Strathmore University
SU+ @ Strathmore University Library

Electronic Theses and Dissertations

2020

# Critical success factors for timely completion of World Bank projects in Kenya

Kefa S. Odhiambo
*Strathmore Business School (SBS)*
*Strathmore University*

Follow this and additional works at https://su-plus.strathmore.edu/handle/11071/10180

Recommended Citation

Odhiambo, K. S. (2020). *Critical success factors for timely completion of World Bank projects in Kenya* [Thesis, Strathmore University]. https://su-plus.strathmore.edu/handle/11071/10180

This Thesis - Open Access is brought to you for free and open access by DSpace @Strathmore University. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of DSpace @Strathmore University. For more information, please contact librarian@strathmore.edu

# CRITICAL SUCCESS FACTORS FOR TIMELY COMPLETION OF WORLD BANK PROJECTS IN KENYA

**KEFA SEDA ODHIAMBO**

**MBA/110514/2018**

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION**

**STRATHMORE BUSINESS SCHOOL**

**STRATHMORE UNIVERSITY**

**NAIROBI, KENYA**

**JUNE, 2020**

## DECLARATION

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

Kefa Seda Odhiambo

Signature: …… Date: ……15th June, 2020……

## APPROVAL

This dissertation undertaken by Kefa Seda Odhiambo has been submitted with my approval as the University supervisor.

Dr. Elizabeth Muthuma

Signature: … …… Date: ……17th June 2020 ……

## DEDICATION

I dedicate my dissertation work to my family Norma, Cindy, Crystal, Barbra, and Tamara whose unyielding support, love and encouragement have enriched my soul and motivated me to pursue and finish this dissertation.

## ACKNOWLEDGEMENTS

I wish to express my sincere gratitude and warm appreciation to the following persons who contributed much in helping me shape this valuable piece of work. Dr. Elizabeth Muthuma, my dissertation supervisor, for always giving necessary suggestions to better this study. The World Bank Team, especially Mr. Josphat Sasia who besides fully sponsoring my Master Degree course, inspired me to pursue the same and later offered valuable critiques to my study. I would also like to acknowledge Eng. Stanley Mwawasi and Ms. Norah Kajwang, who inspired me to pursue my Master's Degree and offered valuable critiques. I would also like to extend my acknowledgements to The Strathmore University dissertation defense committee of Dr. Evaline Makhanu and Dr. David Chiawo for their comments and recommendations in improving this dissertation. The engineering fraternity and contractors for lending some of their precious time in giving responses to the questionnaires are also greatly appreciated.

VT OMNES VNVM SINT

## ABSTRACT

Road infrastructure remains an important ingredient to the economic development of Kenya as most transport is through this medium. The government has earmarked improvement of road infrastructure as an important part of its vision 2030. However, lack of financial and technical capacity has resulted in the Kenyan government seeking assistance from the World Bank to finance its road projects. This study analysed the critical success factors for the timely completion of World Bank projects in Kenya. The general objective of the study was to examine the critical success factors influencing timely completion of World Bank-financed road projects implemented by Kenya National Highways Authority (KeNHA). The pragmatic research philosophy was used and descriptive research design was adopted. The 340 World Bank-sponsored road projects implemented by KeNHA selected through purposive sampling of trunk road projects were the target population of the study. The sample for this study was 20 projects which included completed and ongoing projects that have achieved 50% completion in the 2017-2020 fiscal years. The unit of observation was 52 managerial staff engaged in the execution of selected 20 projects. The data was collected through emailing of structured questionnaires and face-to-face key informant interviews. The descriptive statistics used in analyzing the quantitative data were frequency distributions, mean, and standard deviation. Spearman rank correlation was used to determine the association between independent and dependent variables. The data was presented in tables and figures and supported by an interpretation from the researcher. The study was able to reach 51 respondents from the survey. The results revealed that that project design, institutional environment, project management training, project coordination, and project monitoring all had a positive and statistically significant correlation with timely completion of projects. The study, therefore, concludes that limitations and challenges in the project design phase are more likely to contribute to timely completion of World Bank donor funded projects. That institutional environment of World Bank-funded road projects had the least effect on the timely completion of road projects. That project coordination of activities was the most critical success factor contributing to timely completion of World Bank-funded road projects with project monitoring becoming the third most critical success factor contributing to timely completion of World Bank-funded road projects. The interviews supported the findings from the survey. These findings cement the importance of stakeholder theory in executing projects as communication and information sharing between parties in a project contributes to timely completion by improved coordination in monitoring, design, skills management, and planning of projects. It is this study's recommendation that independent project design consultants should be engaged in project design before the works begin. In regard to project coordination, the study recommends that land acquisition to be done immediately after designs are complete and prior to commencement of construction works and the challenges incurred during land acquisition will be avoided and this will enable the project to be completed on time, budget and quality. In reference to project monitoring, that this process should be continuous and ongoing and not based on milestones but rather on schedules to be able to identify any time creep that may occur during the course of a project.


*Keywords: Critical success factors, timely completion, World Bank funding, road projects*

## TABLE OF CONTENTS

## LIST OF TABLES



VT OMNES VNVM SINT

## LIST OF FIGURES



VT OMNES VNVM SINT

## DEFINITION OF TERMS

**Institutional environment –** This refer to formal rules and norms that allow economic dealings and operation in a market.

**Project co-ordination –** This involves communicating several aspects of the project so that the project runs smoothly.

**Project design –** This refers to the project phase which includes the actual planning and design of a project.

**Project management training –** This refers to the education of staff on specific project management knowledge and skills.

**Project monitoring –** This refers to an ongoing task which involves the day to day operations in the execution of a project.

**Timely completion –** This refers to the closure of a project within the stipulated time and schedule.

## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| **AfDB** | African Development Bank |
| **CSFs** | Critical Success Factors |
| **EARTTDFP** | Eastern Africa Regional Transport, Trade & Development Facilitation Project |
| **ESSP** | Education Sector Support Programme |
| **KeNHA** | Kenya National Highways Authority |
| **KTSSP** | Kenya Transport Sector Support Project |
| **M&E** | Monitoring and Evaluation |
| **NACOSTI** | National Commission for Science, Technology and Innovation |
| **NCTIP** | Northern Corridor Transport Improvement Project |
| **NUTRIP** | National Urban Transport Improvement Project |
| **PM&E** | Participatory Monitoring and Evaluation |
| **SPSS** | Statistical Package for Social Sciences |
| **ST** | Stakeholder Theory |
| **SU-IERC** | Strathmore University Institutional Ethics Review Committee |

VT OMNES VNVM SINT

# CHAPTER ONE
# INTRODUCTION TO THE STUDY

## 1.1 Background to the Study

Transport by road has been victim to its success and faces substantial challenges, more so, in the developed nations. However, road use in low and middle-income nations is experiences congestion on roads and has been associated with environmental pollution owing to vehicle $CO_2$ emissions (Tchanche, 2019). In Belgium, dependence on road transport has shrunk significantly. The use of bicycles and public transport has gained a greater market share from 2005 to 2011. Belgium's national statistics indicate that the amount of kilometers covered by a vehicle has been on a downward decline whilst train use has been on a gradual increase by as much as 50% between 2001 and 2010 (Boussauw & Vanoutrive, 2017).

The road infrastructure in Malaysia takes a larger portion of the country's budget as the government focuses on road construction and maintenance. The length of the road network has had a significant increase since 2009 owing to increased budgetary allocations towards the construction of roads focusing on bypasses and the creation of new highways (Abdelfatah, Shah, & Puan, 2015). In the case of South Africa, there has been a substantial decrease in road transport investments in the near past due to less economic investments by the nation which has been attributed to lower economic performance. However, road transport receives considerable attention as a means to enhance economic development (Hlotywa & Ndaguba, 2017).

The Kenyan economy relies much on road transport which comprises the major part of land transport (Kiiru, 2015). Despite the significance of road transport infrastructure in enhancing connectivity and access between neighboring countries, the reality is that the road network in Africa is still not adequate to serve the economic undertakings of countries that largely depend on roads for transportation of goods and people. In increasing the capacity of the road network in Kenya, the government, in partnership with donors, is implementing road projects with backing from global financing institutions such as the World Bank.

Ika, Diallo, and Thuillier (2012) found a significant association among a combination of crucial success factors (CSFs) with timely completion of World Bank-funded projects. These factors were project monitoring, project coordination, project training, project design, and institutional environment. These factors are considered critical to any World Bank-funded projects around the globe. However, the crux of the study is to establish the impact of these CSFs on timely completion of World Bank-funded road projects in Kenya.

The Kenyan transport sector is comprised of five transportation modes: roads, rail, air, maritime transport, and pipeline. Roads are the leading method of transportation in Kenya and accounted for about 85% of the total domestic transportation. Kenya Vision 2030, identifies that the enhancement of road infrastructure is a major part of creating a globally prosperous and competitive nation with an increased life quality by 2030 (Hassan, Bwisa, & Iravo, 2016). The Government's agenda for 2017-2022 is to achieve economic growth and development by focusing on the "Big Four" sectors which are manufacturing, health, affordable housing, and food security.

In 2019, the World Bank allocated $ 15.0 Billion to Africa and this was further disbursed in different sectors which included water, sanitation, and waste management (7%), transportation (4%), social protection (10%), information and communications technologies (3%), public administration (12%), industry, trade, and services (8%), health (9%), education 8%, the financial sector (5%), energy and extractives (22%), education (8%), and 12% in the agriculture, fishing, and forestry sector. In Kenya, The World Bank has been a leading supporter of Kenya's road rehabilitation efforts over the last 14 years, with over $1 billion in International Development Association (IDA) financing (World Bank, 2019).

### 1.1.1 Timely Completion of Projects

The time taken to finish a project is the most widely adopted parameter to determine success of a project (Seboru, 2015). Deloitte's report indicates that nine (9) out of ten (10) world large projects with budgets of 1 Billion United States dollars experience time and budget overruns. These overruns have been acknowledged that there is an important part of project failure and project abandonment in Kenya. About 48% of projects have reported an 87% cost and time overruns (Ngacho & Das, 2014; Deloitte, 2017). This is a major part of poor initial

periods of contracts to include all variables which resulted in completion delays. The completion of projects within the speculated timeline has an immediate effect on the decision of the management, for example, budgets, standards, and targets (Westerveld, 2003).

In India, approximately half or road projects suffer from cost overruns with more than 25% of these delays adding to 50% of the timely completion of projects. A rural road project survey indicated that a fifth of road projects that were completed did not meet expectations (Kenny, 2010). In South Africa, The Lesotho Road Rehabilitation Project (RRMP) was approved by the World Bank in 1996 and completed in 2003, two years later than planned, mainly due to early delays in meeting effectiveness conditions and slow start-up of capacity building and works activities (World Bank, 2006). Kisavi (2019) documented that whereas the majority of infrastructural projects in Kenya have healthy documented plans and there is a poor execution of these plans during the implementation which resulted in approximately 50% of time overruns in the nation.

Similarly, Kariungi (2014) pointed out that the completion of projects within the set time has a significant role in raising the competitive advantage of organizations. Also, Mahamid (2013) investigated on factors behind time overruns in Palestine's road construction projects and discovered that the contributing factors were;West Bank segmentation and restricted mobility between areas; delays by the project's sponsor; political factors; inadequate reliable tools and equipment; and financial challenges.

Patil, Gupta, Desai, and Sajane (2013) carried out a study on the reasons behind delays on infrastructural transport projects in India which illustrated the following reasons: fiscal closure; variation orders by the sponsor; and mismanagement of the site and supervision by the contractor. In Saudi Arabia, Assaf and Al-Hejji (2006) found that due to delays, only 30% of projects in were done within agreed timeframes, and mean overrun time ranged from 10% to 30%.

Kamanga and Steyn (2013) investigated on the causes of delays in construction projects in Malawi and established that they were as a result of various factors: fuel shortage; financial difficulties; inadequate foreign currency (which bars the importation of machines and

equipment); unreliable payment processes adopted by the project sponsor or client; and obsolete and inadequate equipment. Seburo (2015) study in Kenya revealed that the reasons behind the delays were payments, bureaucracy in decision-making process, poor planning and scheduling and adverse weather (rain). Wambui, Ombui, and Kagiri (2015) revealed that project technology, project managers' competency, project equipment, and project funds had an impact on project delay.

### 1.1.2 World Bank-Funded Projects

Around $3.5 trillion has been channeled to developing nations since 1970 with the World Bank acting as the primary actor, and highly invested in determining the quality of projects starting from peer reviews to processes aimed at enhancing quality. However, after assessment, almost a quarter of World Bank-funded projects are deemed unsatisfactory in regards to quality at entry and exit. Furthermore, problems of delayed implementation with lags of nearly six to seven quarters within first disbursement and constant gaps between real and scheduled disbursement afterward (World Bank, 2014).

The majority of World Bank projects in Africa have either partially failed or is a total failure manifested in poor timely completion (Damoah, Akwei, & Mouzughi, 2015). The average delay of World Bank projects varies from Central Asia to Europe. In Romania, a delay of one and a half years was recorded and in Azerbaijan, road projects were delayed by almost a year (Alexeeva, Queiroz, & Ishihara, 2011). In Chad, the Chad-Cameroon Pipeline project sponsored by the World Bank was abandoned in 2008 at $4.2 billion (Fabian & Amir, 2011).

In 2010, 39 % of all World Bank-sponsored projects were not successful. In Africa alone, a 50 % rate of failure is recorded (Sang, 2015). In Kenya, amongst the World Bank-sponsored projects which suffered delays were Rural Access Road Projects which were behind schedule by three and a half years, the Kakamega-Webuye Road Project also fell behind schedule (Ogweno, Muturi, & Rambo 2016). The poor presentation of World Bank-sponsored projects in Low and Middle-Income countries (LMICs), more so, in Sub-Saharan Africa (SSA) necessitate investigations into what dominant factors contribute to this impasse.

Studies have explored the factors contributing to delay in World Bank-funded projects. For example, Deininger, Squire, and Basu (1998) revealed that additional industry work and logical economics is associated with the standards of the World Bank loans and disbursement. Kilby (2013a, 2013b) found projects with longer preparation have higher ratings indicating the importance of the planning phase in the timely completion of projects. Ika, Diallo, and Thuillier (2012) found a significant association among a combination of crucial success variables (focused on project monitoring, project coordination, project training, project design, and institutional environment) for World Bank projects. The project design is the degree to which project managers use design tools. Project monitoring is the degree to which project managers' use monitoring tools. Institutional environment are the different processes and procedures followed in executing projects. Project coordination is the degree to which project managers engage with stakeholders, organize and direct staff in projects. Project training refers to the project management skills and techniques of project executing staff (Ika et al., 2012).

Denizer et al. (2013) revealed that around 80 % of the entire variation in the performance of a project is attributed to country-wide variation and is associated with project size, quality of the project manager, sector and the level of resources directed towards preparation and supervision (Legovini, Di Maro, & Piza, 2015). The most important external financed development projects consist of cooperation between several actors. Most projects comprise of early negotiations between national governments and donors which result to project monitoring and implementation by state agencies of non-governmental organisations (NGOs), private contractors, sub-national state entities, or state national agencies (Winters & Streitfeld, 2018). Shin, Kim, and Sohn (2017) did a comparative performance of World Bank projects executed by the national government against projects implemented by NGOs or a mix of NGOs and government actors. Out of 647 projects evaluated, 29 of these projects had better scores in evaluation by controlling the duration and total size of the country projects, sector, and year of its implementation indicating the importance of coordination during implementation.

### 1.1.3 Road Projects in Kenya

Maendo (2018) alluded that small and medium-range road infrastructure projects need to be finished between three to four years whilst the larger range of projects can be finished in five or six years. However, the data gathered from records in public works of counties that were included in the research which found that 20% of locally implemented road projects had a one to two years' time overrun whilst 60% had two to four years overruns. According to Ogutu and Muturi (2017), a road project is completed if that particular success test criteria are met: time – finalized within the set time; finance – finished within the stated budget; effectiveness – finished in line with the initially established standards; and the satisfaction of the client or sponsor – viable among the intended recipients.

Ogweno et al. (2016) found that timely finishing of road construction projects is affected by senior management support and procurement mechanisms. Other factors are work conditions, availability of project materials in a timely fashion, and productive communication and management. Ika, Diallo, and Thuillier (2012) reported that several challenges face donor assisted projects which included a nation's inability to utilize donor funds properly due to limited infrastructure, the unpredictable nature of donor assistance on an annual basis, and complicated M&E requirements which are unique for every donor. Gaturu and Muturi (2014) found timely completion of donor-financed projects was mainly a vital element and a determinant of success in most of the developing nations where such initiatives are mostly implemented. Hassan et al. (2016) found that efficiency, effectiveness, relevance, sustainability, the impact had a statistically significant influence on the performance of donor-funded road construction projects in Kenya.

## 1.2 Statement of the problem

Most of the road construction projects in Kenya aren't finished within the set schedule (Ondari & Gekara, 2013; Seboru, 2015; Wambui et al., 2015; Ogutu & Muturi, 2017). Studies such as Ogweno et al. (2016) have shown evidence that road projects funded by state agencies often are not completed in time. The involvement of development partners such as the World Bank is hypothesized to increase the efficiency of road projects implementation. Donor funded projects come along with specific requirements which are often seen to

improve the performance of projects through enhanced efficiency, best practices in project management, financial capacity, and technical capacity. However, experience shows that even donor-funded road projects are not completed in time. The empirical research points to five critical success factors (CSFs) for timely completion of World Bank-funded projects: project design, institutional environment, project management training, project coordination, and project monitoring (Ika et al., 2012).

Some studies have explored the timely completion of projects in Kenya. Gaturu and Muturi (2014) explored the timeliness of project completion of projects funded by donors but did not include road construction projects. Hassan et al. (2016) examined the sustainability of donor-funded road construction projects but did not examine the timely completion of these road projects. Kenyan road projects attract the largest amount of World Bank donor funding. These road projects are anticipated to reduce transportation costs, reduce congestion in urban areas, foster regional trade, and open up marginalized areas thus contributing to increased economic activities and development. This study analysed critical success factors for timely completion of World Bank-funded road projects at Kenya National Highways Authority (KeNHA) which is a state department mandated to develop and maintain national trunk roads.

### 1.3 General objective

This study examined critical success factors for timely completion of World Bank-funded road projects in Kenya.

### 1.4 Specific objectives

The study was guided by these research objectives;

i. To determine effect of project design on timely completion of World Bank-funded road construction projects at KeNHA.
ii. To establish effect of institutional environment on timely completion of World Bank-funded road construction projects at KeNHA.
iii. To examine effect of project management training on timely completion of World Bank-funded road construction projects at KeNHA.

iv. To examine the effect of project coordination on timely completion of World Bank-funded road construction projects at KeNHA.

v. To assess effect of project monitoring on timely completion of World Bank-funded road construction projects at KeNHA.

### 1.5 Research questions

The study aimed to answer the research questions;

i. To what extent does project design effect timely completion of World Bank-funded road construction projects at KeNHA?

ii. To what extent does the institutional environment effect timely completion of World Bank-funded road construction projects at KeNHA?

iii. In what way does project management training effect timely completion of World Bank-funded road construction projects at KeNHA?

iv. To what extent does project coordination effect timely completion of World Bank-funded road construction projects at KeNHA?

v. In what ways does project monitoring effect timely completion of World Bank-funded road construction projects at KeNHA?

### 1.6 Significance of the Study

The study is of significance to several stakeholders. First, the study is of importance to policy and decision-makers in the infrastructure sector as it gives recommendations which if adopted would contribute to the timely completion of donor-funded projects. The study is of consequence to the project management and staff of KeNHA as it provided a space to discuss some of the Critical Success Factors (CSFs) to the timely completion of donor-funded road projects and this information is useful in the future road project implementation. The dissertation contributed to amount of information on timely completion of donor-funded road projects whilst making suggestions to areas of further research for future scholars and academia. The study contributes to the importance of stakeholder theory on the timely completion of projects. The study was disseminated in a bound document that was submitted to KeNHA's library. The researcher conducted a meeting that included respondents' of the

study and conducted a PowerPoint presentation to the university panel and a final bound document to the university library and a digital copy to the university repository.

### 1.7 Scope of the Study

There are 20 ongoing and completed World Bank-funded road projects in the 47 counties. The study focuses on projects that are 50% complete or have been completed. These projects fall under Eastern Africa Regional Transport, Trade and Development Facilitation Project (EARTTDFP), Northern Corridor Transport Improvement Project (NCTIP), Kenya Transport Sector Support Project (KTSSP, and the National Urban Transport Improvement Project (NUTRIP). Several cadres of employees is engaged in the implementation of donor-funded road projects. Therefore, this study only includes key project staff.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1 Introduction

The literature review for this study is presented in this chapter. The chapter presents general literature on research variables, a review of theories relevant to this study, empirical literature of research variables, the study conceptual framework, and research gaps that the study intends to fill.

## 2.2 Theoretical Review

### 2.2.1 Stakeholder Theory

The origin of stakeholder theory (ST) can be traced to Freeman (1984). In the management literature, stakeholders refer to employees, customers, competitors, government, clients, suppliers, and shareholders (Freeman, 1984). ST gives a deep analysis to recognize stakeholders, their agenda, and influence on a project. The stakeholder management recognizes and models the groups who are project stakeholders, recommends, and describes approaches that management can provide expected esteem to the groups' interests (Hassan, 2012). The ST is a management theory that asserts that urgency and power must be checked if project managers are to address stakeholder interests. Keeping this in mind, the successful execution of projects may not lack stakeholder engagement without a project that may fail (Ndunda, Paul, & Mbura, 2017).

The stakeholder management theory has been critiqued for a lack of achieving the needs of scientific theory and does not meet its conceptual requirements. The theory has also been criticized because it would be too complex and onerous to expect project managers to change how they operate to take into account interests other than those of shareholders (Ndunda et al., 2017). Other scholars have championed for stakeholder involvement in complex projects without which these projects may fail. These include Nyandika, and Ngugi (2014), Onyango, Bwisa, and Orwa (2017), and Nguyen, Mohamed, and Panuwatwanich (2018).

Despite its criticisms, the stakeholder theory is relevant to this study given the different parties and stakeholders that are engaged in the decision making and implementation of World bank-funded road projects. These are the implementing agency, the World Bank, the

Ministry of Finance, and contractors who should be considered and their interests/influence incorporated in the project. The stakeholder management approach is important as the success of a project is determined by its level of consultation and influence. Stakeholders in this study are important as they will give their judgement on whether World bank-funded road projects are completed in time. The stakeholder theory is thus important in this study for calling out the inclusion of stakeholders into all stages of the project life cycle which are considered in this study from the project design, coordination, training, and monitoring. The significance of institutional factors is also supported by the stakeholder theory which recommends for the inclusion of all parties in a project to adhere to the processes and procedures that are essential in the execution of a project.

## 2.3 Empirical Review of Factors Affecting Timely Completion of Projects

### 2.3.1 Project Design

According to Ika (2009), client consultation, project mission, and project design phase are some of the most important factors. The various perspectives make sure that all factors are considered before the design phase of an infrastructure project. The changes in design result to delays that come up when the contracted scope of works has been altered by expanding the scope and size of a project without allowances for this extension (Yang, Mei-Yi, & Kuei-Mei, 2013). The idea of design phases is associated with a group of actions that guide the process of development. These actions are categorised in phases by shaping each stage of the project and priority levels.

Jeyakanthan (2010) researched on mitigating and understanding delays in road projects funded by donors in Sri Lanka showed that mistakes and omissions in designs contributed to untimely completion of projects. A mixed-method approach was used whilst this study was limited to quantitative methods. The study was descriptive in design and did not explore the nature of relationships and associations between variables. Ika et al. (2012) opined that the design of a project is vital success element for projects financed by the World Bank. Also, the study discovered an alarming outcome during execution; a rise in quantities had a key impact on the project time and represented slightly above half of the delays on the examined projects. This study was conducted on a variety of World Bank projects and did not

exclusively focus on road projects a research gap that this study will fill. Moreover, the study was a cross-country research and this study will only focus on the performance of World bank-funded road projects in Kenya.

Mukuni and Price (2013) study on implementation problems of a donor-financed development project discovered that project design is a critical indicator in the failure or effectiveness of a project. The project was a desk review and did not utilize any primary data to reach its conclusions. The project did not include road projects into its investigation which is an area that this study will focus on. Tato (2017) study on the elements that influence the life of donor-financed water and sanitation projects in Kenya showed that project designs were difficult to replicate or copy and this impacted on the sustainability of donor-funded projects. This project was focused on water and sanitation projects and does not include World Bank road projects which the proposed study aims to do. The study further focused on external environment variables influence on project completion while this study uses internal environment variables and their effects on the timely end of road projects.

Sang (2015) studied the effectiveness of World Bank financed projects in Kenya and uncovered that they had low ratings in regards to successful development because of flaws in the design. This study included macro-environment variables and their effect on donor-funded projects whilst this research uses micro-environment variables in its research. The study used. A logit model was adopted to analyse the relationship between likelihood of sustainability of donor-funded projects which meant that the dependent variable had only two possible outcomes. This study did not focus on the internal factors of timely completion of projects which this study did by examining factors related to the implementing agencies' and their impact on timely completion.

Ondari and Gekara (2013) evaluated the causes of successful conclusion of road projects in Kenya. Design specifications were found to have the largest influence on completion. This study used the sample of Ministry of Roads and affiliated State Corporations' management and technical staff. The study did not include any donor-funded projects in its investigation. Mwanajuma and Ngugi (2014) assessed causes of completion of water projects at the Ministry of water and irrigation, Kenya. The research sought to define the consequence of

stakeholder influence, government policy, organizational structure, and project management skills on water projects' completion. The study found that there was a need for stakeholders to generate accurate designs for the completion of water projects to be successful. This study did not include any donor-funded road projects in its sample and did not focus on timely completion rather focused on project completion of projects.

### 2.3.2 Institutional Environment

The institutional environment comprises the regulative, the cognitive, and normative dimensions (Kumar & Worm, 2011). According to Grewal and Dharwadkar (2002), the institutional environment perspective relies on the primacy of regulatory institutions (laws), normative institutions (professions), and cognitive institutions (habitual actions). Institutional factors (product and service certification, construction regulations, construction permits, standards) are linked to the meso environment. These factors had immense effect on successful execution of construction projects (Gudienėa, Banaitisa, Banaitienėa, & Lopes, 2013).

In Korea, Acharya, Kim, and Lee (2006) researched on determinants of construction projects' timely completion and found that inadequate institutional capacity, lack of user participation, and delegation of authority influenced this timely completion. The sample of the study included owners, consultants, and contractor organizations in the building and construction sector and did not include stakeholders from the road construction sector. The projects included in the sample were privately funded and not donor-funded. Singh (2010) focused on the cost and time overruns among infrastructure projects finding that the institutional and contractual failures were significant causes behind budget and time overruns. World Bank-funded projects were not included but comprised a diverse selection of infrastructure sectors and did not focus on the road sector. The study adopted a desk research approach using econometric analysis and did not use any primary data from surveys which were used in this study.

Nyasetia, Mbabazize, Shukla, and Wander (2016) assessed the influence of institutional factors on timely completion of government externally financed infrastructural projects by the World Bank and African Development Bank (AfDB) in Rwanda. The results showed an

increase in conditions set by a donor often contributed to the completion of infrastructural projects, fund disbursement processes, and procurement processes. State practices and processes resulted in a minimal influence on completion of construction projects. The study included donor-funded projects by two donor institutions that have different institutional environments. This study only focuses on World Bank-funded road projects whilst this study focused on different infrastructure projects.

Ngesa (2012) assessed the effect of institutional determinants on timely completion of World Bank-funded road projects. The research found that the absence of procurement plans, state procurement processes, and poor procurement documentation had a significant result on delays. These institutional factors were grouped into bureaucracy, disbursement procedures in donor institutions, procurement processes both in the government and donor agencies, and pooled funding arrangements. The sample of the study consisted of several implementing agencies and ministry staff. This study only focuses on KeNHA as an implementing agency of donor-funded road projects. The study did not specify how the variable for timely completion was captured.

Nduati (2017) examined the institutional determinants that influenced the Kenya Rural Roads Authority (KeRRA) projects' completion in Ruiru Sub-County. The study found that management structure, resource availability, technological advancement, and bureaucracy influenced completion of KeRRA projects. The institutional resource availability at Ruiru Sub County has a noteworthy impact on the completion of rural roads projects in the area. This study was limited to rural road whilst the proposed study focuses on trunk roads which are World Bank-funded. The study was limited to Ruiru Sub-County whereas this study investigated World Bank-funded projects across the country and implemented by KeNHA.

### 2.3.3 Project Management Training

Project managers work in goal and sensitive motivated environments. A project manager that is successful needs abilities, skills, and additional knowledge. The project management education and training have failed to prepare project management trainees to address the increase in complexities that is today's operating environment (Thomas & Mengel, 2008).

Project management training is categorized into administrative, technical, and interpersonal skills. The ability to comprehend significant aspects of the project is found in technical skills. The project managers' interpersonal skills give direction, dealing with people, problem-solving, and communication, organizing, planning, and controlling work are some of the administrative skills (Thomas & Mengel, 2008).

Gaturu and Muturi (2014) found that the type and quality of training had an impact on the timeliness of a project. They further learned that it is expected that individuals involved in the project should have basic training from institutions of higher learning before embarking on any role. The study deduced that training on project management and timely completion of projects are strongly interrelated. This study was done in the agricultural sector and did not include road projects in the sample. The respondents of the study were from an agricultural donor organisation in the agricultural sector. Tato (2017) study found that training was a significant contributor to the completion of donor-funded projects. This project was focused on water and sanitation projects and excluded World Bank-funded road projects which this study does. The study further focused on external environment variable influence on project completion while this study uses internal environment variables and their effects on timely completion of road projects.

Jeyakanthan and Jayawardane (2012) examined the factors which constrain delays in Sri Lankan road projects and established that training on the job resulted in delays in construction work contributed significantly to the completion of projects. The study adopted a mixed-method approach whilst this study will only use quantitative methods of research. The study was descriptive in design and did not explore the nature of relationships and associations between variables. Ouma (2012) study on what factors affected the effective implementation of World Bank-sponsored Kenyan projects recognized that sensitization and training of beneficiaries resulted in positive implementation of World Bank-sponsored projects. The sample was 21 implementing agencies of World Bank-funded projects whilst this dissertation focuses on a single agency responsible for the implementation of trunk road projects which is KeNHA. The study adopted a descriptive analysis and did not measure the association between independent and dependent variables.

Chirwa, Samwinga, and Shakantu (2010) critically evaluated performance of United Kingdom's sponsored Malawian Education Sector Support Programme (ESSP) infrastructure projects in regards to timely completion. The study found that the absence of proper management training was an important determinant of failure of contractors to implement projects effectively. The study focused on education projects whilst the present study focuses on road projects. Moreover, the study focused on projects funded by the UK government whilst this study focused on World Bank-funded road projects.

### 2.3.4 Project Co-Ordination

Coordination simply means that the exchange of information and resources to realize a set target or outcome. In project management, it refers to management by the project manager (Ika et al., 2012). The National Treasury of Kenya is mandated with the coordination of donor finance and acting as the primary mediator between the foreign aid and the ministries. The Treasury deals with both loans and grants. Also, it is mandated with the soliciting of funds from the Development Partners and at the same time focus on development objectives on behalf of the ministries as indicated by Njeru (2009). With regard to the success of a project, coordination is a crucial element (Ika et al., 2012).

Oganyo (2015) studied the influence of factors implementing externally sponsored projects in Kenya's Ministry of Transport and Infrastructure. One of the study variables was project planning and management skills which were measured with indicators of project the coordination. The results revealed that coordination of the activities of the donor-funded project is poorly managed. The study samples were all donor-funded road projects whilst the present study focuses on World Bank-funded road projects. Kitivi (2011) sought to determine the success of poverty eradication initiatives funded by donors and affirmed the essence of proper communication, decision making, coordination, and knowledge exchange among stakeholders, particularly during stages of planning and designing. The study was limited to development projects and did not include World Bank-funded road projects which the dissertation focused on.

Ekanayakage and Halwatura (2014) examined elements of success among donor-financed projects of internal estate roads within Sri Lanka reported that time-wasting points back to

inadequate coordination due to lack of information – inadequate, inaccurate, late, and inconsistent or a combination of all. The study suggested that good coordination processes are used often in a project. The study moreover suggested that increased coordination and team-building processes be done to complete a project effectively. The study was limited to internal estate roads but the present study will focus on larger road projects focusing on trunk roads.

Alghbari, Razali, Khadir, Azizah, and Ernawati (2007) found that the financial factor and coordination problems were predominant in the Malaysian construction sector as the causes of delay. The research was not specific to road projects but also included building projects which were also not funded by a donor organization. Jeyakanthan and Jayawardane (2012) assert that better synchronization with utility authorities and local governments improves the timely completion of donor-funded projects. A mixed-method approach was applied whilst this study will only use quantitative methods of research. This research was descriptive in design and did not explore the nature of associations between variables.

### 2.3.5 Project Monitoring

The activity of evaluating and monitoring projects adds worth to the general competence of project implementation, management, and planning by giving remedial actions to the differences from the expected standards (Kamau & Humam, 2015). According to Kariuki (2014), monitoring consists of gathering information regularly and analyse these data to establish the projects' progression. Kunwar and Nyandemo (2004) see monitoring of project as a nonstop purpose that involves the day to day processes in the execution of a project. Monitoring is a repetitive measure of project activities as input and the resultant output – procurement, implementation, and delivery plans, resources, adherence and compliance with need achievement and procedures of set targets.

Ika et al. (2012) researched on the key success elements for World Bank-sponsored projects and learned that there was a strong relationship amongst the application of M&E tools and project profile. This study was conducted with a variety of World Bank projects and did not exclusively focus on road projects a research gap that this dissertation filled. Moreover, the

study was a cross-country research and this study will only focus on the performance of World Bank-funded road projects in Kenya.

Kimweli (2013) explored the influence of M&E practices on the effectiveness of donor financed food security intervention programs in Kenya and found that participatory monitoring and evaluation (PM&E) swayed application of donor-funded projects. The sample of the study was food security initiatives and the present study focuses on road projects. Hassan et al. (2016) evaluated survival of externally funded road construction projects in Kenya using the M&E component as independent variables. The study established the monitoring of donor-sponsored road construction projects is essential to quantify and evaluate social, economic, and environmental benefits in societies. The study dedicated to sustainability of donor projects but the present study is limited to timely completion of projects.

Idoro (2012) investigated the effect of control and monitoring plans of expatriate and indigenous Nigerian contractors on project results and found that project control and monitoring influenced projects' outcome. The study was focused on small contractor companies operating in the building and construction sector and thus excluded road projects funded by donor organizations that this study aims to focus on. Murithi, Makokha, and Otieno (2017) assessed government construction projects' timely completion in Trans-Nzoia County and found that close project monitoring is fundamental in delivering timely projects. This researched was limited to road projects sponsored by the county government whereas this dissertation focused on World Bank-funded projects. Maendo, James, and Kamau (2018) examined impact of PM&E on conclusion of road projects implemented by Kenyan companies and found that PM&E had substantial effect on road projects' completion. World Bank-funded road projects were not considered in this study whilst these projects are a focus of this dissertation.

### 2.3.6 Timely Completion

Several variables can be used to assess the timely completion of a project (Kariungi, 2014). Munyoki (2014) listed duration, quality, and cost as parameters of measuring timely

completion. Makori (2015) timely completion of construction projects was measured by baseline reports, schedules of work, and milestones achieved. Ogweno et al (2016) research used several indicators for timely completion which were; completing the project into scope, cost, time, level of performance, satisfaction by end-users, customer acceptance, and meeting expected purpose of a project.

Nyamwange and Nyang'au (2018) research listed timelines, specifications, and cost as indicators for timely completion. According to Nyamwange and Nyang'au (2018), division of projects into stages makes it feasible to direct it to the best outcome. The organisation of a project into stages makes the entire workload of a project manager easier to monitor and control. Using this argument, the researcher conceptualized timely completion of world bank-sponsored projects at KeNHA into project activities, project tasks, project phases, and project schedules.

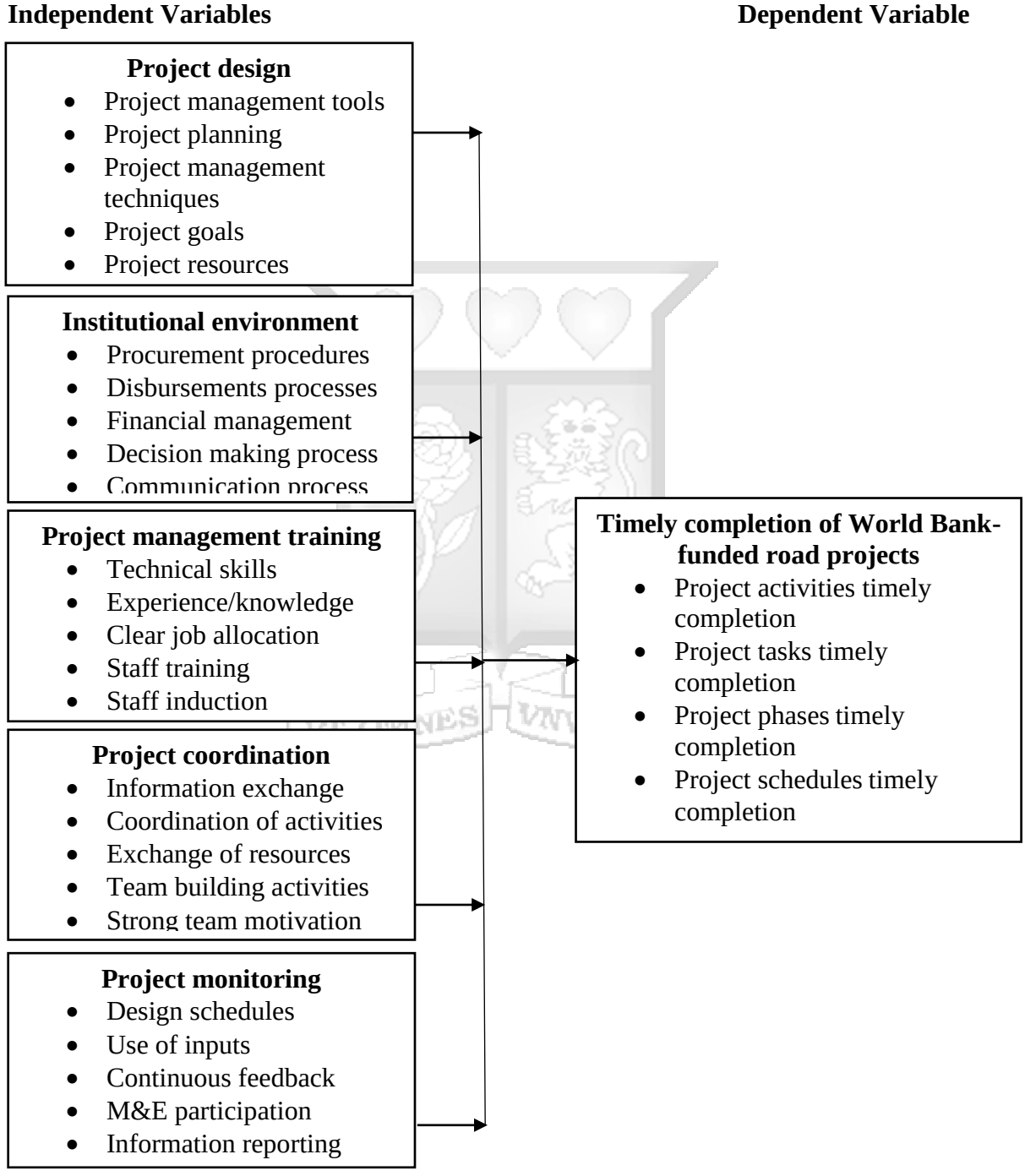
### 2.4 Summary of Literature Review and Research Gap

The evidence shows research that has focused on project design, institutional environment, project management training, project monitoring, project coordination and timely completion of projects. However, there is a paucity of studies exploring influence of these CSFs on timely completion of World Bank road projects at KeNHA. Studies (Ngesa, 2012; Ouma, 2012; Sang, 2015; Tato, 2017) have focused on factors contributing to timely completion of World Bank-sponsored projects but not in the road sector. Authors (Jeyakanthan 2010; Gudienėa et al., 2013; Jeyakanthan & Jayawardane, 2012) explored variables independently but a model approach that considers several variables is adopted in this research. Studies (Ondari & Gekara 2013; Mwanajuma & Ngugi, 2014; Nduati, 2017) used Pearson correlation and multiple linear regression analysis whilst this study adopted Spearman rank correlation to determine rank associations between independent variables and timely completion.

## 2.5 Conceptual Framework

Figure 2.1 shows independent variables for the study and dependent variable for the study is timely completion of projects.

**Figure 2.1: Conceptual framework**



## 2.6 Operationalization of Variables

Table 2.1 shows the operationalization of the study variables and shows the measurement of each variables will be measured.

**Table 2.1: Variable Operationalization**

| Variable | Indicator | Measure | Supporting Literature |
|---|---|---|---|
| Project design | Project management tools<br>Project planning<br>Project management techniques<br>Project goals<br>Project resources | 1=No extent, 2=Slight extent, 3=Moderate extent 4=Great extent | Ika (2009)<br>Yang et al. Kuei-Mei, 2013 |
| Institutional environment | Procurement procedures<br>Disbursements processes<br>Financial management<br>Decision making process<br>Communication process | 1=No extent, 2=Slight extent, 3=Moderate extent 4=Great extent | Gudienėa et al. (2013).<br>Acharya et al. (2006)<br>Singh (2010) |
| Project management training | Technical skills<br>Experience/knowledge<br>Clear job allocation<br>Staff training<br>Staff induction | 1=No extent, 2=Slight extent, 3=Moderate extent, 4=Great extent | Gaturu and Muturi (2014)<br>Tato (2017)<br>Ouma (2012) |
| Project coordination | Information exchange<br>Coordination of activities<br>Exchange of resources<br>Team building activities<br>Strong team motivation | 1=No extent, 2=Slight extent, 3=Moderate extent 4=Great extent | Ika et al. (2012).<br>Oganyo (2015)<br>Kitivi (2011) |
| Project monitoring | Design schedules<br>Use of inputs<br>Continuous feedback<br>M&E participation<br>Information reporting | 1=No extent, 2=Slight extent, 3=Moderate extent 4=Great extent | Kamau & Humam, (2015); Kariuki (2014), |

| | | | |
|---|---|---|---|
| Timely completion **(Dependent Variable)** | Project activities timely completion<br>Project tasks timely completion<br>Project phases timely completion<br>Project schedules timely completion | 1=Not at all Timely, 2=Somewhat Timely, 3=Moderately timely, 4=Good /Timely, 5=Exceeded expectations / completed before time | Otieno (2017); Ngacho & Das, (2014); |

**Source: Researcher (2020)**

# CHAPTER THREE
# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter outlined and justified the research methods and techniques the study adopted to conduct this research. The chapter is presented in sections: research design, data collection, population and sampling, ethical issues in research, quality of research, and data analysis.

## 3.2 Research Philosophy

A large number of research philosophies have been proposed, nevertheless, Sefotho (2015) suggests that exists three major research philosophies: interpretivism, critical, and positivist. Tashakkori and Teddlie (2003), on the other hand, proposed the pragmatic philosophy that borrowed elements from critical, positivist, and interpretivism philosophes (Kivunja & Kuyini, 2017). The aim of interpretivist research is to comprehend the personal experiences of individuals by getting into the thinking of subjects' under study in an attempt to interpret and understand what the respondent thinks or the meanings that s/he is creating of the context (Kivunja & Kuyini, 2017). A critical researcher locates their investigation towars issues of social justice and focuses on addressing the political, economic, and social issues that contribute to power struggles, social oppressions, and conflict at any level that these may occur (Mertens, 2015).

The proponents of the pragmatic research philosophy argue that there is a need for a world view that provides a researcher with an option to select methods suited to the problem under study (Kivunja & Kuyini, 2017). A researcher prescribing to the pragmatic philosophy looks for research techniques and approaches that are practical and that allow a mix of methods that used together can provide a deeper understanding or participants' behaviour, beliefs, and consequences of these behaviours (Mertens, 2015). The study adopted a pragmatic approach as the researcher combined qualitative and quantitative approaches to data collection and analysis. A key informant interview guide and structured questionnaire were utilised to collection information which was analysed by statistical analysis and content analysis.

### 3.3 Research Design

A descriptive research design was adopted as it allows an investigator to collect data, interpret, summarize, and present for the motivation of clarifying a position (Orodho, 2003). Mugenda and Mugenda (2019) see descriptive research as a design that aims to report and determine the status quo. The approach seeks to explain, define, and interpret the current states, in other words, 'what is'. The goal of this approach is to explore an occurrence happening at a particular place and time. Descriptive research emphasizes the practices, conditions, frameworks, relationships, or variations, perceptions, and ongoing processes. Descriptive research can use either qualitative or quantitative approaches. In this dissertation, both qualitative and quantitative approaches were adopted in collecting and analysing data (Cohen, Manion, & Morrison, 2011).

The study used a descriptive survey whose aim is to interrogate an occurrence of a particular place and time. Descriptive studies are focused on structures, conditions, practices, or differences, or relationships that exist, held opinions, procedures that are happening, and trends that are observable (Gravetter & Forzano, 2012). This study aimed to measure the strength and association of critical success factors (project design, institutional environment, project management training, project coordination, project monitoring) and timely completion of World Bank-sponsored road projects. The dissertation fits a descriptive research as it focused on project management practices, the conditions for implementing World Bank-sponsored road projects in Kenya, opinions of project staff engaged in road projects implementation, and relations among CSFs and timely completion.

### 3.3 Population and Sampling

#### 3.3.1 Target Population

A population is all the individuals or units of interest (Lavrakas, 2008). In this case, the population for the study was donor-funded road projects. On the other hand, a target population is considered as the whole gathering of people or elements which the researcher desires to generalize (Lavrakas, 2008). This study's target population was staff involved in implementing 340 World Bank-funded road projects implemented by KeNHA.

### 3.3.2 Sampling Technique

The study used non-probability sampling procedure which relies on the discretion of the researcher to select the units of analysis and units of observation. The units of observation were 20 World Bank-funded road projects being executed by KeNHA selected purposively as the trunk road projects whose project staff was readily identifiable and reachable. The unit of analysis was 52 key staff and World Bank officials involved in execution of these trunk road projects as summarized in Table 3.1 who were selected using purposive sampling. These respondents were selected owing to the knowledge and level of involvement in the the execution of these projects. Purposive sampling involves the selection of units when you seek to hand-pick cases that are predominantly informative for the research aim. This method is utilised simply for unique purposes (Singh & Masuku, 2014).

**Table 3.1: Sample Size**

| Respondent category | Population |
|---|---|
| KeNHA project managers | 6 |
| Resident Engineers | 20 |
| World Bank Projects coordinator (Ministry of Roads) | 2 |
| Director Development, KeNHA | 1 |
| World Bank team leaders | 3 |
| World Bank desk officer, ministry of finance | 1 |
| Deputy Directors/Assist Directors, KeNHA | 8 |
| Consultant Project Directors | 5 |
| Director, Finance, KeNHA | 1 |
| Deputy Director-procurement, KeNHA | 1 |
| Private Contractors | 4 |
| **Total** | **52** |

**Source: KeNHA (2018)**

### 3.4 Data Collection

The collection of information from respondents to answer research questions is referred to as data collection. Mesly (2015) opined that adhering information may be reached via a primary source or a secondary source (Douglas, 2015). The study used primary and secondary data sources. Project stakeholders of sampled road projects were the sources of primary data, secondary data was retrieved from project documentation of sampled projects on their status and level of completion against timelines. A questionnaire was used to gather the primary

data. A questionnaire is a primary source of data which is considered as an observational approach that consist to a set of statements that are presented to a person to respond in writing and are required to select items by ticking one they consider appropriate (Ajayi, 2017).

The questionnaire (Appendix I) consisted of seven sections. These were on respondents' demographic information, sections on project design, institutional environment, project management training, project coordination, project monitoring, and timely completion of projects. The questionnaire comprised of close-ended items for the demographic information and Likert scale items where participants were requested to show levels of agreement on a 1-4 scale (no extent to a great extent).

A Key informant interviews guide was adopted to collect information from respondents who possess in-depth knowledge of the issue under investigation. The key informant interviews were conducted with World Bank's Lead Transport Economist and Transportation Engineer. A semi-structured key informant interview schedule (Appendix II) was used. The advantage of a semi-structured guide is to allow the researcher to be able to probe for answers from study participants revolving around the objectives of the study. Key informant information was used to support the quantitative findings from the questionnaires. The key informant data was more insightful in explaining the different parameters that were captured in the questionnaire.

The secondary data was retrieved from the World Bank website which showed the status of road projects implemented by KeNHA. Secondary data is useful for supporting the primary data and this also a means of enhancing the reliability of the study. The study also relied on information from secondary data from KeNHA (Appendix III) and reviewed the literature to support the primary data (Ajayi, 2017).

### 3.5 Quality of Research

#### 3.5.1 Validity

The numerical accuracy, representativeness, and reliability of the results of research are referred to as validity. There are three forms of validity in research: construct validity refers

to the success in constructing external criteria to measure unobservable traits, like various mental states and predispositions. External validity is the likelihood of inferring the results of several studies to settings and contexts than the setting in which those studies were made. On the other hand, internal validity is the likelihood of deducing a cause and effect association between the measure that is assessed and the response variable which it is intended to affect (Chakrabartty, 2013). The validity was established by developing constructs from previous studies presented in the reviewed literature.

### 3.5.2 Reliability

A pilot study was undertaken to among five (5) respondents from the sample who was not targeted in the final sample size of the actual study. Instrument reliability was established by measuring the Cronbach's Alpha of the statements. The study sought to have Cronbach Alpha of more than 0.7 which is recommended (Taber, 2017). Table 3.2 indicates that the instrument met the threshold of 0.7 with a reliability score of 0.736.

**Table 3.2: Cronbach Alpha Results**

| Items | Cronbach's Alpha | N of Items |
|---|---|---|
| Project design | 0.529 | 5 |
| Institutional environment | 0.521 | 5 |
| Project management training | 0.652 | 5 |
| Project coordination | 0.564 | 5 |
| Project Monitoring | 0.694 | 5 |
| Timely completion | 0.722 | 4 |
| **Instrument Reliability** | **0.736** | **29** |

### 3.6 Data Analysis

Schostak and Schostak (2008) agree that there are two major approaches in analysing data. The data collected for this study was of quantitative and qualitative nature and therefore quantitative and qualitative data scrutiny systems were applied. Quantitative research aims to gather mathematical data and taking a broad view in explaining a particular phenomenon or across groups of people (Labaree, 2004). The study proposed to use the descriptive and inferential statistical tools to analyse quantitative data. Descriptive statistics summarize data to describe what is happening in the sample. Descriptive statistics are useful in comparing different study samples. These descriptive statistics assist researchers to observe the

characteristics of a sample that may affect their conclusions (Thompson, & Panacek, 2006). Frequency distributions, mean, and standard deviation were used in this dissertation. Inferential statistics are statistics that enable the researcher to determine if there exist any differences between responses and aim to establish if there are differences in the populations (Thompson & Panacek, 2006).

The study used Spearman's rank correlation coefficient which estimates the direction and strength of links between two or more ranked variables. Spearman rank correlation is used when the data is on the ordinal scale where respondents were asked to show their levels of agreement. Content analysis was adopted in analysing the qualitative information to support the quantitative data which will be done thematically to the research objectives. Tables and figures were used to present quantitative data whilst qualitative data was presented in verbatim.

### 3.7 Ethical Issues in Research

The researcher paid attention to the ethical issues of informed consent, the confidentiality of information provided, the anonymity of respondents, and voluntary nature of participation in the study. Anonymity and confidentiality were established by making sure that information collected is used in a manner that no other person except the researcher identifies the source. The respondents were made aware of their right to not participate or pull out from the data collection at any time and this was narrated to them before engagement to the study. The researcher sought permission for respondents to include them in the study. Furthermore, an introductory letter was attached to the questionnaire detailing the objectives of the study, guaranteeing anonymity, voluntary nature and confidentiality of the study. Along with this, a research license was acquired from the National Commission for Science, Technology, and Innovation (NACOSTI) and ethical approval from Strathmore University Institutional Ethics Review Committee (SU-IERC).

# CHAPTER FOUR

# PRESENTATION OF RESEARCH FINDINGS

## 4.1 Introduction

This chapter is a culmination of the data collection and analysis and is a presentation of the findings in figures and tables. The chapter consists of a section on the study's response rate, sample characteristics of respondents, descriptive findings for each of the objectives, and a section on Spearman's correlation analysis results. The quantitative data is triangulated with the qualitative information from the interviews with two key informants. This qualitative data is presented in prose to support the quantitative data.

## 4.2 Response Rate

Response rate refers to the number of responses to a survey that is taken against by the number of persons the survey was administered (Groves, 2006). Out of the 52 questionnaires administered, the study was able to receive back 51 questionnaires which were used in the analysis. This represented a response rate of 98 % which is regarded as a very good response rate (Mugenda & Mugenda, 2019).

## 4.3 Sample Characteristics

The study was interested in the sample features of participants who participated in this research. In this effort, the gender, education level, positions, and working experience of respondents are presented in this section.

### 4.3.1 Gender

In regard to their gender, the findings show that male respondents were the largest representation of the sample with 88.2 % with their female counterparts accounting for 11.8 % of the sample as shown in Figure 4.1. Furthermore, a great number of infrastructure-related engineering projects are dominated by male staffs in the country and beyond.

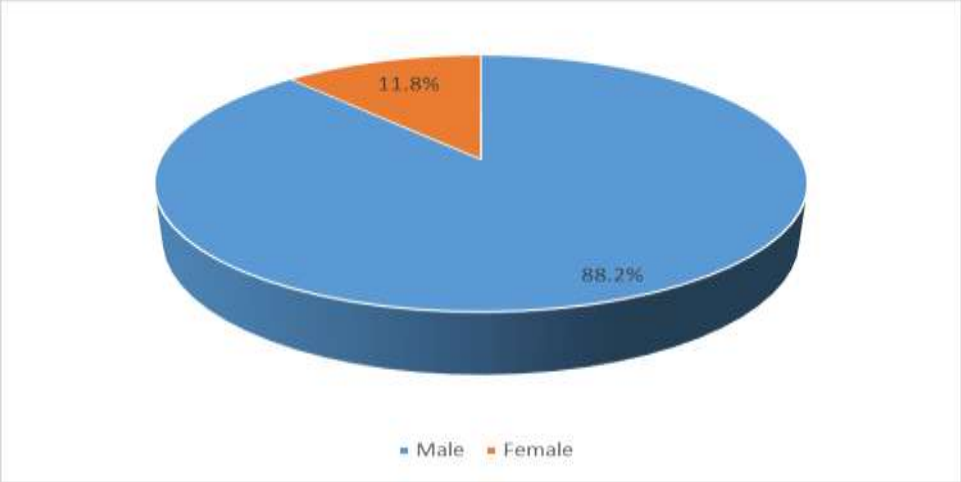



**Figure 4.1: Gender of Respondents**

### 4.3.2 Education Level

Figure 4.2 shows the education levels among the respondents which indicate that respondent's education level fell among bachelor and postgraduate degree holders with more respondents having postgraduate degrees accounted for 66.7 % and those with bachelor's degrees representing 33.3 % of the sample. This finding can be attributed to the fact that the engineering profession requires a minimum of a bachelor's degree qualification with respondents pursuing further educational qualifications in postgraduate degrees.

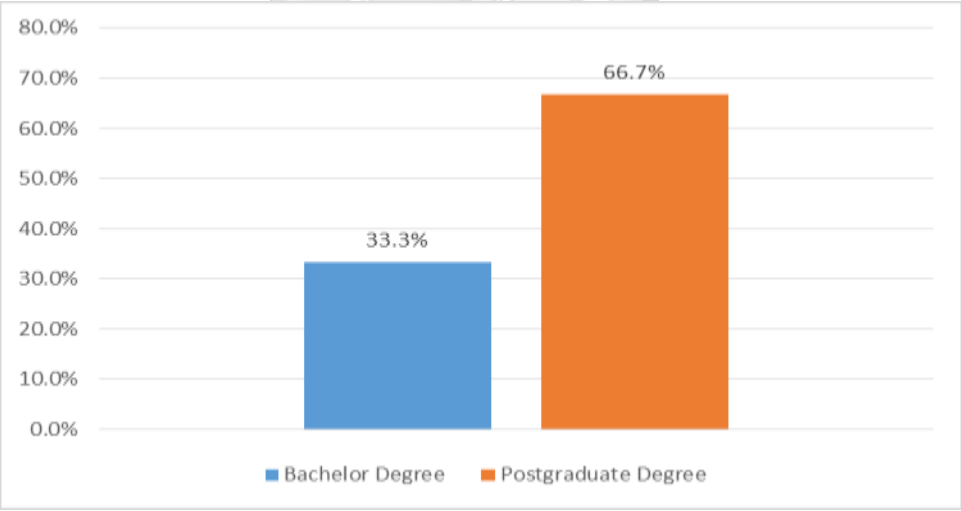



**Figure 4.2: Respondents' Education Level**

### 4.3.3 Respondents' Position

The study was interested in establishing the positions of the respondents in the selected projects. As expected, resident engineers were the most accessed respondents represented at 40.0 %, followed by deputy directors (15.0 %), KeNHA project managers (11.0 %), consultant project directors (10.0 %). private contractors, World Bank Team leaders accounted for 6.0 % of the sample as shown in Figure 4.3.

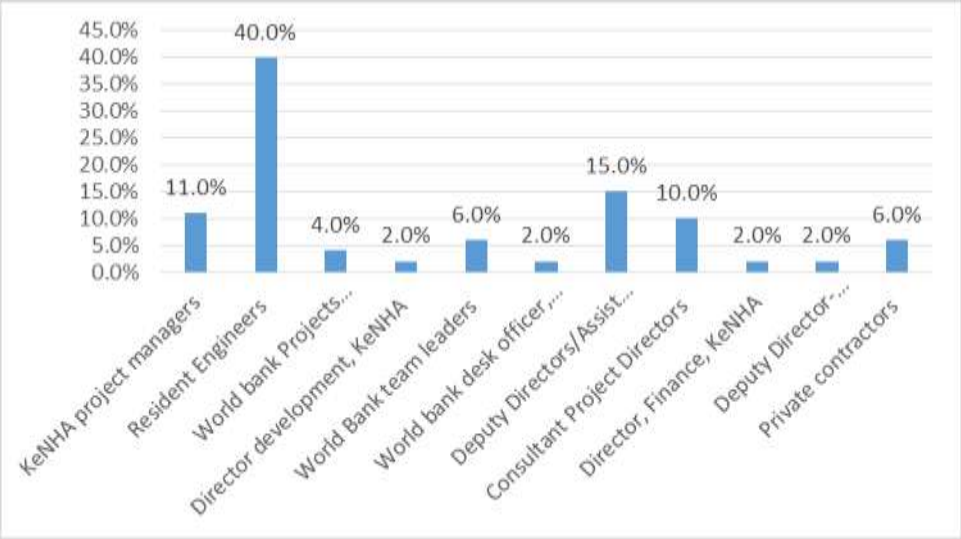



**Figure 4.3: Respondents' Position in Project**

### 4.3.4 Working Experience

In reference to their working experience in their current positions, 33.3 % of respondents had 11-20 years' experience, 31.4 % respondents had 21-30 years' experience, 21.6 % had 31-40 years' experience, and 13.7 % had 1-10 years' experience as seen in Figure 4.4. The findings indicate that a majority of respondents had more than 10 years' experience thus indicating validity in the study findings.

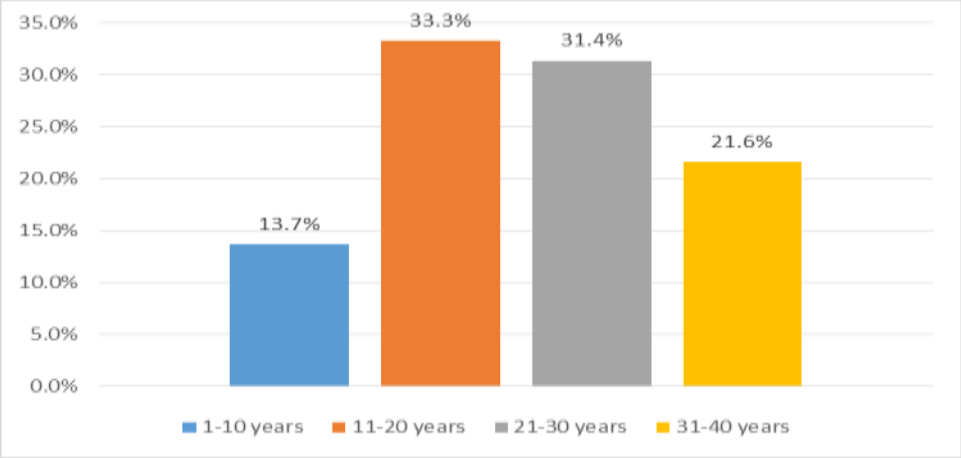



**Figure 4.4: Respondents' Working Experience**

### 4.3.5 Influence of Respondent Demographics on Variables

Table 4.1 shows a summary One-way analysis of variance results for the gender, working experience, and education level of respondents on the independent variables. The findings show that there were no statistically significant differences in the means between gender and working experience and the independent variables. However, there was a statistically significant difference between the educational levels in terms of project monitoring ($F$ (3, 47) = 5.0650, $p$ = 0.029).

**Table 4.1: Demographic Factors Influence on Timely Completion Factors**

| **Gender** | **Sum of Squares** | **df** | **Mean Square** | **F** | **Sig.** |
|---|---|---|---|---|---|
| Project Design | 0.097 | 1 | 0.097 | 0.458 | 0.502 |
| Institutional Environment | 0.018 | 1 | 0.018 | 0.090 | 0.765 |
| Project Management | 0.389 | 1 | 0.389 | 1.577 | 0.215 |
| Project Coordination | 0.001 | 1 | 0.001 | 0.007 | 0.932 |
| Project Monitoring | 0.114 | 1 | 0.114 | 0.498 | 0.484 |
| **Working experience** | | | | | |
| Project Design | 0.447 | 3 | 0.149 | 0.696 | 0.559 |
| Institutional Environment | 0.774 | 3 | 0.258 | 1.375 | 0.262 |
| Project Management | 0.592 | 3 | 0.197 | 0.781 | 0.511 |
| Project Coordination | 0.675 | 3 | 0.225 | 1.366 | 0.265 |
| Project Monitoring | 1.078 | 3 | 0.359 | 1.649 | 0.191 |
| **Education level** | | | | | |
| Project Design | 0.245 | 1 | 0.245 | 1.1710 | 0.284 |
| Institutional Environment | 0.010 | 1 | 0.010 | 0.0500 | 0.824 |
| Project Management | 0.537 | 1 | 0.537 | 2.2020 | 0.144 |
| Project Coordination | 0.377 | 1 | 0.377 | 2.2960 | 0.136 |
| Project Monitoring | 1.060 | 1 | 1.060 | 5.0650 | 0.029 |

### 4.4. Effect of Project Design on Timely Completion of World Bank-funded Road Projects

Determining the effect of project design on timely completion of World Bank-funded road projects was the first aim of the study. A 4 – point Likert scale was developed which asked respondents to indicate to what extent project design factors were implemented in the course of the project. Table 4.2 shows that the overall mean score for these statements was 3.29 and a standard deviation of 0.746.

**Table 4.2: Descriptive Statistics for Project Design**

| Project design statements | N | Mean | Std. Deviation |
|---|---|---|---|
| The project team adopted several project management tools in the course of the project | 51 | 3.10 | 0.806 |
| The project team members and users were engaged in project planning for the project | 51 | 3.37 | 0.662 |
| The project team used several project management techniques to deliver the project | 51 | 3.18 | 0.793 |
| Project goals were clearly articulated and understood by stakeholders | 51 | 3.35 | 0.688 |
| The project had sufficient resources (human, financial, and equipment) to perform proposed work. | 51 | 3.43 | 0.781 |
| | | **3.29** | **0.746** |

**Source: Survey (2020)**

This finding implies that project design factors influenced timely completion to a moderate extent. The findings further show that the project team adopted several project management tools in the course of the project and the project team used several project management techniques to deliver the project were the elements of the project design that had the least effects on timely completion. Qualitative information from the key informants also indicated some of the project design factors that contributed to the timely contribution of World bank-funded projects. According to Key informant one;

> *The quality of detailed engineering designs is below the required standards leading to not only delayed commencement of works to allow for the updating of the designs but also to cost overruns due to revisions in design arising from either omission of some items or underestimation of the scope of works. All these contribute to the protraction of completion of works.*

Key informant two further added that;

> *In some cases, designs are either considered not completed by the time project financing is approved or obsolete when procurement of works is being undertaken. Hence part of the implementation period is taken up completing detailed designs before commencing the bidding process or undertaking design reviews post procurement of works hence requiring a much longer period to complete the works.*

### 4.5 Effect of Institutional Environment on Timely Completion of World Bank-funded Road Projects

Determining the effect of institutional environment on timely completion of World Bank-funded road projects was the second aim of the study. A 4 – point Likert scale was developed which asked respondents to indicate to what extent institutional environment factors were implemented in the course of the project. The overall mean score for these statements was 3.38 and a standard deviation of 0.752 which means that institutional environment factors were prominent in the projects to a moderate extent as shown in Table 4.3.

**Table 4.3: Descriptive Statistics for Institutional Environment**

| Institutional environment statements | N | Mean | Std. Deviation |
|---|---|---|---|
| Procurement procedures and efficiency influences completion of the highway road projects | 51 | 3.61 | 0.635 |
| Steps involved in disbursements from contract signing to the actual disbursement impact negatively to project timelines | 51 | 3.27 | 0.850 |
| Financial Management Procedures leads to delays in road project implementation and completion | 51 | 3.24 | 0.862 |
| Slow decision making and executive bureaucracy delay project completion | 51 | 3.57 | 0.608 |
| Lengthy Communication on the fund flow process influence project completion | 51 | 3.24 | 0.839 |
| | | **3.38** | **0.752** |

**Source: Survey (2020)**

The findings further reveal that procurement procedures and efficiency influences completion of the highway road projects was the highest-ranked factor with a mean of 3.61 and standard deviation of 0.635 which suggests that procurement procedures were the most ranked institutional factors during implementation of World Bank-funded road projects as shown in Table 4.2. Financial management procedures and lengthy communications had a slight effect on project completion. This suggests that financial management and communication was

efficient. However, key informants revealed that there existed challenges in the institutional environment of implementing World bank-funded projects. According to key informant two;

> *There exists a major disconnect between budget allocation and execution of scheduled or program of works. Either GoK fails to allocate budgets even when funds are available, or the budget allocated is inadequate to cover programmed works. These lead to either contractor slowing down or suspend works or in some cases terminate works all of which contribute to an increase in project costs.*

Key informant one further added that;

> *There is weak management of procurement processes, where it takes a long time to invite, evaluate, and award contracts. For instance, there are cases where selection works supervision consultants can take up to three years.*

### 4.6 Effect of Project Management Training on Timely Completion of World Bank-funded Road Projects

Determining the effect of project management training on timely completion of World bank-funded road projects was the third objective of the study. A 4 – point Likert scale was developed which asked respondents to indicate to what extent project management training factors were implemented in the course of the project. Table 4.4 shows that the overall mean score for project management training was 3.36 and a standard deviation of 0.638.

**Table 4.4: Descriptive Statistics for Project Management Training**

| Project management training statements | N | Mean | Std. Deviation |
|---|---|---|---|
| Technical skill is critical determinant of how project activities are carried out | 51 | 3.92 | 0.272 |
| Project staff have relevant experience or knowledge about the technology required by the project | 51 | 3.59 | 0.572 |
| Human resources on the project have clear job allocation and designation befitting their expertise. | 51 | 3.53 | 0.644 |
| Human resource on the project are trained regularly on project management | 51 | 2.84 | 0.834 |
| Human resource on the project undergo training and induction process | 51 | 2.92 | 0.868 |
| | | **3.36** | **0.638** |

**Source: Survey (2020)**

This finding denotes that project management training had a moderate influence on the timely completion of road projects funded by the World Bank. The findings show project management training factors that had the least influence on timely completion of projects was a human resource on the project are trained regularly on project management (M = 2.84, SD = 0.834) and human resource on project undergo training and induction process into project teams (M = 2.92, SD = 0.868). The interviewees revealed that there were other factors of project management training that affected the timely completion of projects that were not captured in the instrument. These included staff turnover, staff being involved in several projects at the same time, and lack of training in environmental and social issues that affect road projects.

According to key informant one;

> *we experience frequent high project staff turnover which contributes to slowing down execution of works as the new staff requires training before being introduced into project teams which leads to time overruns. Some employees are not dedicated to World Bank-financed projects but involved in many other tasks and are also not fully empowered to make day-to-day decisions affecting project implementation. Project staffs in most instances are engineers and therefore should be trained on the management of environmental and social issues in projects.*

### 4.7 Effect of Project Coordination on Timely Completion of World Bank-funded Road Projects

Determining the effect of project coordination on timely completion of World Bank-funded road projects was the fourth objective of the study. A 4 – point Likert scale was developed which asked respondents to indicate to what extent project coordination factors were implemented in the project cycle. The findings show that a mean score of 3.11 and a standard deviation of 0.687 were found. This finding suggests that project coordination influenced project implementation to a moderate extent as shown in Table 4.5. An examination of the individual statements shows that the highest-ranked statement was there was adequate coordination of the project activities during the course of its implementation (M = 3.69, SD = 0.469).

**Table 4.5: Descriptive Statistics for Project Coordination**

| Project coordination statements | N | Mean | Std. Deviation |
|---|---|---|---|
| There was exchange of information during the implementation of the project | 51 | 3.41 | 0.606 |
| There was adequate coordination of the project activities during the course of its implementation | 51 | 3.69 | 0.469 |
| There was a coordinated exchange of resources during the implementation of the project | 51 | 2.82 | 0.713 |
| There were team building activities for the project team before and during the project implementation | 51 | 2.27 | 0.874 |
| There was strong coordination and motivation between contractor level and consultant level | 51 | 3.37 | 0.774 |
| | | **3.11** | **0.687** |

**Source: Survey (2020)**

This finding implies that coordination of activities was a major factor for the implementation of the project. The results further indicate that team building activities for project teams before and during the project implementation was the least ranked factor implying that team building activities were adequately undertaken during the project cycle. The qualitative findings revealed that there was specific coordination of activities, resources, and information exchange factors that contributed to the timely completion of projects. According to key informant two;

> *In the course of implementing projects, we experience Inadequate funding for land acquisition and resettlement thereby delaying possession of sites by contractors hence need for longer implementation periods. Another coordination issue is land acquisition and resettlement issues are not addressed prior to commencement of works but during the execution of the same. For example, we have cases where contractors are on the ground but have no possession of sites.*

Key informant one further added that;

> *During project implementation, relocation of services (water and sewer lines, power lines, fiber optic cables) is carried out during the execution of and not prior to the commencement of works. Moreover, in some cases, projects are approved on the basis of designs done years back which requires an upgrade of environmental and social impact assessment studies.*

### 4.8 Effect of Project Monitoring on Timely Completion of World Bank-funded Road Projects

Determining the effect of project monitoring on timely completion of World Bank-funded road projects was the fifth aim of the study. A 4 – point Likert scale was developed which asked respondents to indicate to what extent project monitoring factors were implemented in the project cycle. The results show the overall mean score for these statements was 3.26 and a standard deviation of 0.667. The finding suggests project monitoring factors had a moderate effect on the implementation of sampled road projects as seen in Table 4.6.

The findings indicate that the least ranked project monitoring statement was stakeholders optimized their participation in M&E of the project with a mean score of 2.69 and a standard deviation of 0.927 which submits there was adequate stakeholder participation in M&E during the project cycle. Further examination of each statement shows that continuous assessment of project implementation in relation to design schedules had a moderate effect on the implementation of projects and this had an effect on its timely completion.

**Table 4.6: Descriptive Statistics for Project Monitoring**

| Project monitoring statements | N | Mean | Std. Deviation |
|---|---|---|---|
| There was continuous assessment of project implementation in relation to design schedules | 51 | 3.65 | 0.559 |
| There was continuous assessment of project implementation in relation to use of inputs | 51 | 3.37 | 0.599 |
| Project management provided managers and stakeholders with continuous feedback on implementation | 51 | 3.35 | 0.658 |
| Stakeholders optimized their participation in monitoring and evaluation of the project | 51 | 2.69 | 0.927 |
| There was recording and reporting information concerning any or all aspects of the project | 51 | 3.25 | 0.595 |
| | | **3.26** | **0.667** |

**Source: Survey (2020)**

### 4.9 Timely Completion

The dependent variable for the study was timely completion and was measured by four statements on the completion level according to project activities, project tasks, project phases, and project schedule where respondents were asked to rate the completion of projects according to these parameters. Table 4.7 presented descriptive statistics for timely

completion of projects which show that the overall mean score was 2.45 and a standard deviation of 1.118. This result means that respondents' perception was that there was a somewhat timely of projects which were the second-lowest ranked form of ranking. The findings also show that project phases and projects schedules were the least ranked items by respondents followed by project tasks and project activities. The findings suggest that there was late completion of these phases of the project cycle.

**Table 4.7: Descriptive Statistics for Timely Completion**

| Timely completion statements | N | Mean | Std. Deviation |
|---|---|---|---|
| Project activities were completed in time | 51 | 2.63 | 1.113 |
| Project tasks were completed in time | 51 | 2.61 | 1.168 |
| Project phases were completed in time | 51 | 2.22 | 1.119 |
| Project schedules were achieved in the project | 51 | 2.33 | 1.071 |
| | | **2.45** | **1.118** |

**Source: Survey (2020)**

### 4.10 Spearman's Rank – Order Correlation

The objective of the study was to determine the effects of project design, institutional environment, project management training, project coordination, and project monitoring on the timely completion of projects by seeking perceptions of respondents. In order to conduct Spearman's rank correlation, each of the variables was computed by calculating a mean score for each of the variable statements to create a new variable that was used to conduct the rank correlation. According to Agresti (2007), Spearman's correlation analysis is one of the methods that can be employed to test the strength of perceptions data which is in ordinal form. Table 4.8 indicates that project design ($r_s = 0.170$, $p = 0.034$), institutional environment ($r_s = 0.087$, $p = 0.044$), project management training ($r_s = 0.108$, $p = 0.049$), project coordination ($r_s = 0.259$, $p = 0.007$), and project monitoring ($r_s = 0.154$, $p = 0.000$) all had a positive and statistically significant correlation with timely completion of projects. These findings indicated that the rank order of critical success factors for timely completion was project coordination, project design, project monitoring, project management training, and institutional environment.

**Table 4.8: Spearman Correlation Coefficient Results**

| | | Project Design | Institutional Environment | Project Management Training | Project Coordination | Project Monitoring |
|---|---|---|---|---|---|---|
| Project Design | Spearman Correlation | 1 | | | | |
| | Sig. (2-tailed) | | | | | |
| Institutional Environment | Spearman Correlation | -.232 | 1 | | | |
| | Sig. (2-tailed) | .101 | | | | |
| Project Management Training | Spearman Correlation | .378** | -.186 | 1 | | |
| | Sig. (2-tailed) | .006 | .192 | | | |
| Project Coordination | Spearman Correlation | .240 | .219 | .447** | 1 | |
| | Sig. (2-tailed) | .089 | .122 | .001 | | |
| Project Monitoring | Spearman Correlation | .444** | -.064 | .381** | .409** | 1 |
| | Sig. (2-tailed) | .001 | .654 | .006 | .003 | |
| Timely Completion | Spearman Correlation | .170 | .087 | .108 | .259 | .154 |
| | Sig. (2-tailed) | .034 | .044 | .049 | .007 | .000 |

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

The results show that among the factors considered, that project coordination had the highest rank association with timely completion of World Bank-funded road projects. This was followed by project design, project monitoring, project management training, and institutional environment. These findings suggest that the most important factors were in a project's life cycle with one factor (institutional environment) had the least association timely completion was a variable external to a project life cycle. This finding indicates that critical success factors for timely completion of World Bank-funded road projects are internal to the life cycle, but they require an institutional environment that is supportive.

### 4.11. Summary of Findings

This chapter presented the findings from the analysis in figures and tables. The Spearman's correlation analysis indicates that project coordination had the highest rank association with timely completion of World Bank-funded road projects followed by project design, project monitoring, project management training, and institutional environment.

# CHAPTER FIVE

# DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

This chapter presents the discussion, conclusion, and recommendations of the study. The discussion, conclusion, and recommendations are presented in line with the research objectives. The chapter also presents areas of future research.

## 5.2 Discussion

### 5.2.1 Effect of project design on timely completion of World Bank-funded road construction projects at KeNHA

Determining the effect of project design on timely completion of World Bank-funded road projects was the first aim of the study. The descriptive findings indicated that respondents indicated that project design had a moderate extent on timely completion of projects. The rank-order correlation coefficient revealed that project design was the second-ranked factor that affected the timely completion of World Bank-funded road projects. According to Ika (2009), client consultation, project mission, and project design phase are some of the most important factors. The various perspectives make sure that all factors are considered before the design phase of an infrastructure project.

This finding support past studies that have attributed the delay of construction projects to project design problems. For example, Jeyakanthan (2010) study on mitigating delays in road projects funded by donors in Sri Lanka and found that mistakes and omissions in designs contributed to untimely completion of projects. Sang (2015) research on the effectiveness of projects financed by the World Bank in Kenya and uncovered that they had low ratings in regards to successful development because of flaws in the design. Tato (2017) study on the life of donor-financed water and sanitation projects in Kenya showed that project designs were difficult to replicate or copy and this affected the sustainability of donor-funded projects. Mukuni and Price (2013) study on implementation problems of a donor-financed development project discovered that project design tends to play a key role in the failure or effectiveness of a project. This problem can be alleviated by enhancing consultations between the different stakeholders in the project design phase.

### 5.2.2 Effect of Institutional Environment on Timely Completion of World Bank-funded Road Construction Projects at KeNHA

Determining the effect of institutional environment on timely completion of World Bank-funded road projects was the second aim of the study. The descriptive results indicated that institutional environment aspects influenced timely completion to a moderate extent. Institutional environment was the least ranked factor for timely completion of World Bank-funded road projects. This finding corroborates past studies that found untimely completion of projects was associated with institutional capacity. For example, Acharya, Kim, and Lee's (2006) study in Korea found that inadequate institutional capacity, lack of user participation, and delegation of authority influenced this timely completion.

This finding is also supported by Nyasetia, Mbabazize, Shukla, and Wander's (2016) research in Rwanda which evaluated the influence of institutional factors on timely completion of government externally financed infrastructure projects by World Bank and African Development Banks (AfDB) and found that an increase in conditions set by a donor often contributed to the completion of infrastructure projects, followed by procurement processes, and funds disbursement processes. Similarly, Ngesa (2012) assessment institutional factors in the timely completion of World Bank infrastructure projects and found that government procurement procedures, poor procurement documentation, and absences of procurement plans contributed to delays in the timely completion of road construction projects. World Bank-funded projects involve two major stakeholders, the bank and the receiving government. These two institutions have a different operating environment that determines how these projects are implemented. This calls for inclusion or consideration of these factors in project implementation and this can only be done by adopting a stakeholder theory in the life cycle of a project.

### 5.2.3 Effect of Project Management Training on Timely Completion of World Bank-funded Road Construction Projects at KeNHA

Determining the effect of project management training on timely completion of World bank-funded road projects was the third objective of the study. The descriptive results indicated that project management training had a moderate extent on timely completion. Project

management training was ranked fourth in influencing the timely completion of World bank-funded road projects. This finding corroborates Tato's (2017) study which found that project training was a significant contributor to completion of donor-funded projects.

Jeyakanthan and Jayawardane (2012) research in Sri Lanka found that on-the-job training held in construction work contributed significantly to the timely completion of projects. Ouma (2012) study on effective implementation of World Bank-funded projects in Kenya established that sensitization and training of beneficiaries contributed to the successful implementation of World Bank-funded projects. One of the successful implementation criteria of projects is timely completion. Gaturu and Muturi's (2014) study on factors affecting the timeliness of completion of donor-funded projects in Kenya found that the type and quality of training had an impact on the timeliness of a project. They further deduced that training on project management and timely completion of projects are strongly interrelated. Thus, training for project management staff is supported by stakeholder theory which argues for the consideration of the needs of each party involved in a project. The World Bank had the technical capacity to support skills training for project staff in the government and this calls for the analysis of needs of parties in the implementation of a project supporting the need for stakeholder theory.

### 5.2.4 Effect of Project Coordination on Timely Completion of World bank-funded Road Construction Projects at KeNHA

Determining the effect of project coordination on timely completion of World Bank-funded road projects was the fourth objective of the study. The descriptive results indicated that project coordination had a moderate extent on timely completion. Project coordination was ranked as the most critical success factor influencing the timely completion of World Bank-funded road projects. This research finding agrees with that of Ekanayakage and Halwatura (2014) study in Sri Lanka which examined elements of success among donor-financed projects of internal estate roads and confirmed that time-wasting points back to inadequate coordination due to lack of information – inadequate, inaccurate, late, and inconsistent or a combination of all.

Jeyakanthan and Jayawardane (2012) asserted that better coordination with utility authorities and local governments improves timely completion of donor-funded projects. Alghbari, Razali, Khadir, Azizah, and Ernawati (2007) found that coordination problems were predominant in the Malaysian construction industry as the causes of delay. Oganyo (2015) study on factors influencing the implementation of donor-funded projects in the ministry of transport and infrastructure found that coordination of the activities of the donor-funded projects were poorly managed. Stakeholder theory calls for communication and information sharing during the life cycle of a project. The findings indicate that project coordination was ranked highly and therefore indicates the significance of stakeholder theory.

### 5.2.5 Effect of Project Monitoring on Timely Completion of World Bank-funded Road Construction Projects at KeNHA

Determining the effect of project monitoring on timely completion of World Bank-funded road projects was the fifth aim of the study. The descriptive results indicated that project monitoring had a moderate extent on timely completion. Project monitoring was ranked as the third critical success factor influencing the timely completion of World Bank-funded road projects. This finding corroborates Gaturu and Muturi's (2014) study which confirmed an association between frequency in project monitoring and timeliness of project completion was significant and respondents reported that they are aware of the importance of monitoring on timely completion of project activities.

The finding also supports Hassan's (2017) assessment of the performance of sponsor funded road construction projects which established that monitoring of sponsor funded road construction projects is vital to evaluate performance and also aid in determining their successful completion. Findings from Gbahabo and Ajuwon (2017) study also provides credibility to this study finding by stating that efficient and effective project monitoring was one of the finest approaches of constraining against project overrun. The result also is supported by Kiara and Luketero's (2018) research which concluded that the frequency of project monitoring affected the presentation of donor-funded projects at a very great extent. The activity of project monitoring is successful when all parties affected by a project are

engaged. This is the crux of the stakeholder theory proposition that all parties' interests and concerns should be considered during the implementation and closure of a project.

## 5.3 Conclusions

### 5.3.1 Effect of Project Design on Timely Completion of World bank-funded Road Construction Projects at KeNHA

Determining the effect of project design on timely completion of World Bank-funded road projects was the first aim of the study. The findings indicate that project design was the second-ranked critical success factor affecting timely completion. The study, therefore, concludes that limitations and challenges in the project design phase are more likely to contribute to timely completion of World Bank donor funded projects.

### 5.3.2 Effect of Institutional Environment on Timely Completion of World bank-funded Road Construction Projects at KeNHA

Determining the effect of institutional environment on timely completion of World Bank-funded road projects was the second aim of the study. The findings indicated that the institutional environment was the least ranked critical success factor influencing timely completion. The study, therefore, concludes that institutional environment of World Bank-funded road projects has the least effect on timely completion.

### 5.3.3 Effect of Project Management Training on Timely Completion of World Bank-funded Road Construction Projects at KeNHA

Determining the effect of project management training on timely completion of World bank-funded road projects was the third objective of the study. The findings indicated that project management training was the fourth-ranked critical success factor influencing timely completion. The study, therefore, concludes that staff engaged in World Bank-funded road projects had the requisite project management training that contributed to timely completion.

### 5.3.4 Effect of Project Coordination on Timely Completion of World bank-funded Road Construction Projects at KeNHA

Determining the effect of project coordination on timely completion of World Bank-funded road projects was the fourth objective of the study. The findings indicated that project

coordination was the highest-ranked critical success factor influencing timely completion. The study, therefore, concludes that project coordination of activities was the most critical success factors contributing to timely completion of World Bank-funded road projects.

### 5.3.5 Effect of Project Monitoring on Timely Completion of World Bank-funded Road Construction Projects at KeNHA

Determining the effect of project monitoring on timely completion of World Bank-funded road projects was the fifth aim of the study. The findings indicated that project coordination was the third-ranked critical success factor influencing timely completion. The study, therefore, concludes that project monitoring is amongst the most critical success factor contributing to timely completion of World Bank-funded road projects.

## 5.4 Recommendations

Based on the research findings, the study makes the following recommendations. First, there is a need for independent project design consultants who are autonomous from the government agency and the World Bank to examine the final proposed designs before the initiation of projects. Secondly, the allocation of funding and procurement processes should be improved by adopting management techniques and strategies that match the scope of the project to implement the specific institutional requirements that can enrich the execution of a project. Third, there is a need for improvement in the relevant technical skills training that is provided for project team members during the project. Although there was frequent training, the findings suggested that this training did not meet the needs and requirements of staff in project execution. The study, therefore, recommends integrating staff needs and training design. Fourth, the land acquisition should be done immediately after designs are complete and before commencement of construction works and the challenges incurred during land acquisition will be avoided and this will enable the project to be completed on time, budget, and quality. Fifth, the monitoring process should be continuous and ongoing and not based on milestones but rather on schedules to be able to identify any time creep that may occur during a project. Lastly, the study recommends that the large road projects should be financed and implemented under the private-public partnership (PPP) model which is instrumental in delivering projects within time and budget.

## 5.5 Study Limitations

The researcher experienced some limitations during the study. One of these was that some of the significant members of the sample had relocated to their home countries. To mitigate this issue, the researcher resulted in using email and video conferencing to contact these respondents. Another limitation was the process of conducting interviews where the respondents were often on assignments and therefore lacked the opportunity to conduct the entire interview in one session. This meant that the researcher had to pause on some interviews and continue them at some other allocated time when it was convenient for the respondent. This often affected the flow of the interviews.

## 5.6 Areas for Further Research

This study was an analysis of success factors for the timely completion of World Bank road projects in Kenya. The study recommends further research on critical success factors for all donor-funded road projects in Kenya to determine whether there were significant differences in the timely completion of road projects among donors. The study was limited to five independent variables: project design, institutional environment, project management training, project coordination, and project monitoring. The study recommends for future studies to examine the influence of these individual variables on timely completion of donor-funded projects.

VT OMNES VNVM SINT

## REFERENCES


Abdelfatah, A. S., Shah, M. Z., & Puan, O. C. (2015). Evaluating the Sustainability of Traffic Growth in Malaysia. *Journal of Traffic and Logistics Engineering, 3*(1), 6-11.

Acharya, N. K., Kim, S-Y., & Lee, Y-D. (2006). *Analysis of Construction Delay Factor: A Korean Perspective.* Proceedings of the 7th Asia Pacific Industrial Engineering and Management Systems Conference, 17 – 20, December, Bangkok, Thailand.

Agresti, A. (2007). An Introduction to Categorical Data Analysis (2nd Edition). New York, NY: John Wiley & Sons.

Alaghbari, M. W, Razali, A., Khadir, Salim Azizah and Ernawati, (2007). The significant factors causing delay of building construction projects in Malaysia, *Journal of Engineering, Construction and Architectural Management, 14* (2), 192-206.

Alexeeva, V., Queiroz, C., & Ishihara, S. (2011). Monitoring Road Works Contracts and Unit Costs for Enhanced Governance in Europe and Central Asia. Washington, D.C: World Bank.

Amdt, C. (2000). Technical Cooperation, in Tarp, F. (Ed.), *Foreign Aid and Development: Lessons Learnt and Directions for the Future.* New York, NY: Rutledge.

Assaf, S. A., & Al-Hejji, S. (2006). Causes of Delay in Large Construction Projects, *International Journal of Project Management. 24* (4), 349-57.

Boussauw, K., & Vanoutrive, T. (2017). Transport policy in Belgium: translating sustainability discourses into unsustainable outcomes. *Transport Policy, 53*, 11–19.

Bragança, L., Vieira, S. M., & Andrade, B. (2014). Early Stage Design Decisions: The Way to Achieve Sustainable Buildings at Lower Costs. *The Scientific World Journal.* http://dx.doi.org/10.1155/2014/365364

Chakrabartty, S. N. (2013). Best Split-Half and Maximum Reliability, *IOSR Journal of Research & Method in Education, 3* (1), 1-8.

Chirwa, D., Samwinga, V., & Shakantu, W. (2010). *Timely Project delivery: A case study of Malawian educational projects.* The Sixth Built Environment Conference, 31 July – 2 August 2011, Johannesburg, South Africa. 567-584.

Damoah, I. S., Akwei, C. A., & Amoako, I. O. (2011). Corruption as a Source of Government Project Failure in Developing Countries: Evidence from Ghana. *Project Management Journal, 49*(3), 17-33.

Deininger, K., Squire, L., & Basu, S. (1998). Does Economic Analysis Improve the Quality of Foreign Assistance? *World Bank Economic Review, 12* (3), 385–418.

Deloitte (2017). *A shift to more but less: Africa Construction Trends Report 2017.* Retrieved 28 July, 2018 from file:///D:/Downloads/africa-constr-report-2018.pdf

Denizer, C., Kaufmann, D., & Kraay, A. (2013). Good Countries or Good Projects? Macro and Micro Correlates of World Bank Project Performance, *Journal of Development Economics, 105,* 288–302.

DiMaggio, P., & Powell, W. (1991). Introduction, in Powell, W. and DiMaggio, P. (Ed.), *The new institutionalism in organizational analysis*, Chicago: University of Chicago Press

Ekanayakage, S. V., & Halwatura, R. U. (2014). Success factors in donor funded projects: case study on internal estate roads.

Ernø-Kjølhede, E. (2000). *Project Management Theory and the Management of Research Projects*. Blaagaardsgade. Copenhagen Business School.

Fabian, C., & Amir, A. (2011). The Chad-Cameroon Pipeline Project – Assessing the World Bank's Failed Experiment to Direct Oil Revenues towards the Poor. *The Law and Development Review, 4*(1). 30-65.

Freeman, R.E (1984). *Strategic Management: A stakeholder Approach.* Boston, MA: Pitman.

Gaturu, N. S., & Muturi, W. (2014). Factors affecting the timeliness of completion of donor-funded projects in Kenya: A case of world agro forestry centre (ICRAF). *European Journal of Business Management, 2*(1), 189–202.

Gbahabo, P. T., & Ajuwon, O. S. (2017). Effects of Project Cost Overruns and Schedule Delays in Sub-Saharan Africa. *European Journal of Interdisciplinary Studies, 3*(2), 46-58.

Grewal, R., & Dharwadkar, R. (2002). The Role of the Institutional Environment in Marketing Channels, *Journal of Marketing, 66* (3), 82-97.

Groves, R. M. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly, 70*(5), 646-675.

Gudienėa, N., Banaitisa, A., Banaitienėa, N., & Lopes, J. (2013). Development of a Conceptual Critical Success Factors Model for Construction Projects: a Case of Lithuania, *Procedia Engineering, 57,* 392-397.

Hassan, A. (2017). *Evaluation of the Performance of Donor Funded Road Construction Projects in Kenya.* Doctoral thesis. Nairobi. Jomo Kenyatta University of Agriculture and Technology

Hassan, A. I. (2012). *Influence of stakeholder role on performance of constituencies development fund projects a case of Isiolo North Constituency Kenya.* Research Project. Nairobi. University of Nairobi.

Hassan, A. I., Bwisa, H., & Iravo, M. (2016). Evaluating the impact of Donor Funded Road Construction Projects in Kenya, *IOSR Journal of Humanities and Social Science, 21* (10), 61-65.

Hassan, A.I., Iravo, M., & Iravo, M. (2016). An assessment of sustainability of donor funded road construction projects in Kenya, *IOSR Journal of Humanities and Social Science, 21* (10), 54-60.

Hlotywa, A., & Ndaguba, E.A. (2017). Assessing the impact of road transport infrastructure investment on economic development in South Africa. *Journal of Transport and Supply Chain Management, 11,* 1-12.

Ibrahim, M. A. H. (2017). Some Issues in the Institutional Theory: A Critical Analysis, *International Journal of Scientific & Technology Research, 6* (9), 150-156.

Idoro, G. I. (2012). Influence of the Monitoring and Control Strategies of Indigenous and Expatriate Nigerian Contractors on Project Outcome, *Journal of Construction in Developing Countries, 17* (1), 49–67.

Ika, L. A. (2009). Project Success as a Topic in Project Management Journals, *Project Management Journal, 40* (4), 6–19.

Ika, L. A., Diallo, A., & Thuillier, D. (2012). Critical success factors for World Bank projects: An empirical investigation, *International Journal of Project Management, 30*(1), 105–116.

Jeyakanthan, J. (2010). *Understanding and mitigating project delays in donor funded road projects in Sri Lanka.* Thesis. University of Moratuwa.

Jeyakanthan, J., & Jayawardane, A. K. W. (2012). Mitigating Delays in Donor Funded Road Projects in Sri Lanka. *Engineer: Journal of the Institution of Engineers, Sri Lanka, 45*(1), 65-75.

Kamanga, M. J., & Steyn, W. (2013). Causes of Delay in Road Construction Projects in Malawi, *Journal of the South African Institution of Civil Engineering, 55* (3), 79 – 85.

Kamau, C. G., & Humam, B-M. (2015). Efficacy of Monitoring and Evaluation Function in Achieving Project Success in Kenya: A Conceptual Framework, *Science Journal of Business and Management, 3* (3), 82-94.

Kariuki, J. G. (2014). An Exploration of the Guiding Principles, Importance and Challenges of Monitoring and Evaluation of Community Development Projects and Programmes, *International Journal of Business and Social Science, 5* (1), 140-147.

Kariungi, S. M. (2014). Determinants of Timely Completion of Projects in Kenya: A Case of Kenya Power and Lighting Company, Thika. *ABC Journal of Advanced Research, 3*(2), 9-19.

Kiara, A. N., & Luketero, S. W. (2018). Factors influencing performance of donor funded projects: Case of Embu Water and Sanitation Company, Embu County, Kenya. *International Academic Journal of Information Sciences and Project Management, 3*(2), 317-330.

Kiiru, G. A. (2015). *Technical efficiency analysis of public road transport providers in Nairobi-Kenya.* Research Project. Nairobi. University of Nairobi.

Kilby, C. (2013a). The Political Economy of Project Preparation: An Empirical Analysis of World Bank Projects, Journal of Development Economics, 105, 211–225.

Kilby, C. (2013b). An Empirical Assessment of Informal Influence in the World Bank, *Economic Development and Cultural Change, 61* (2), 431–464.

Kimweli, J. M. (2013). The Role of Monitoring and Evaluation Practices to the Success of Donor Funded Food Security Intervention Projects: A Case Study of Kibwezi District, *International Journal of Academic Research in Business and Social Sciences, 3* (6), 9-19.

Kisavi, J. M. (2019). *Critical Factors and Their Influence on Performance of Road Construction Projects in Kiambu County, Kenya.* Research project. Nairobi. Kenyatta University.

Kitivi, D. M. (2011). *Performance of poverty eradication donor funded projects in Mwingi Sub-County in Kenya.* Research project. Nairobi. Kenyatta University.

Kivunja, C., & Kuyini, A. B. (2017). Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of Higher Education, 6*(5), 26-41.

Koskela, L., & Howell, G. (2002). *The Theory of Project Management-Problem and Opportunity.* Working Paper. VTT Technical Research Centre of Finland & Lean Construction Institute.

Kumar, R., & Worm, V. (2011). *International Negotiation in China and India.* Retrieved 31 July, 2018 from file:///D:/Downloads/KumarandWorm.Internationalnegotiatiom.pdf

Kunwar, D. S., & Nyandemo, S. M. (2004). *Aspects of Project Planning, Monitoring, Evaluation and Implementation.* Dehra Dun, India Shiva Offset Press.

Lavrakas, P. J. (2008). Target Population, In: *Encyclopedia of Survey Research Methods*. DOI: http://dx.doi.org/10.4135/9781412963947.n571

Legovini, A., Di Maro, V., & Piza, C. (2015). *Impact Evaluation Helps Deliver Development Projects*. Policy Research Working Paper 7157. Washington, D.C: World Bank.

Maendo, D. O. (2018). *Project Management Practices and Performance of Road Infrastructure Projects Done By Local Firms in the Lake Basin Region, Kenya.* Research project. Nairobi. Kenyatta University.

Maendo, D. O., James, R., & Kamau, L. (2018). Effect of project monitoring and evaluation on performance of road infrastructure projects constructed by local firms in Kenya, *International Journal of Economics, Business and Management Research, 2* (4), 317-328.

Mahamid, I. (2013). Frequency of Time Overrun Causes in Road Construction in Palestine: Contractors' View, Organization, *Technology and Management in Construction Journal, 5* (1), 720-729.

Makori, M. J. (2015). *Factors influencing timely completion of community initiated tea buying centres construction projects in Kisii County, Kenya*. Unpublished research project. University of Nairobi. Nairobi. Kenya.

Mertens, D. M. (2015). Research and Evaluation in Education and Psychology. (4th Edn). Los Angeles, LA: Sage.

Mesly, O. (2015). *Creating models in psychological research.* Etats-Unis: Springer press.

Milton, J. S., & Arnold, J. C. (2002). *Introduction to Probability and Statistics: Principles and Applications for Engineering and the Computing Sciences.* London, UK: McGraw Hill.

Mosley, P., & Eeckhout, M. J. (2000). From Project Aid to Programme Assistance', in Tarp, F. and Hjertholm, P. (eds) *Foreign Aid and Development: Lessons Learnt and Directions for the Future.* New York, NY: Routledge.

Mugenda, O. M., & Mugenda, A. G. (2019). *Research methods: Qualitative and Quantitative Approaches* (3rd edn). Nairobi: Acts Press.

Mukuni, J., & Price, B. (2013). Implementation challenges of a donor funded development project: Lessons learned through a deep-end strategy while implementing a development program in Zambia, *Journal of African Studies and Development, 6*(1), 1-7.

Munyoki, S. K. (2014). *Factors influencing completion of construction projects: A case of construction projects in Nairobi Kenya.* Unpublished research project. University of Nairobi. Nairobi. Kenya.

Murithi, S. H., Makokha, E. N., & Otieno, D. (2017). Factors Affecting Timely Completion of Public Construction Projects in Trans-Nzoia County. *International Journal of Scientific and Research Publications, 7*(4), 404-434.

Mwanajuma, M. B. & Ngugi, K (2014). Determinants of Completion of Water Projects In Kenya A Case of Ministry of Water and Irrigation. *International Journal of Social Sciences and Entrepreneurship, 3*(1), 165-187.

Nduati, J. K. (2017). *Institutional factors influencing completion of Kenya Rural Roads Authority projects in Ruiru Sub-County, Kenya.* Research Project. Nairobi. University of Nairobi.

Ndunda, A. N., Paul, S. N. & Mbura, L. K. (2017). Influence of stakeholder activities on implementation of rural road projects in Machakos County, *International Academic Journal of Information Sciences and Project Management, 2* (2), 1-20.

Ngacho, C., & Das, D. (2014). A performance evaluation framework of development projects: An empirical study of Constituency Development Fund (CDF) construction projects in Kenya. International Journal of Project Management, 32 (3), 492-507.

Ngesa, A. R. (2012). *Influence of institutional factors in timely completion of infrastructure projects: a case of World Bank financed projects in the road sub-sector in Kenya.* Research project. Nairobi. University of Nairobi.

Nguyen, T. S., Mohamed, S., & Panuwatwanich, K. (2018). Stakeholder Management in Complex Project: Review of Contemporary Literature. *Journal of Engineering, Project, and Production Management, 8*(2), 75-89.

Njeru, J. (2009). *The impact of foreign aid on public expenditure: The Case of Kenya.* Research Paper. AERC.

Novikov, I. (2014). How does institutional environment affect the internationalization of small enterprises? *Procedia Economics and Finance, 12,* 489 – 497

Nyamwange, R., & Nyang'au, S. P. (2018). Determinants of timely completion of construction projects at Kenya Airports Authority. *The strategic journal of business change & management, 5*(2), 376 – 403.

Nyandika, O. F., & Ngugi, K. (2014). Influence of Stakeholders' Participation on Performance of Road Projects at Kenya National Highways Authority. *European Journal of Business Management, 1*(11), 384-404.

Nyasetia, N. F., Mbabazize, M., Shukla, J., & Wander, E. N. (2016). Institutional factors influencing timely completion of road projects in Rwanda: Case of government externally financed projects. *European Journal of Business and Social Sciences, 5*(1), 146-159.

Oganyo, O. J. (2015). *Factors influencing implementation of donor funded projects in government ministries: a case of ministry of transport and infrastructure – Kenya.* Research project. Nairobi. University of Nairobi.

Ogutu, B. O., & Muturi, W. (2017). Factors influencing successful completion of road construction projects in Kenya: The case of Kisumu County, *International Journal of Economics, Commerce and Management, 5* (6), 728-771.

Ogweno, B., Muturi, W., & Rambo, C. (2016). Determinants of timely completion of road construction projects financed by Kenya Roads Board in Kisumu county, *International Journal of Economics, Commerce and Management, 4* (2), 360-402.

Ondari, P. O. & Gekara, J. M. (2013). Factors influencing successful completion of roads projects in Kenya. *International Journal of Social Sciences and Entrepreneurship, 1*(6), 26-48.

Onyango, L. B., Bwisa, H., & Orwa, G. (2017). Critical Factors Influencing the Implementation of Public Infrastructure Projects in Kenya: A Case of Thika Sub-County, Kiambu County Kenya. *International Journal of Scientific and Research Publications, 7* (5), 200-211.

Orodho, A. J. (2003). Essentials of educational and social sciences research method. Nairobi: Masola Publishers.

Ouma, D. S. (2012). *Factors affecting the effective implementation of donor funded projects in Kenya: A case of World Bank fundedWorld bank-funded projects in Kenya.* Research project. Nairobi. University of Nairobi

Patil, S. K., Gupta, A. K., Desai, D. B., & Sajane, A. S. (2013). Causes of Delay in Indian Transportation Infrastructure Projects, *International Journal of Research in Engineering and Technology, 2* (11), 71-80.

Ramazani, J., & Jergea, G. (2015). Project managers and the journey from good to great: The benefits of investment in project management training and education, *International Journal of Project Management, 33,* 41–52.

Sang, P. K. (2015). *Sustainability of World Bank fundedWorld bank-funded projects in Kenya.* Thesis. Nairobi. Kenyatta University.

Seboru, M. A. (2015). An Investigation into Factors Causing Delays in Road Construction Projects in Kenya. *American Journal of Civil Engineering. 3*(3), 51-63

Sefotho, M. M. (2015). A Researcher's Dilemma: Philosophy in Crafting Dissertations and Theses. *Journal of Social Sciences, 42*(1), 23-36.

Shin, W., Kim, Y., & Sohn, H.-S. (2017). Do different implementing partnerships lead to different project outcomes? Evidence from the World Bank project-level evaluation data. *World Development, 95,* 268–284.

Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of Economics, Commerce and Management, 2*(11), 1-22.

Singh, R. (2010). Delays and Cost Overruns in Infrastructure Projects: Extent, Causes and Remedies. *Economic & Political Weekly, 65*(21), 43-54.

Taber, K. S. (2017). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education, *Research in Science Education,* 1–24.

Tashakkori, A., & Teddlie C. (2003). *Handbook of Mixed Methods in Social & Behavioral Research*. California, CA: Sage.

Tato, R. W. (2017). *Factors affecting sustainability of donor funded water and sanitation projects. A case study of tana north water and sanitation project.* Research project. Nairobi. Management University of Africa.

Tchanche, B. F. (2019). A view of road transport in Africa. *African Journal of Environmental Science and Technology, 13*(8), 296-302.

Wambui, D. N., Ombui, K., & Kagiri, A. (2015). Factors Affecting Completion of Road Construction Projects in Nairobi City County: Case Study of Kenya Urban Roads Authority (KURA), *International Journal of Scientific and Research Publications, 5* (11), 525-547.

World Bank (2006). *Project Performance Assessment Report: Lesotho Road Rehabilitation and Maintenance Project.* Washington, DC: World Bank.

World Bank (2012a). *The World Bank Annual Report 2012: Volume 3.* Washington, DC: World Bank.

World Bank (2014). *World Bank Corporate Scorecard Brochure.* Washington, DC: World Bank.

World Bank (2019). *Annual Report: Ending Poverty, Investing in Opportunity.* Washington, DC: World Bank.

Yang, J., Mei-Yi, C., & Kuei-Mei, H. (2013). An Empirical Study of Schedule Delay Causes Based on Taiwan's Litigation Cases, *Project Management Journal*, *44*(3), 21-31.

# APPENDICES

## APPENDIX I: QUESTIONNAIRE FOR PROJECT TEAM MEMBERS

**Section 1: Demographic Information**

1. Gender

   Male ( )

   Female ( )

2. Education level

   Bachelor degree ( )

   Postgraduate degree ( )

3. Position in project …….

4. Experience in position (number of years post-graduation)

   1-10 years ( )

   11-20 years ( )

   21-30 years ( )

   31-40 years ( )

**Section 2: Project Design**

The following table shows statements related to the project design factors that contribute to timely completion of road projects. Please indicate to what extent these statements influence timely completion of road projects

| **Project design statements** | **No extent** | **Slight extent** | **Moderate extent** | **Great extent** |
|---|---|---|---|---|
| The project team adopted several project management tools in the course of the project | | | | |
| The project team members and users were engaged in project planning for the project | | | | |
| The project team used several project management techniques to deliver the project | | | | |
| Project goals were clearly articulated and understood by stakeholders | | | | |
| The project had sufficient resources (human, financial and equipment) to perform proposed work. | | | | |

**Section 3: Institutional Environment**

The following table shows statements related to the institutional environment factors that contribute to timely completion of road projects. Please indicate to what extent these statements influence timely completion of road projects

| **Institutional environment statements** | **No extent** | **Slight extent** | **Moderate extent** | **Great extent** |
|---|---|---|---|---|
| Procurement procedures and efficiency influences completion of the highway road projects | | | | |
| Steps involved in disbursements from contract signing to the actual disbursement impact negatively to project timelines | | | | |
| Financial Management Procedures leads to delays in road project implementation and completion | | | | |
| Slow decision making and executive bureaucracy delay project completion | | | | |
| Lengthy Communication on the fund flow process influence project completion | | | | |

**Section 4: Project Management Training**

The following table shows statements related to the project management training factors that contribute to timely completion of road projects. Please indicate to what extent these statements influence timely completion of road projects

| **Project Management Training statements** | **No extent** | **Slight extent** | **Moderate extent** | **Great extent** |
|---|---|---|---|---|
| Technical skill is critical determinant of how project activities are carried out | | | | |
| Project staff have relevant experience or knowledge about the technology required by the project | | | | |
| Human resources on the project have clear job allocation and designation befitting their expertise. | | | | |
| Human resource on the project are trained regularly on project management | | | | |
| Human resource on the project undergo training and induction process | | | | |

**Section 5: Project Coordination**

The following table shows statements related to the project coordination factors that contribute to timely completion of road projects. Please indicate to what extent these statements influence timely completion of projects

| **Project Coordination statements** | **No extent** | **Slight extent** | **Moderate extent** | **Great extent** |
|---|---|---|---|---|
| There was exchange of information during the implementation of the project | | | | |
| There was adequate coordination of the project activities during the course of its implementation | | | | |
| There was exchange of resources during the implementation of the project | | | | |
| There were team building activities for the project team before and during the project implementation | | | | |
| There was strong coordination and motivation between contractor level and consultant level | | | | |

**Section 6: Project Monitoring**

The following table shows statements related to the project monitoring factors that contribute to timely completion of road projects. Please indicate to what extent these statements influence timely completion of projects

| **Project Monitoring statements** | **No extent** | **Slight extent** | **Moderate extent** | **Great extent** |
|---|---|---|---|---|
| There was continuous assessment of project implementation in relation to design schedules | | | | |
| There was continuous assessment of project implementation in relation to use of inputs | | | | |
| Project management provided managers and stakeholders with continuous feedback on implementation | | | | |
| Stakeholders optimized their participation in monitoring and evaluation of the project | | | | |
| There was recording and reporting information concerning any or all aspects of the project | | | | |

**Section 7: Timely Completion of Road Projects**

The following table shows statements related to timely completion of road projects. Please indicate to what extent the following items were completed in your respective projects.

| **Timely Completion statements** | **Not at all Timely** | **Somewhat Timely** | **Moderately timely** | **Good /Timely** | **Exceeded expectations / completed before time** |
|---|---|---|---|---|---|
| Project activities were completed in time (Activity is the amount of work performed that converts input to appropriate outputs.) | | | | | |
| Project tasks were completed in time (a task is an activity that needs to be accomplished within a defined period of time). | | | | | |
| Project phases were completed in time (Project phases are initiation, planning, execution, and closure) | | | | | |
| Project schedules were achieved in the project (A list of the project's milestones, deliverables, and activities) | | | | | |

## APPENDIX II: KEY INFORMANT INTERVIEW SCHEDULE

1. In the number of projects that you are involved in, how many of these projects are due to be completed on time or have been completed on time.
2. What are some of the reasons do you attribute to timely completion/non-timely completion of World bank-funded road projects in Kenya?
3. In reference to points discussed above, do you think these issues are unique to World bank-funded road projects in Kenya?
4. How do you think these issues of timely completion of World bank-funded road projects can be addressed in Kenya?

VT OMNES VNVM SINT

## APPENDIX III: WORLD BANK-FUNDED ROAD PROJECTS

| S/No. | Name of Project | Status |
|---|---|---|
| 1 | Rehabilitation of the Mau Summit - Kericho Road (B1/A1) | Completed |
| 2 | Rehabilitation of the Kericho - Nyamasaria Road (A1) | Completed |
| 3 | Construction of a new road over rail bridge and approaches at Makutano on the Mau Summit – Timboroa Road (A104) | Completed |
| 4 | Rehabilitation of Mau Summit — Kericho — Kisumu (A1/B1) road Nyamasaria-Kisumu-Kisian including the Kisumu bypass Road A1/ B1 | Completed |
| 5 | Rehabilitation of Kisumu Airport - Kisian (Busia Road Part 2),Obote, Otieno Oyoo and Port Roads | Completed |
| 6 | Rehabilitation of Kisumu - Kakamega Road Section | Ongoing |
| 7 | Rehabilitation of Kakamega – Kaburengu (Webuye) (New) Road Section | Ongoing |
| 8 | Rehabilitation of Webuye - Kitale Road Section | Ongoing |
| 9 | Rehabilitation of Bachuma Gate – Maji Ya Chumvi | Ongoing |
| 10 | Construction of Interchanges at Nyahururu and Njoro junctions in Nakuru, and the Junction of the Nakuru Eldoret road (A104) with Mau Summit-Kericho road(B1) at Mau Summit | Ongoing |
| 11 | Kisumu Boys Roundabout-Mamboleo Junction | Ongoing |
| 12 | Athi River-Machakos Turnoff | Ongoing |
| 13 | Interchange at Ahero-Kisii Turnoff | Ongoing |
| 14 | Interchange at Kericho-Awasi Turnoff | Ongoing |
| 15 | Construction of the James Gichuru junction-Rironi | Ongoing |
| 16 | Miritini – Maji ya Chumvi (40km) | Completed |
| 17 | Lanet-Njoro Turnoff (dual 16km) | Completed |
| 18 | Njoro Turnoff-Timboroa (84km) | Completed |
| 19 | Sultan Hamud- Machakos Turnoff (55km) | Completed |
| 20 | Machakos Turnoff-JKIA (33) including 12km of dual carriageway | Completed |

## APPENDIX IV: RESEARCH LICENSE

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **977427**

Date of Issue: **18/March/2020**

### RESEARCH LICENSE

**This is to Certify that Mr.. Kefa Seda Odhiambo of Strathmore University, has been licensed to conduct research in Nairobi on the topic: An analysis of critical success factors for timely completion of World Bank financed road projects at Kenya National Highways Authority for the period ending : 18/March/2021.**

License No: **NACOSTI/P/20/4044**

**977427**

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is Guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014

CONDITIONS

1. The License is valid for the proposed research, location and specified period
2. The License any rights thereunder are non-transferable
3. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research
4. Excavation, filming and collection of specimens are subject to further necessary clearence from relevant Government Agencies
5. The License does not give authority to tranfer research materials
6. NACOSTI may monitor and evaluate the licensed research project
7. The Licensee shall submit one hard copy and upload a soft copy of their final report (thesis) within one of completion of the research
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice

National Commission for Science, Technology and Innovation
off Waiyaki Way, Upper Kabete,
P. O. Box 30623, 00100 Nairobi, KENYA
Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077
Mobile: 0713 788 787 / 0735 404 245
E-mail: dg@nacosti.go.ke / registry@nacosti.go.ke
Website: www.nacosti.go.ke

## APPENDIX V: ETHICAL CLEARANCE

Strathmore UNIVERSITY

18th February 2020

Mr Odhiambo, Kefa
sedakefa@gmail.com

Dear Mr Odhiambo,

**RE: An analysis of critical success factors for timely completion of World Bank financed road projects at Kenya National Highways Authority**

This is to inform you that SU-IERC has reviewed and **approved** your above research proposal. Your application approval number is **SU-IERC0617/20.** The approval period is **18th February, 2020 to 17th February, 2021.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

for: Dr Virginia Gichuru,
**Secretary; SU-IERC**

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE (SU-IERC)
18 FEB 2020
TEL: +254 (0)703 034 000
P. O. Box 59857 - 00200
NAIROBI - KENYA

**Cc:** Prof Fred Were,
**Chairperson; SU-IERC**

Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email info@strathmore.edu www.strathmore.edu

## APPENDIX VI: LETTER OF INTRODUCTION

Ole Sangale Rd, Madaraka Estate,
P.O Box 59857 00200, Nairobi, Kenya.
Cell: +254 703 414/6/7, Twitter: @SBSKenya

Email: info@sbs.ac.ke or vist www.sbs.strathmore.edu

Strathmore UNIVERSITY
BUSINESS SCHOOL

Monday, 16 December 2019

To whom it may concern

Dear Sir/ Madam,

**RE: FACILITATION OF RESEARCH – KEFA SEDA ODHIAMBO**

This is to introduce Kefa Seda Odhiambo who is an MBA student at Strathmore University Business School, admission number MBA/110514/18. As part of our MBA Program, Kefa is expected to do applied research and to undertake a project. This is in partial fulfilment of the requirements of the MBA course. To this effect, he would like to request for appropriate data from your organization. Kefa is undertaking a research paper on '***An Analysis of Critical Success Factors Affecting Timely Completion of World Bank Financed Road Projects Implemented by Kenya National Highways Authority***'. The information obtained from your organization shall be treated confidentially and shall be used for academic purposes only.

Our MBA seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share the findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and we shall be willing to provide any further information if required.

Yours sincerely,

Caroline Tiara,
Manager – MBA Programs.

Strathmore Business School is a Proud member of:
Association of African Business Schools AABS EFMD AACSB