politicians are able to influence the bureaucratic arm of government, and raise bureaucratic productivity, to satisfy short-term electoral concerns. Typically, politicians do not under-take public projects themselves, but must delegate these tasks to bureaucrats, whom they then incentivize. Our understanding of the interactions between politicians and bureaucrats is very limited, both in terms of their causes and their consequences Jha and Iyer, (2006). More broadly, there is a limited empirical literature on bureaucrats, despite their importance as the main producers of public projects in many countries. To understand the delivery of public projects, it is important to understand the incentive environments in which bureaucrats operate: both formal incentives in a bureaucrat's contract, and informal interactions she has with powerful actors such as politicians

2.4 Economic factors that influence Completion of Construction Projects

Chism and Armstrong (2010) confirm the fact that the political environment affects the construction of a project. Fortune and White (2014) in their review of sets of critical success factors in sixty three publications listed political stability as one of the twenty-seven critical success factors. Wideman (1986) assert that changes in government actions are a major external risk factor militating against the success of projects. Economic environmental considerations refer to the level of general economic activity and resources available to carry out construction work.

Koushki and Kartam (2004) identify twenty-five such factors that could impact on construction time. These applications include the availability of materials; the availability of equipment; the

availability of trades / operatives, the availability of supervision / management staff, as well as the indirect impact of interest rates / inflation and insolvency, and bankruptcy. Economic influence has two levels: first, the internal economics principle relating to the viability of a project holds that unless there is a net gain there is no point in even considering embarking on a project. The external or macro-economic relate to high interest rates and prices, tariff barriers, embargoes and shipping restrictions, among other influences, of which the project manager have no control over.

Even though conceptualizing and or measuring these capabilities is not straight-forward, an in-depth analysis of employees' competences and their development is inevitable because they form a key source for competitive advantage in construction projects. Globally From a resource- based point of view, superior performance of construction projects is linked to the resources and capabilities possessed by a particular project staff. This holds particularly true for construction projects branches facing so- called hyper competition which denotes a competitive situation where the key success factor is the ability to constantly develop new products, completed in stated timelines providing the customer with increased functionality and performance. From an economic modeling point of view, allocating available resources amongst a set of project opportunities poses a decision making problem of intriguing complexity. The question to be answered involves addressing how the goals of generating (innovation) value and strengthening innovation capacity can best be accomplished for timely completion of construction projects.

Memo, Rahman and Azis (2012) investigated the variation and claims in construction projects in Dubai and Abu Dhabi in the United Arab Emirates using 124 claims related to can be little more specific the range of the projects or typical project. He concluded that 1) a reasonable time should be allowed for the design team in order to reduce clear and complete contract documents with no or minimum errors and discrepancies; 2) efficient quality control techniques and mechanisms need to be established to minimize errors, mismatches, and discrepancies in the contact do cuments; 3) special contracting provisions and practices need to add in contract document and a strategy needs to introduce to deal with tighter scheduling requirements. Alaghbari (2014) found several causes of delay in Saudi construction projects and they are

drawing preparation, approval of design, payment delay, changes in design, slow cash flow, design errors, labour shortage.

The filed survey in his research on the delay in construction projects in Saudi Arabia included examined 23 contractors, 19 consultants, and 15 owners. Al- Moumani (2000) conducted a qualitative analysis of construction delays by examining the records of 130 public building projects constructed in Jordan during the period 1990-1997 where the frequencies analysis method was used to identify the main causes of delay from the survey records. The result of the analysis exposed that the main causes of delay in construction projects were relate to designers user, changes weather, site conditions, late deliveries, economic conditions and increase in quantities

2.5 Timeliness of payment of contracts

A common issue in worldwide construction companies is to complete projects both on time and within the budget initially planned. The completion of projects in a timely manner is often a critical factor and measure of project success. In recent years, there has been an increasing interest in the use of projects as building blocks in the strategic management of organizations (Weiss & Potts, 2012). The success of any project is highly dependent on its completion time from start to delivery of results. This has a direct bearing on management decisions such as budgets, targets and standards (Seddon, 2008).

Frimpong, Oluwoye and Crawford (2003) illustrated the relationship between project cost and planning input in the timely completion of construction projects. Essentially, the availability of funds targeted at a particular project activity is a measure of project success, especially for activities in the critical chain. In a study to determine how District hospitals in Ghana cope with the untimely release of funds, Atkinson, (2006) noted that this created serious cash flow problems for the district health managers that disrupted the implementation of health activities and demoralized the district health staff. However, based on their prior knowledge of when funds were likely to be released, district health managers adopt a range of informal mechanisms to cope with the situation. These mechanisms include obtaining supplies on credit, borrowing cash

internally, pre-purchasing materials, and conserving part of the fourth quarter donor-pooled funds for the first quarter of the next year. Although these informal mechanisms have kept the district health system in Ghana running in the face of persistent delays in funding, some of them are open to abuse and could be a potential source of corruption in the health system. The untimely release of funds, particularly during the first phase of the project, is a significant barrier to effective project delivery especially where new project staff must be recruited and pre-requisite field supplies purchased to kick-off project activities. The need for timely releases of funds has also been stressed Flyvbjerg, Skaris and Buhl (2004).

Al-Tabtabai (2002) conducted a study on causes of delays in construction projects in Kuwait and found out that the major causes of delay were: Slow financial and payment procedures; Slow decision-making process; Limited authority among supervision staff; Risk allocation mainly on the contractor; and Lack of design drawings coordination. Memon, Rahman and Azis (2012) conducted a study on time and cost performance in construction projects in Malaysia and revealed that only 21% of public sector projects and 33% of private sector projects were completed within time.

The results of the study showed that the most important delay factors were: Design and Documentation Issues; Financial Resource Management; Project Management and Contract Administration; Contractors Site Management; and Information and Communication Technology. Owolabi et al. (2014) studied the causes and effects of delay on project construction delivery time in Nigeria. They stated that seven out of ten projects in Nigeria suffered delays in their execution. The results of the study indicated that the following were the five major causes of delay: Lack of funds to finance the project to completion; Changes in drawings; Lack of effective communication among the parties involved; lack of adequate information from consultants; and slow decision making.

2.6 Technology influences Completion of Construction Projects

While the relevant technology, institutional arrangements or processes will differ, the management of such projects has much in common with the management of similar types of

projects in other specialty or technology domains such as aerospace, pharmaceutical and energy developments, Wideman, (1986). The management of construction projects requires knowledge of modern management as well as an understanding of the design and construction process.

Construction projects have a specific set of objectives and constraints such as a required time frame for completion. While the relevant technology, institutional arrangements or processes will differ, the management of such projects has much in common with the management of similar types of projects in other specialty or technology domains such as aerospace, pharmaceutical and energy developments. The management of construction projects requires knowledge of modern management as well as an understanding of the design and construction process. Construction projects have a specific set of objectives and constraints such as a required time frame for completion.

When better operational information is available, organizations benefit in terms of reducing labour cost, reducing waste, better utilizing machinery, and lowering inventory cost. Thus, high information content (accurate, complete, and relevant information) leads to better product cost control and increased organizational efficiency (increased profit margin, increased decision-making efficiency). Data quality is at the heart of information quality and can result in poor information quality. Poor data quality, and hence poor information quality, has adverse effects on organizational, tactical, and strategic level (Gorlaet al., 2010).

From the functionalist (positivistic, 'scientific') perspective "ICT is a neutral provider of input for decision making". From this point of view communication is no more than distribution of information. ICT may be adopted by specific groups of users within an organization, for example, use of estimating software by engineers and Project Managers (Adriaanse & Voordijk, 2014). Communication between construction industry participants and organisations are concerned with information exchange, dealings with drawings, specifications, cost data, programmes plus other design and management information. Conclusively, ICT can be the intersection of meaning to reach a mutual understanding between sender and a receiver via technology (Emmit & Gorse, 2003).

A lack of compatible systems, standards and protocols, and the differing requirements of clients and lead designers in government constructions projects, have inhibited widespread adoption of a technology which has the capacity to ensure that all team members are working from the same data, and that: the implications of alternative design proposals can be evaluated with comparative ease; projects are modeled in three dimensions (eliminating coordination errors and subsequent expensive change); design data can be fed direct to machine tools, creating a link between design and manufacture and eliminating unnecessary intermediaries; and there is a proper basis for asset management subsequent to construction (Stuckenbruck, 1986).

2.7 Theoretical Framework

Power and Influence Theories As discussed by Kotter (1985) “power is the ability to influence others to get things done, while authority is the formal rights that come to a person who occupies a particular position, since power does not necessarily accompany a position.” Problems always arise when power is imposed without the backing of authority, which almost invariably is opposed. Using legitimate power, a project manager demands compliance from subordinates because she has the title of project manager. By using rewards such as bonuses or other compensation, project managers encourage performance

2.7.1 Theory of Constraints (TOC) in Project Management

The primary challenge of project management is to achieve all of the project goals and objectives while honoring the preconceived project constraints, Lamb, Robert, Boyden (2002) typical constraints are scope, time, and budget. The secondary and more ambitious challenge is to optimize the allocation and integration of inputs necessary to meet pre-defined objectives.

Goldratt (1984) in his theory of constraints asserts that any manageable system is limited in achieving more of its goal by a very small number of constraints, and that there is always at least one constraint. Theory of Constraints is based on the premise that the rate of goal achievement is limited by at least one constraining process. Only by increasing flow through the constraint can overall throughput be increased (Cox, Jeff; Goldratt, Eliyahu (1986).

Constraints can be internal or external to the system. An internal constraint is in evidence when the market demands more from the system than it can deliver. If this is the case, then the focus of the organization should be on discovering that constraint and following the five focusing steps to open it up (and potentially remove it).

An external constraint exists when the system can produce more than the market will bear. If this is the case, then the organization should focus on mechanisms to create more demand for its products or services. Internal constraints are often caused by equipment, people and policies, McKinsey (2001).

This theory has provided a substantially better insight into the dimensions and complexity of the problem facing WSBs in project management. It also equips the researcher with a complete and thorough justification of the subsequent steps as well as with a realization of the importance of undertaking the research.

2.7.2 Stakeholder theory

This study will be guided by stakeholder theory (Freeman (1984), Resource dependence theory (Pfeiffer 1981, 1997) and institutional theory (Mintzberg et al. 1998; Mintzberg and Lampel 1999). The stakeholder theory organisations and their activities through constituency concepts and propositions. The idea is that ‘holders’ who have ‘stakes’ interact with the organisation and thus make its operation possible (Blair 1998) et al. It’s a theory that explains how organisations function with respect to various constituencies with whom they are inextricably embedded. Stakeholder theory development has centered on defining the stakeholder concept and classifying stakeholders into categories that provide a understanding of individual stakeholder relationships. Freeman’s definition of stakeholder as any group or individual who can affect or who is affected by the achievement of the firm’s objectives and continues to provide the boundaries of what constitutes a stake. He argues that a stakeholder has some form of capital, either financial or human, at risk and, therefore, has something to lose or gain depending on a firm’s behaviour. To these elements, Waddock (2002) adds a tie or tether that creates a bond of some sort.

A stakeholder theory of the organisation requires an understanding of the types of stakeholder influence but also how organisations respond to those influences. Each firm faces a different set of stakeholders, which aggregate into unique patterns of influence. Ambler and Wilson (1995) demonstrate that firms do not simply respond to each stakeholder individually; they respond, rather, to the interaction of multiple influences from the entire stakeholder set. Thus, organisations response to their stakeholders requires an analysis of the complex array of multiple, interdependent relationships existing within the stakeholder environment. The conceptual competition within stakeholder theory, between legitimacy and power, is reflected in virtually every major theory of the firm particularly in agency, behavioural, institutional, population ecology, resource dependence and transaction cost theories (Argenti and Campbell, 1997).

2.7.3 Resource dependence theory

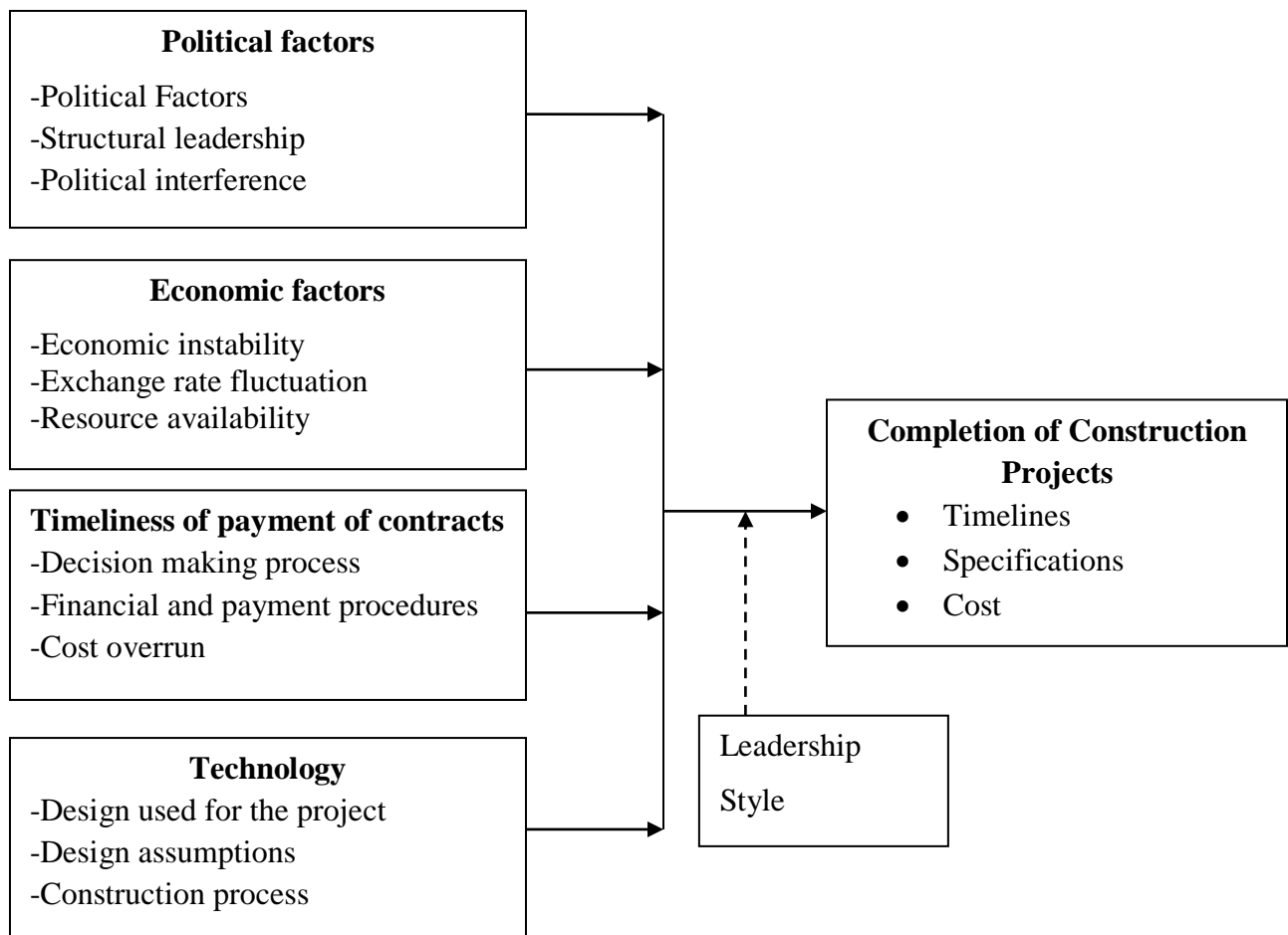
Resource dependence theory suggests that power accrues to those who control resources needed by the organisation, thereby creating power differentials among parties (Pfeiffer, 1997b), and it confirms that the possession of resource power makes stakeholder important to a firm. Legitimacy is achieved if patterns of organisational practice are in congruence with the wider social system (Scott 1987; Powell and DiMaggio1991). Institutional theory describes this adaptation. Strategy processes deriving from resource dependence are primarily proactive; institutionalized processes are reactive (Mintzberg et al. 1998; Mintzberg and Lampel 1999); while stakeholder engagement is inherently interactive (Preston and Post 1975), based on mutual interdependence among actors. Corporate responsibility and the maintenance of sound organisational ethics may not invariably depend wholly on the strategic behaviour induced by the anticipation of organisational gain.

Organisations may act ethically or responsibly not only because of any direct link to a positive organisational outcome (e.g. greater prestige or more resources) but merely because it would be unthinkable to do otherwise. In this way, organisational behaviour may be driven not by processes of interest mobilization (DiMaggio 1988) but by preconscious acceptance of institutionalized values or practices. Within the resource dependence perspective, theory assumes

that organisations maybe interest - driven and that organisations exercise some degree of control or influence over the resource environment or the organisation’s exchange partners for the purposes of achieving stability. Theorists argue that organisational stability is achieved through the exercise of power, control or the negotiation of interdependences for purposes of achieving a predictable or stable inflow of vital resources and reducing environmental uncertainty.

2.8 Conceptual Framework

The Conceptual Framework gave a depiction on how the variable related to one another. The variable defined here are independent, dependent and the moderating variable. An independent variable affects and determines the effect of another variable (Mugenda1999). The independent variables in this study are Political factors, Economic factors, Timeliness of payment and Technology.



Independent variables

intervening variable

Dependent variable

Figure 2.1: Conceptual Framework

2.9 Summary of Literature

Boyce and Haddad (2001), projects poses certain characteristics, one of which is that projects are temporary. This means that, any project will have a start date and end date, although this has nothing to do with duration. Project completion, therefore, requires genuine commitment to both the donor and the recipient country. This is often lacking, ultimately leaving most of the already started projects to tarry from implementation. Governments are increasingly recognizing the limits of projects, and are seeking to enhance impact by supporting sector-wide approaches, especially in the social sectors. This involves budgetary funding, improved coordination among the funders, ideally led by national governments and increased trust between partners. For the last several decades, Kenya has been in partnership with some governments, who have been in the frontline in ensuring that the country attains its development goals by the year 2030. In this regard, these governments have been funding projects and operating implementation.

2.10 Knowledge Gap

Construction projects are notorious for failing to complete in time being over budgeted, late and saddled with scope creep, as well as for poor communication protocols and inadequate controls around scope change management this especially pronounced in nonprofit organizations (Guerin, 2012). Timely completion of construction project is fundamental if the project objectives and success is to be achieved. A project that is completed in time exhibits overall efficiency of project planning, management and implementation and effective tracking project progress.

No study had been carried on the factors influencing on completion of construction projects by construction organization. This study sought to fill this research gap by investigating factors influencing the Factors Influencing Completion of Construction Projects: A Case Study of Government Buildings Construction Projects In Nairobi County, Factors Influencing Completion of Construction Projects: A Case Study of Government Buildings Construction Projects In Kenya had not been well documented in the public organisations and therefore lacked clarity

among Government Projects. As a result, the literature review looked into the role played by various factors in determining completion of construction projects in Kenya. A detailed analysis on the Political factors influencing Completion of Construction Projects, Economic factors that influence Completion of Construction Projects, Timeliness of payment of contracts and Technology influences Completion of Construction Projects is going to be looked into.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter outlined the overall methodology used in the study. This included the research design, population of the study, sample size, sample frame, data collection methods, research procedures and data analysis and presentation.

3.2 Research Design

The study employed descriptive research design. Descriptive research described data and characteristics about the population or phenomena being studied. Descriptive research answers the questions who, what, where, when and how (Pervez & Kjell 2005). In context, the research tends to lie more on quantitative approach than on qualitative one. The aspect that views collected was from the players' point of view, their own subjective frames of reference, necessitates a qualitative approach. For the attainment of the objectives, it was essential that the dealers' own subjective perspectives are captured.

Chandran (2004) describes research design as an understanding of conditions for collection and analysis of data in a way that combines their relationships with the research to the economy of procedures. Krishnaswamy (2009) suggests that research design deals with the detailing of procedures that was adopted to carry out the research study. Mugenda and Mugenda (1999) on the other hand give the purpose of descriptive research as determining and reporting the way things are Borg & Gall (1989).

3.3 Target Population

Target population is defined as all the members of a real or hypothetical set of people, events or objects to which a researcher wishes to generalize the results of the research study (Borg & Gall, 1989). The study was carried out in Nairobi County. There are 150 Government construction Projects in Nairobi County. Therefore, the targeted population for this study consisted of all the 150 Government Buildings Construction Projects in the Nairobi, County. From each of the 150 Government construction Projects in the Nairobi, County, the study selected 3 members with the

information in each project who are the Government architects, structural engineers, civil engineers, construction project managers, mechanical engineers, electrical engineers, quantity surveyors, land surveyors and contractors on site. Therefore, the study comprised of 450 respondents as the target population.

Table 3.1: Target Population

Category	Construction Projects	Target population
Committee members	150	450

3.4 Sample Size and Sampling Procedures

Kothari (2006) defines sample as a collection of some parts of the population on the basis of which judgment is made. A sample is small enough to make data collection convenient and large enough to be a true representative of the population from which it had been selected. Sample size refers to a number of items to be selected from the population of the study to constitute a sample. The sample must be optimum, i.e., it fulfills requirements of efficiency, reliability and flexibility.

3.4.1 Sample Size

According to Mugenda & Mugenda (2003) a sample of more than 30% is a representative of the whole population, therefore the researcher sample targeted 45 Government Buildings Construction Projects, from the 45 projects, the study will obtain 3 members with the information in each project who are the Government making the sample population to 135 respondents.

Table 3.2: Sample size

Category	Target population	30% sampling	Sample size
Committee members	150	45	135

3.4.2 Sampling Procedures

Sampling means selecting a given number of subjects from a defined population as representative of that population. Any statements made about the sample should also be true of the population (Orodho, 2002). Mugenda & Mugenda (2003) recommends that when the target population is small (less than 1000 members), a minimum sample of 30% is adequate for research. From the 150 Government construction Projects of the target population, the researcher used purposive sampling to select 135 participants. This formed 30% of the target population, which was in line with Mugenda & Mugenda (2003), recommendation. The researcher used purposive study in order to get 135 respondents as it was the ease of assembling the sample. It was also considered as a fair way of selecting a sample from a given population since the study target key people with the information needed.

3.5 Research Instruments

The main tools of data collection for this study were questionnaires. The questionnaire was used for data collection because it offers considerable advantages in the administration. It also presented an even stimulus potentially to large numbers of people simultaneously and provides the investigation with an easy accumulation of data. Gay (1992) maintains that questionnaires give respondents freedom to express their views or opinion and also to make suggestions. It was also anonymous. Anonymity helps to produce more candid answers than is possible in an interview.

3.6 Validity of Research Instruments

Validity, according to Borg and Gall (1989) is the degree to which a test measures what it purports to measure. According to Borg and Gall (1989) content validity of an instrument is improved through expert judgment. Construct validity deals in how questions in the questionnaires was prepared in terms of being clear and not vague. As such, the researcher sought assistance of the assigned supervisor, who, as an expert in research, helps improve content validity of the instrument.

According to Kothari (Kothari, 2004), validity is the degree to which an instrument measures what it is supposed to measure. Therefore, the term refers to the extent to which an instrument asks the right questions in terms of accuracy. The content validity of the research instrument for this study will determine through piloting, where the responses of the subjects were checked against the research objectives. For a research instrument to be considered valid, the content selected and included in the questionnaire must be relevant to the variable being investigated. The researcher performed the pilot test with 5 randomly which are selected samples of government buildings construction projects in Nairobi County employees who are not included in the final study. Content validity of the instrument is tested using a research expert's opinion, who was the research supervisor. The research expert independently judged the validity of the items in the questionnaire in relation to research objectives.

3.5.3 Reliability of Research Instruments

Mugenda and Mugenda (2003) define reliability as a measure of the degree to which a research instrument yields consistent results after repeated trial. The questionnaires will be divided into two equivalent halves and then a correlation coefficient for the two halves computed using the Spearman Brown Prophecy formula. The coefficient shows the degree to which the two halves of the test provide the same results and hence describe the internal consistency of the test. According to Kiess and Bloomquist (1985) a minimum correlation coefficient of 0.65 is recommended as indicating that an instrument is reliable. Reliability will also be maintained by checking the procedures and documentation so that they are precise.

Reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials. To test the reliability of the questionnaire as a research instrument, a pilot study will be carried out and a Cronbach Alpha Moment Co-efficient computed. This established the extent to which the questionnaire elicits the same responses every time it will be administered.

Cronbach's Alpha is given as $\alpha = \frac{k}{k-1} \left(1 - \frac{\sum SD^2_i}{SD^2_t} \right)$

Where:-

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k = the number of items,

$\Sigma SD^2 i$ = the variance of the total instrument

$SD^2 t$ = the variance of individual items

For the instruments to be considered reliable, the acceptable reliability coefficient value of alpha is 0.70. The test generated a reliability test of 0.75, which meant that the research instrument was reliable.

3.6 Data Analysis Techniques

Data was collected, examined and checked for completeness and clarity. The data collected was analyzed quantitatively. Numerical data was collected using questionnaires they were coded and entered and analyzed using descriptive statistic assisted by Statistical Package for Social Scientists (SPSS) programme 21. Frequency tables with varying percentages was used to present the findings and tables of mean and standard deviation obtained from SPSS was also used to represent the findings. Stake (1995) describes this method of data analysis as a way of analyzing data by organizing it into categories on the basis of themes and concepts. Different colors was used to represent different themes. This was known as coding. The procedure assisted in reducing and categorizing large quantity of data into more meaningful units for interpretation. Therefore the data was presented in tabular form in order to present large quantity in a meaningful for interpretation.

The data was analysed using Correlation regression; the study used Spearson correlation to relate the variables, while multiple regressions will be guided by the model specification as follows

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon.$$

Where;

Y = Completion of Construction Projects

β_0 = Constant Term

β_1 = Beta coefficients

X₁= To determine how Political factors influence Completion of Government Buildings Construction Projects in Nairobi County Kenya

X₂= To establish the Economic factors that influence Completion of Government Buildings Construction Projects in Nairobi County Kenya

X₃= To determine how Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects in Nairobi County Kenya

X₄= To determine how Technology influences Completion of Government Buildings Construction Projects in Nairobi County Kenya

3.7 Ethical Issues

Participants was informed of the confidentiality in the study so to ensure respect for the dignity of participants in the study. Their confidential information was only accessed by the researcher and the supervisor. They will not be required to provide any identifying details and as such, transcripts and the final report will not reflect the subjects identifying information such as their names, in the case they are not comfortable with it. After the study has been completed and a final report written, the tools used to collect data was destroyed.

3.8 Operationalization of variables

This section analyses the operational definition of variables to determine the Factors Influencing Completion of Construction Projects; a Case Study of Government Buildings Construction Projects in Nairobi County. Table 3.1

The researcher identifies the following indicators or properties denoted by the main variables under the study in order to make them measurable. The measurement will be both objective and subjective.

Table 3.3: Operationalization of variables

OPERATIONALIZATION OF VARIABLES				
No. Objective	Variable	Indicator	Study design	Measurement scale
To determine how Political factors influence Completion of Government Buildings Construction Projects in Nairobi County Kenya	<p>Independent Variables a) Political factors</p> <p>Dependent Variable a) Completion of Construction Projects</p>	<p>a) Level of political interference b) Political hand in funds disbursed per project c) Management autonomy</p>	Correlation Descriptive survey	Ordinal Ordinal
To establish the Economic factors that influence Completion of Government Buildings Construction Projects in Nairobi County Kenya	<p>Independent Variables a) Economic factors</p> <p>Dependent Variable a) Completion of Construction Projects</p>	<p>a) Inflation factors b) Number of Staff with Technical and Managerial Skills</p> <p>b) Availability of adequate & reliable operation equipment</p>	Correlation Descriptive survey Correlation	ordinal Ordinal
To determine how Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects in Nairobi County Kenya	<p>Independent Variables a) Timeliness of payment of contracts</p> <p>Dependent Variable a) Completion of Construction Projects</p>	Correlation Descriptive survey	Correlation	ordinal

vii) To determine how Technology influences Completion of Government Buildings Construction Projects in Nairobi County Kenya	Independent Variables a) Technology	a)) Adequacy and reliability of reports generated b) Existence of IT supported reporting system c) Existence of fully operational financial Management information system	Ordinal
	Dependent Variable a) Completion of Construction Projects		Ordinal

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

In this chapter the data collected was organized into a systematic format to enable analysis. Analysis refers to examining coded data critically and making inferences while presentation refers to ways of arranging data to make it clearly understood (Kombo and Tromp, 2006). The researcher analyzed the data in line with the four objectives of the study to establish factors influencing how Political factors influence Completion of Government Buildings Construction Projects in Nairobi County Kenya, To establish the Economic factors that influences Completion of Government Buildings Construction Projects in Nairobi County Kenya, To determine how Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects in Nairobi County Kenya and To determine how Technology influences Completion of Government Buildings Construction Projects in Nairobi County Kenya.

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4.2 Response Rate

Response rate refers to the number of people who participated in survey. A total 135 questionnaires were distributed and 120 were collected having been filled completely. This constituted a response rate of (88.8%) which According to Mugenda and Mugenda (1999) a response rate of 50 percent is adequate for analysis and reporting. Table 4.3 is a summary of the response rate in this study.

Table 4.1: Response Rate

Category	Frequency	Percentage
Response	120	88.8%
Not returned	15	11.2%
Total	135	100%

4.3 Age Bracket

Age bracket in this study refers to the range between two particular ages. This researcher required the respondents to identify the age bracket for analysis.

Table 4.2: Age Bracket

	N	F	%
Below 30	120	35	29
31 to 49	120	43	36
50 and above	120	42	35
Total	120	120	100

The table 4.5 above shows that majority of the respondent are aged between 31 to 49 years representing 36% of the respondents. This category was followed in the second position at 35 % by those who indicated that, they aged 50 and above years. In the third position was a group of respondents whom indicated that the aged between 40 to 50 years. Lastly in the fourth position was a group of those who aged below 20 years old. The majority of the workforce in this project is in their most active and productive years of 21 - 40 years, this could be attributed to desire of young people to acquire as much experience and exposure as possible as well as earn a decent living. The high representation could also be Constructions organization recruit older people because of their experience in the industry. The low representation of the age bracket Below 30 years could be due to low experience.

4.4 Gender

In this study the term gender is used to refer to male or female. Respondents were asked by the researcher to give their gender as part of the moderating variable of the study.

Table 4.3: Gender

	N	F	%
Male	120	68	57
Female	120	52	43
Total	120	120	100

The data presented in Table 4.4 demonstrates that there was a disparity in the representation of both male and female in the survey at 57% and 43% respectively. This could be due to the fact that the project requires masculine and therefore engages more on manual labour. The high representation of male could be for the reason that male gender is able to perform hard jobs which require masculine engagement which is essential in the Constructions projects. This factor therefore motivates the male gender but subsequently discourage the female gender.

4.5 Education Background

Information relating to the level of education attained by the respondents was also analyzed. This information would enable the researcher to determine if the organization was utilizing the professional expertise through employing qualified staff. In this paper respondents were asked by the researcher to give their history in terms of the academic experience.

Table 4.4: Education background

	N	F	%
secondary education	120	0	0
Diploma	120	0	0
Degree	120	76	63
Post Graduate		44	37
Total	120	120	100

Table 4.6 represents the findings on the level of education attained by the respondents. The study found out that, majority of the respondents had attained bachelor's degrees , this represented 63% of the respondents. 37% of the respondents had attained master's degrees. It can be

observed that the organization has employed staff with various qualifications at different levels with majority having attained a bachelors degree. Some of the staff reported that some of the qualifications were yet to be attained and were currently studying especially the post graduate students.

4.7 Political factors influencing Completion of Construction Projects

The respondents were asked to give their opinions on Political factors influencing Completion of Construction Projects. The responses were measured by a five point Likert scale; **1.** Very high extent. **2.** High extent. **3.** Moderately high extent **4.** Low extent **5.** Very low extent.

Table 4.5: Political factors influencing Completion of Construction Projects

Statement	N	M	SD
Politicians are elected by citizens to decide public policy, including the delivery of public projects	120	3.856	0.743
When faced by high levels of political competition in their constituencies, politicians may be incentivized to improve the quality of potentially vote-winning public projects	120	3.874	0.755
Political interference plays a critical but poorly understood role in determining the success or failure of the processes of project management	120	3.901	0.890
An examination of the nature of project management serves as a springboard both for pinpointing the role of leadership in regime formation	120	3.784	0.712
The real work of regime formation occurs in the interplay of different types of leadership	120	3.711	0.701

Politics manifests itself in all organizations as opinions and attitudes of the different stakeholders in these organizations	120	3.723	0.712
The stakeholders relied upon by the project may also have their own agenda and preferences for participating in the project.	120	3.681	0.623
Neither the sponsor nor the project manager has control over external politics such as political turmoil which may disrupt the project	120	3.674	0.618

The study found out that the Political interference plays a critical but poorly understood role in determining the success or failure of the processes of project management support Completion of Construction Projects on a Very high extent with a mean of 3.901. This corresponds with Markus and Tanis (2010), political interference plays a critical but poorly understood role in determining the success or failure of the processes of project management that dominate efforts to form international regimes or, more generally, institutional arrangements in international society. Respondents agreed to a high extent Politicians are elected by citizens to decide public policy, including the delivery of public projects Mean of 3.856. The stakeholders relied upon by the project may also have their own agenda and preferences for participating in the project agreed to a Low extent mean of 3.681 and Very low extent 3.674. The results are shown in the table 4.5 above.

Table 4.6: Economic factors that influence Completion of Construction Projects

The respondents were asked to give their opinions on Economic factors that influence Completion of Construction Projects. The responses were measured by a four point Likert scale;

Very high extent. High extent. Moderately high extent, Low extent Very low extent responses” were not recorded by the respondents. This section presents the outcome of the analyses.

Table 4.6 Economic factors that influence Completion of Construction Projects in Nairobi

County

Statement	N	Mean	SD
The political environment affects the construction of a project	120	3.865	0.773
changes in government actions are a major external risk factor militating against the success of projects	120	0.3856	0.785
Economic influence has two levels: first, the internal economics principle relating to the viability of a project holds that unless there is a net gain there is no point in even considering embarking on a project.	120	0.3797	0.765
The external or macro-economic relate to high interest rates and prices, tariff barriers, embargoes and shipping restrictions, among other influences, of which the project manager have no control over	120	0.377	0.753
project holds that unless there is a net gain there is no point in even considering embarking on a project	120	0.3810	0.771

Respondents agreed most on the political environment affects the construction of a project to a Very high extent with $M=3.865$ ($SD=0.773$). This corresponds with Chism and Armstrong (2010) confirm the fact that the political environment affects the construction of a project. Respondents equally agreed that changes in government actions are a major external risk factor militating against the success of projects high extent Low extent, transport $M=0.3856$, project holds that unless there is a net gain there is no point in even considering embarking on a project $M=3.746$ to a Moderately high extent and The external or macro-economic relate to high interest rates and prices, tariff barriers, embargoes and shipping restrictions, among other influences, of

which the project manager have no control over M=0.377 Very low extent. The results are shown in the table 4.6 above.

4.8 Timeliness of Payment of Contracts

The respondents were asked to give their opinions on Timeliness of Payment of Contracts on factors that influence Completion of Construction Projects in Nairobi County. The responses were measured by a four point Likert scale; Very high extent. High extent. Moderately high extent Low extent Very low extent. Frequencies were run to determine levels of response as percent of the totals.

Table 4.6: Timeliness of Payment of Contracts

Statement	N	Mean	SD
A common issue in worldwide construction companies is to complete projects both on time and within the budget initially planned.	120	3.815	0.740
The success of any project is highly dependent on its completion time from start to delivery of results.	120	3.852	0.740
Relationship between project cost and planning input in the timely completion of construction projects	120	3.840	0.790
Most government funded projects are hurdled by the financial constraints during the time of their implementation	120	3.884	0.815
Essentially, the availability of funds targeted at a particular project activity is a measure of project success, especially for activities in the critical chain	120	3.767	0.763
Since most budgets are based on operating departments, it is important to superimpose key factors that would signal whether the	120	3.700	0.711

strategic programs are proceeding on schedule.			
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Most respondents agreed that Most government funded projects are hurdled by the financial constraints during the time of their implementation Very high extent with $M=3.884$ ($SD=0.815$). This corresponds with Seddon, (2008) that success of any project is highly dependent on its completion time from start to delivery of results. This has a direct bearing on management decisions such as budgets, targets and standards. Respondents equally agreed that changes The success of any project is highly dependent on its completion time from start to delivery of results., $M=3.840$ to a High extent, A common issue in worldwide construction companies is to complete projects both on time and within the budget initially planned. $M=3.815$ to a Moderately high extent and Since most budgets are based on operating departments, it is important to superimpose key factors that would signal whether the strategic programs are proceeding on schedule. $M=3.700$ Very low extent. The results are shown in the table 4.6 above.

4.9 Technology influences Completion of Construction Projects

The respondents were asked to give their opinions on Technology influences Completion of Construction Projects in Nairobi County?. The responses were measured by a four point Likert scale; Very high extent. High extent. Moderately high extent Low extent Very low extent.

Table 4.7: Technology influences Completion of Construction Projects

Statement	N	Mean	SD
While the relevant technology, institutional arrangements or processes will differ, the management of such projects has much in common with the management of similar types of projects in other specialty or technology domains such as aerospace, pharmaceutical and energy developments	120	3.800	0.730
The management of construction projects requires knowledge of modern management as well as an understanding of the design and construction process	120	3.772	0.720
Construction projects have a specific set of objectives and constraints such as a required time frame for completion	120	3.701	0.751
The management of construction projects requires knowledge of modern management as well as an understanding of the design and construction process.	120	3.682	0.675
A lack of compatible systems, standards and protocols, and the differing requirements of clients and lead designers in government constructions projects, have inhibited widespread adoption of a technology which has the capacity to ensure that all team members are working from the same data	120	3.615	0.603

From the findings, While the relevant technology, institutional arrangements or processes will differ, the management of such projects has much in common with the management of similar types of projects in other specialty or technology domains such as aerospace, pharmaceutical and energy developments was agreed by most respondents with a mean of $M=3.800$ ($SD=0.730$) to a Very high extent. This tallies with Wideman, (1986). The management of construction projects. The management of construction projects requires knowledge of modern management as well as

an understanding of the design and construction process $M=3.682$ $SD=0.720$ to a High extent. The Construction projects have a specific set of objectives and constraints such as a required time frame for completion with a mean score of 3.701 to a Moderately high extent Low extent and A lack of compatible systems, standards and protocols, and the differing requirements of clients and lead designers in government constructions projects, have inhibited widespread adoption of a technology which has the capacity to ensure that all team members are working from the same data $M=3.615$ Very low extent. The results are show in the figure 4.7 above.

4.10 Correlation analysis

The four predictor variables are said to be correlated if their coefficient of correlations is greater than 0.5. In such a situation one of the variables must be dropped from the analysis. As shown in table 4.10, none of the predictor variables had coefficient of correlation between themselves more than 0.5 hence all of them were included in the model. The matrix also indicated high correlation between the response and predictor variables that is how Political factors influence Completion of Government Buildings Construction Projects in Nairobi County Kenya, Economic factors that influences Completion of Government Buildings Construction Projects in Nairobi County Kenya, Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects in Nairobi County Kenya and To determine how Technology influences Completion of Government Buildings Construction Projects in Nairobi County Kenya.

Table 4.4 Pearson Correlation Coefficients

	Completion of Construction Projects	Political factors influence Completion of Government Buildings Construction Projects	Economic factors that influences Completion of Government Buildings Construction Projects	Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects	How Technology influences Completion of Government Buildings Construction Projects
Completion of Construction Projects	1.000				
Political factors influence Completion of Government Buildings Construction Projects	.536	1.000			
Economic factors that influences Completion of Government Buildings Construction Projects	.752	.118	1.000		
Timeliness of payment of contracts influences	.467	.128	.247	1.000	

Completion of Government Buildings Construction Projects					
How Technology influences Completion of Government Buildings Construction Projects	.307	.254	.254	.380	1.000

4.11 Regression Analysis

A multivariate regression model was applied to determine the relative importance of each of the four variables with respect to the Retention of employees.

The regression model was as follows:

$$Y = \alpha + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 + X_4\beta_4 + \varepsilon$$

Where:

Y= Completion of Construction Projects

X₁= Political factors influence Completion of Government Buildings Construction Projects

X₂= Economic factors that influences Completion of Government Buildings Construction Projects

X_3 = Timeliness of payment of contracts influences Completion of Government Buildings
Construction Projects

X_4 = How Technology influences Completion of Government Buildings Construction
Projects

α = constant (y intercept)

β = coefficient

ε = error term

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.889(a)	.790	.805	.51121	.801	1.021	2	120	.004

Predictors: (Constant), Political factors influence Completion of Government Buildings Construction Projects, Economic factors that influences Completion of Government Buildings Construction Projects, Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects, How Technology influences Completion of Government Buildings Construction Projects

Dependent Variable: Completion of Construction Projects

Analysis in **table 4.19 shows** that the coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R^2 equals 0.790, that is Organization Political factors influence Completion of Government Buildings Construction Projects, Economic factors that influences Completion of Government Buildings Construction Projects, Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects, How Technology influences Completion of Government Buildings Construction Projects have 79% percent influence Completion of Construction

Projects, leaving only 21% percent unexplained. The P- value of 0.004 (Less than 0.05) implies that the model of Completion of Construction Projects is significant at the 5 percent significance

Table 4.6: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.852	1	.213	2.497	.004
Residual	20.78	119	.066		
Total	22.52	120			

Predictors: (Constant), Political factors influence Completion of Government Buildings Construction Projects, Economic factors that influences Completion of Government Buildings Construction Projects, Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects, How Technology influences Completion of Government Buildings Construction Projects

Dependent Variable: Completion of Construction Projects

The purpose of the analysis of the variance is to test differences in means (for groups or variables) for statistical significance. The accomplishment is through analyzing the variance, which is by partitioning the total variance into the component that is due to true random error and the components that are due to differences between means. The ANOVA analysis is intended to investigate whether the variation in the independent variables explain the observed variance in the outcome. ANOVA findings (P- value of 0.04) in table 4.20 shows that there is correlation between the predictor's variables (Political factors influence Completion of Government Buildings Construction Projects, Economic factors that influences Completion of

Government Buildings Construction Projects, Timeliness of payment of contracts influences
Completion of Government Buildings Construction Projects, How Technology influences
Completion of Government Buildings Construction Projects).

Table 4.7 Coefficients of regression equation

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
(Constant)		.253	.446		0.565	.120
Political factors influence Completion of Government Buildings Construction Projects	X ₁	.129	.051	.249	2.729	.003
Economic factors that influences Completion of Government Buildings Construction Projects	X ₂	.188	.049	.210	3.778	.002
Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects	X ₃	.058	.027	.191	2.217	.004
How Technology influences Completion of Government Buildings Construction Projects	X ₄	.051	.017	.086	2.182	.002

Dependent Variable: Completion of Construction Projects

The established multiple linear regression equation becomes:

$$Y = 0.253 + 0.129X_1 + 0.188X_2 + 0.058X_3 + 0.051X_4 + \varepsilon$$

Where

Constant = 0.253, shows that if Political factors influence Completion of Government Buildings Construction Projects, Economic factors that influences Completion of Government Buildings Construction Projects, Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects, How Technology influences Completion of Government Buildings Construction Projects are all rated as zero, Completion of Construction Projects would be 0.253

$X_1 = 0.129$, shows that one unit change in Political factors influence Completion of Government Buildings Construction Projects results in 0.129 units increase in Completion of Construction Projects.

$X_2 = 0.188$, shows that one unit change in Economic factors that influences Completion of Government Buildings Construction Projects results in 0.170 units increase in Completion of Construction Projects.

$X_3 = 0.058$, shows that one unit change in Timeliness of payment of contracts influences Completion of Government Buildings Construction Projects results in 0.051 units increase in Completion of Construction Projects.

$X_4 = 0.051$, shows that one unit change in How Technology influences Completion of Government Buildings Construction Projects results in 0.048 units increase in Completion of Construction Projects.

CHAPTER 5

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study findings, discussions, conclusions and recommendations. It also makes suggestions for further research. The findings are summarized in line with the objectives of the study which was to determine the Factors Influencing Completion of Construction Projects: A Case Study of Government Buildings Construction Projects In Nairobi County.

5.2 Summary of Findings

The results of the study were found to be in accordance with the theory of Resource dependence theory, the Resource dependence theory suggests that power accrues to those who control resources needed by the organisation, thereby creating power differentials among parties (Pfeiffer, 1997b), and it confirms that the possession of resource power makes stakeholder important to a firm. It also relates to the Theory of Constraints (TOC) in Project Management that The primary challenge of project management is to achieve all of the project goals and objectives while honoring the preconceived project constraints, Lamb, Robert, Boyden (2002) typical constraints are scope, time, and budget.

The study also found out that, majority of the respondent are aged between 31 to 49 years representing 36% of the respondents. This category was followed in the second position at 35 % by those who indicated that, they aged 50 and above years, The high representation could also be Constructions organization recruit older people because of their experience in the industry. The low representation of the age bracket Below 30 years could be due to low experience. was a disparity in the representation of both male and female in the survey at 57% and 43% respectively. This could be due to the fact that the project requires masculine and therefore engages more on manual labour. The high representation of male could be for the reason that male gender is able to perform hard jobs which require masculine engagement which is essential in the Constructions projects. majority of the respondents had attained bachelor's degrees , this represented 63% of the respondents. 37% of the respondents had attained master's degrees. It can be observed that the organization has employed staff with various qualifications at different levels with majority having attained a bachelors degree. Some of the staff reported that some of the qualifications were yet to be attained and were currently studying especially the post graduate students.

5.2.1 Political factors influencing Completion of Construction Projects

The study found out that the Political interference plays a critical but poorly understood role in determining the success or failure of the processes of project management support Completion of Construction Projects on a Very high extent with a mean of 3.901. This corresponds with Markus and Tanis (2010), political interference plays a critical but poorly understood role in determining

the success or failure of the processes of project management that dominate efforts to form international regimes or, more generally, institutional arrangements in international society. The stakeholders relied upon by the project may also have their own agenda and preferences for participating in the project agreed to a Low extent mean of 3.681 and Very low extent 3.674.

5.2.3 Economic factors that influence Completion of Construction Projects in Nairobi County

Respondents agreed most on the political environment affects the construction of a project to a Very high extent with $M=3.865$ ($SD=0.773$). This corresponds with Chism and Armstrong (2010) confirm the fact that the political environment affects the construction of a project. project holds that unless there is a net gain there is no point in even considering embarking on a project $M=3.746$ to a Moderately high extent and The external or macro-economic relate to high interest rates and prices, tariff barriers, embargoes and shipping restrictions, among other influences, of which the project manager have no control over $M=0.377$ Very low extent.

5.2.4 Timeliness of Payment of Contracts

Most respondents agreed that Most government funded projects are hurdled by the financial constraints during the time of their implementation Very high extent with $M=3.884$ ($SD=0.815$). This corresponds with Seddon, (2008) that success of any project is highly dependent on its completion time from start to delivery of results. A common issue in worldwide construction companies is to complete projects both on time and within the budget initially planned. $M=3.815$ to a Moderately high extent and Since most budgets are based on operating departments, it is important to superimpose key factors that would signal whether the strategic programs are proceeding on schedule. $M=3.700$ Very low extent.

5.2.5 Technology influences Completion of Construction Projects

From the findings, While the relevant technology, institutional arrangements or processes will differ, the management of such projects has much in common with the management of similar types of projects in other specialty or technology domains such as aerospace, pharmaceutical and energy developments was agreed by most respondents with a mean of $M=3.800$ ($SD=0.730$) to a Very high extent. This tallies with Wideman, (1986). A lack of compatible systems, standards and protocols, and the differing requirements of clients and lead designers in government constructions projects, have inhibited widespread adoption of a technology which has the capacity to ensure that all team members are working from the same data $M=3.615$ Very low extent.

5.3 Conclusion

Based on objective one the study concluded from the study that there is a great influence of Political factors in timely completion of construction projects in Kenya. The study revealed that Political factors influencing Completion of Construction Projects, political interference plays a critical but poorly understood role in determining the success or failure of the processes of project management that dominate efforts to form international regimes or, more generally, institutional arrangements in international society. An examination of the nature of project management serves as a springboard both for pinpointing the role of leadership in regime formation and for differentiating three forms of leadership that regularly come into play in efforts

to establish international institutions: structural leadership, entrepreneurial leadership, and intellectual leadership

Regarding objective two, the study concluded from the study that the political environment affects the construction of a project, changes in government actions are a major external risk factor militating against the success of projects. Economic influence has two levels: first, the internal economics principle relating to the viability of a project holds that unless there is a net gain there is no point in even considering embarking on a project. The external or macro-economic relate to high interest rates and prices, tariff barriers, embargoes and shipping restrictions, among other influences, of which the project manager have no control over.

In reference to objective three, the study also revealed that Most government funded projects are hurdled by the financial constraints during the time of their implementation, success of any project is highly dependent on its completion time from start to delivery of results. This has a direct bearing on management decisions such as budgets, targets and standards. Respondents equally agreed that changes The success of any project is highly dependent on its completion time from start to delivery of results. Relationship between project cost and planning input in the timely completion of construction projects. Essentially, the availability of funds targeted at a particular project activity is a measure of project success, especially for activities in the critical chain.

Finally on objective four, the study revealed that Technology influences Completion of Construction Projects. The management of construction projects. The management of

construction projects requires knowledge of modern management as well as an understanding of the design and construction process. A lack of compatible systems, standards and protocols, and the differing requirements of clients and lead designers in government constructions projects, have inhibited widespread adoption of a technology which has the capacity to ensure that all team members are working from the same data.

5.4 Recommendations

Based on the findings and conclusions, the study recommends that the Governments should look for amicable ways on how the Lenders and private sector can help in financing project activities. It also recommends stakeholder engagements to ensure that ideas and perspectives are represented; members of stakeholder groups should be invited to participate in project scope identification and planning. Participation improves the quality project management and that of evaluations: accuracy of information, increased credibility and acceptance of findings, and better correspondence to the practical concerns of stakeholders.

The study recommends that where necessary, skill levels should be augmented to meet the needs of the project. An ongoing investment in developing such capacity for construction project teams is necessary. The study also recommends that various relevant government agencies should allocate enough resources needed for construction of the project and monitoring and evaluation and agree on a practical arrangement to support finance the associated activities. The study also recommends that organizations should consider adopting modern information and communication technologies in carrying out monitoring and evaluation activities. The study further recommends that where necessary, skill levels should be augmented to meet the needs of

M&E systems and that project leaders should allocate enough resources needed for monitoring and evaluation and agree on a practical arrangement to finance the associated activities.

Finally the study further recommends that politicizations and leaders should offer the necessary support and goodwill to enhance timely completion of construction projects. White elephant projects and Unnecessary influence and political interference on project completion should be deterred.

5.4 Limitation of the Study

This study focuses only on Government Constructions projects and can therefore not be generalized to the whole Constructions projects in Kenya. It must also be considered that this research examines the other constructions projects in the Private sector. The most challenging limitation of this project was the sample-size of the study. In order to gain more exact results, the sample-size should have been larger,. However due to the time limit and personal as well as monetary reasons the study had to be limited to Government Funded projects. The researcher believes that it would be interesting to compare findings carried out in private and other public sector.

5.6 Recommendations for further research

The Study recommends further studies on the challenges facing effective implementation of monitoring and evaluation of Government funded construction projects. It is also recommended that a similar study should be conducted assessing the factors influencing completion of construction projects in private and non-governmental organizations. A study should also be

conducted on the Factors influencing resource allocation on construction Government funded construction projects.

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APPENDICES

Appendix I : Cover Letter

OGENO DAVID OWOUR,

University of Nairobi,

P.O BOX, 30197

Nairobi.

October 2015

Dear Sir/Madam,

RE: DATA COLLECTION

I am a postgraduate student at University of Nairobi undertaking a Master of project planning and Management. One of my academic outputs before graduating is a thesis and for this I have chosen the research topic **“FACTORS INFLUENCING COMPLETION OF PROJECTS IN KENYA: A CASE OF GOVERNMENT BUILDINGS CONSTRUCTION PROJECTS IN NAIROBI COUNTY, KENYA”**.

You have been selected to form part of the study. This is to kindly request you to assist me collect the data by responding to the interview guide. The information you provide was be used strictly for academic purposes and was be treated with utmost confidence. A copy of the final report was being available to you upon request. Your assistance was be highly appreciated.

Yours sincerely,

OGENO DAVID OWOUR

Appendix II: Questionnaire for the committee members

The information provided will only be for the purpose of this study. Read carefully and give appropriate answers by ticking or filling the blank spaces. The information will be treated with confidentiality confidential.

SECTION A: GENERAL INFORMATION

1. Indicate your age

Below 30 [] 31 to 49 [] 50 and above []

2. Indicate your gender

Male [] Female []

3. Educational level of committee members

secondary education [] Diploma [] Degree [] Post Graduate []

SECTION B: Political factors influencing Completion of Construction Projects

Using a scale 1-5, Please tick (✓) as appropriate. 1. Very high extent. 2. High extent. 3. Moderately high extent 4. Low extent 5. Very low extent.

4. To what extent do you consider Influence of Political factors in influencing Completion of Construction Projects in Nairobi County?

Statement	1	2	3	4	5
Politicians are elected by citizens to decide public policy, including the delivery of public projects					
When faced by high levels of political competition in their constituencies, politicians may be incentivized to improve the quality of potentially vote-winning public projects					
Political interference plays a critical but poorly					

understood role in determining the success or failure of the processes of project management					
An examination of the nature of project management serves as a springboard both for pinpointing the role of leadership in regime formation					
The real work of regime formation occurs in the interplay of different types of leadership					
Politics manifests itself in all organizations as opinions and attitudes of the different stakeholders in these organizations					
the stakeholders relied upon by the project may also have their own agenda and preferences for participating in the project.					
Neither the sponsor nor the project manager has control over external politics such as political turmoil which may disrupt the project					

SECTION C: Economic factors that influence Completion of Construction Projects

Using a scale 1-5, Please tick (✓) as appropriate. **1.** Very high extent. **2.** High extent. **3.** Moderately high extent **4.** Low extent. **5.** Very low extent.

5. To what extent do you consider Economic factors that influence Completion of Construction Projects in Nairobi County?

Statement	1	2	3	4	5
The political environment affects the construction of a project					
changes in government actions are a major external risk factor militating against the success of projects					

Economic influence has two levels: first, the internal economics principle relating to the viability of a project holds that unless there is a net gain there is no point in even considering embarking on a project.					
The external or macro-economic relate to high interest rates and prices, tariff barriers, embargoes and shipping restrictions, among other influences, of which the project manager have no control over					
project holds that unless there is a net gain there is no point in even considering embarking on a project					

SECTION D: Timeliness of Payment of Contracts

Using a scale 1-5, Please tick (✓) as appropriate. **1.** Very high extent. **2.** High extent. **3.** Moderately high extent **4.** Low extent. **5.** Very low extent.

6. To what extent do you consider Timeliness of Payment of Contracts **on** factors that influence Completion of Construction Projects in Nairobi County?

Statement	1	2	3	4	5
A common issue in worldwide construction companies is to complete projects both on time and within the budget initially planned.					
The success of any project is highly dependent on its completion time from start to delivery of results.					
Relationship between project cost and planning input in the timely completion of construction projects					
Most government funded projects are hurdled by the financial constraints during the time of their implementation					
Essentially, the availability of funds targeted at a particular project					

activity is a measure of project success, especially for activities in the critical chain					
Since most budgets are based on operating departments, it is important to superimpose key factors that would signal whether the strategic programs are proceeding on schedule.					
By only looking at the financial costs and benefits without taking a strategic risk-assessment into account one might easily pursue the less favourable project or fail to search for less risky alternatives					
Slow financial and payment procedures; Slow decision-making process					

SECTION D: Technology influences Completion of Construction Projects

Using a scale 1-5, Please tick (✓) as appropriate. **1.** Very high extent. **2.** High extent. **3.** Moderately high extent **4.** Low extent. **5.** Very low extent.

7. To what extent do you consider Technology influences Completion of Construction Projects in Nairobi County?

Statement	1	2	3	4	5
While the relevant technology, institutional arrangements or processes will differ, the management of such projects has much in common with the management of similar types of projects in other specialty or technology domains such as aerospace, pharmaceutical and energy developments					
The management of construction projects requires knowledge of modern management as well as an understanding of the design and construction process					

Construction projects have a specific set of objectives and constraints such as a required time frame for completion					
The management of construction projects requires knowledge of modern management as well as an understanding of the design and construction process.					
A lack of compatible systems, standards and protocols, and the differing requirements of clients and lead designers in government construction projects, have inhibited widespread adoption of a technology which has the capacity to ensure that all team members are working from the same data					

Thank you for your participation

Appendix III: Budget

No.	Material/ Services	Amount (Kshs)
1.	Literature Review and Collection of secondary data	2,500
2.	Printing, Photocopying and Binding of Proposal	7,500
3.	Printing of Research Instruments	5,000
4.	Data collection- Transport and Subsistence	8,000
5.	Data analysis	26,500
6.	Final Report and Binding	15,00
	TOTAL	64,500

Appendix IV: Time Frame

Activity	Aug 2015	Aug- Sept 2015	Aug- Sept 2015	Oct 2015	Oct 2015	Nov 2015	Nov 2015
Concept and Proposal Development							
Defense and Amendment of Proposal							
Data Collection and Analysis							
Report Writing							
Amendment of Report							
Submission of Final Report							

