MONITORING AND EVALUATION PRACTICES AND PERFOMANCE OF ROAD INFRASTRUCTURE PROJECTS IN UGANDA:

A CASE OF UGANDA NATIONAL ROADS AUTHORITY-UNRA

BY

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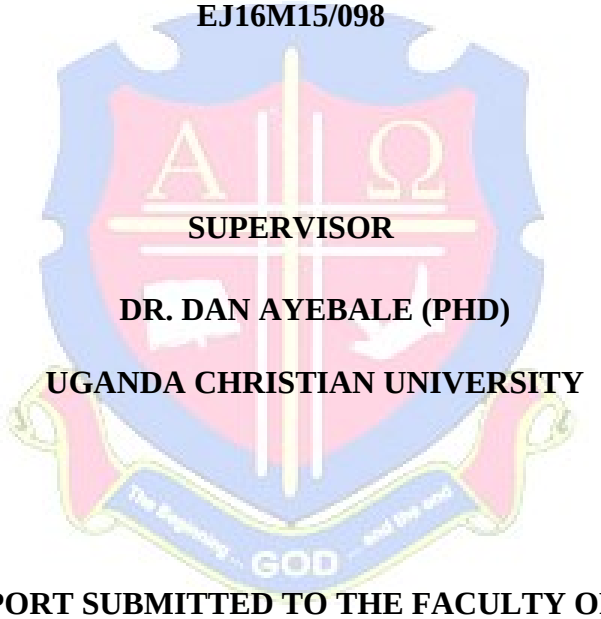

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A RESEARCH REPORT SUBMITTED TO THE FACULTY OF BUSINESS AND ADMINISRTAION IN PARTIAL FUFLFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION OF UGANDA CHRISTIAN UNIVERSITY

2019

DECLARATION

I hereby declare that the work contained in this research report has not been previously submitted for any academic award at any other institution of higher learning. To the best of my knowledge, the dissertation contains no work published by another person except where reference is made.

Name:…….. Signed:……..

Date:…….

APPROVAL

This research report has been submitted for examination with my approval as the academic supervisor and it satisfies the university requirements.

Name: Dan Ayebale (PhD)

Signature:……

Date:……

DEDICATION

I thank the Lord Almighty who enabled me to do my research till completion. I thank my family and the Uganda Christian University, Staff Development Committee (SDC) for the financial support, and for standing with me and encouraging me to work hard. I am grateful to my academic supervisor, Dr. Dan Ayebale for his guidance, knowledge and support throughout the research process. Lastly, I thank my classmates, workmates and friends who helped, encouraged, supported and worked with me during this journey of research.

ACKNOWLEDGEMENTS

I sincerely believe that God has been with me throughout this hectic research process and for His strength, grace and courage, I am very thankful. My research supervisor, Dr. Dan Ayebale also made it a worthwhile research journey of learning, benefiting, guidance, correction, and persistence, and for this am greatly indebted and thankful.

More thanks goes to all my MBA classmates, my friends Nicole Mwesigwa, Maureen Sylvia and Solomon Mwije who helped and encouraged me during this journey to successfully complete the dissertation.

I also thank my respondents and the management of UNRA who spared their time to answer my research questionnaire and those who allowed me to interview them and get helpful information for my research.

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ACRONYMS

CPM	Critical Path Method
M&E	Monitoring and Evaluation
MBA	Master of Business Administration
PC	Personal Computer
PERT	Programme Evaluation Review Technique
PPS	Probability Proportional to Size
SPSS	Statistical Package for the Social Science
TOC	Theory of Change
UCU	Uganda Christian University
UNRA	Uganda National Roads Authority
WBS	Work Breakdown Structure

ABSTRACT

This study sought to examine the influence of monitoring and evaluation practices on the performance of road infrastructure projects. The study objectives were; to establish the influence of M&E planning on the performance of road infrastructure projects, to examine the influence of M&E capacity on the performance of road infrastructure projects, and lastly to examine the influence of M&E communication on the performance of road infrastructure projects, in the study context.

The study adopted a cross-sectional research design and data was collected from a cross sectional of respondents (68) at a single point in time using both qualitative and quantitative research approaches to achieve the three objectives of the study. The study also adopted stratified random sampling in which the selection of the study respondents was done by probability proportional to size (PPS). The study adopted a survey approach where both quantitative and qualitative methods of data collection were used, that is by the use of questionnaires and key informant interviews respectively.

Data analysis involved; descriptive statistics, frequency percentages, regression, and correlation analysis. The regression statistics of ($\beta = 0.438$, $t = 3.877$, $p = 0.001 > 0.05$) show that there is a positive and significant relationship between M&E practices and performance of road infrastructure projects. However, correlation statistics of ($r = 0.586^{**}$; $p = 0.001 > 0.05$) revealed that M&E communication greatly influences the performance of road infrastructure projects. This was based on the multiple linear regression analysis results.

Therefore, with the above findings, the study contributed to the phenomenon of monitoring and evaluation and the field of road infrastructure projects in Uganda by providing empirical evidence of how one can find out the influence of M&E practices on road infrastructure projects, which is a gap that has been widely missing as per this study context. Finally, the study recommends that UNRA management should uphold and continue to strengthen the M&E systems of managing various activities. It also recommends that the road infrastructure projects' budgets should always have a clear and adequate provision for M&E activities among others.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This study was an investigation into the monitoring and evaluation practices and performance of infrastructure projects in Uganda. A case of Uganda National Roads Authority (UNRA).Project monitoring & evaluation, a control aspect of project management like before is used for a variety of purposes such as enhancing managerial processes by providing evidence for decision-making, accountability and organizational performance & learning where results and findings help to create learning organizations (PMI, 2013). Translating findings into learning & organizational improvement however still remains a challenge to many organizations. There is also scanty literature on the extent to which monitoring and evaluation (M&E) influences organizational performance (Cooper, 2014; Makarivo&Sokolova, 2014). Using UNRA as reference, the study intends to investigate how monitoring and evaluation practices influences performance outcomes of Uganda's road projects with a specific focus on one Mukono-Katosi road infrastructure project.

Performance of infrastructure projects was the dependent variable while monitoring and evaluation practices, the independent variable. The major M&E practices that were focused on in this study included; Planning, Capacity and Communication.

The choice of UNRA is informed by the fact that UNRA is the authority that develops and maintains the national roads infrastructure projects/networks in Uganda. This chapter also presents: background to the study, statement of the problem, general and specific objectives of

the study, research questions, conceptual framework, justification and significance, scope of the study and definition of key variables.

1.2 Background

The section presents the background to the study, the statement of the problem, the purpose or general objectives, the objectives of the study, the research questions, the hypotheses, the scope of the study, the significance, justification and operational definition of terms and concept.

Project monitoring and evaluation as a critical learning stage in the project management cycle can be traced from different fields of application but more so the construction, engineering, telecommunications, and defense areas and these date back thousands of years which remain a mystery for its great success (Lewis & Greenwood, 2002).

The conceptualization of project Monitoring and Evaluation (M&E) has evolved over time and has mirrored the paradigm shifts that have occurred in management of projects (Nyonje, Ndunge, &Mulwa, 2012). In the 1950s, M&E practice was dominated by a strong emphasis on prudent utilization of resources, reflecting the social scientific trend of the era (Rodgers & Williams, 2006). The focus of M&E then, sought to concentrate on lived experiences, and give voice to as many stakeholders in a consensus-shaping evaluation process (Schwandt&Burgon, 2006). At present however, many organizations view M&E as a donor requirement rather than a management tool for reviewing progress and identifying and correcting problems in planning or implementation of projects (Shapiro, 2001; Alcock, 2009; Armstrong & Baron, 2013). Donors are certainly entitled to know whether their money is properly spent but the primary use of M&E should be for the organisation or project itself to see how it is performing and to learn how to do it better.

Diekmann (2007) reviews the history of construction projects world over and identifies notable construction works which have shaped learning in the construction projects. In the Ancient (before 1000 Century) Asia/ Australia notable projects include civil works of the Du Jian Yan Irrigation Project, Grand Canal in China. In the Middle East/Africa include religious building in Hagia Sophia, Turkey; the Dome of the Rock, in Jerusalem and the monumental Egyptian Pyramids. In Europe notable ancient civil works include the Roman Aqueduct in Italy; religious projects such as Pantheon in Italy and Acropolis Greece, and monumental buildings of Stonehenge in the United Kingdom. In Americas, ancient building includes Civil/military works for the Palace of the Governors, New Mexico, and United States of America.

Modern (1900–present) projects in Asia/Australia include notably the Hong Kong Airport, China; Three Gorges Dam, China; Akashi Kaikyo Bridge, Japan; and Jade Buddha Temple, China. In Middle East and Africa modern day projects include notably Suez Canal, Egypt and Burj Al Arab Hotel, Dubai. In Europe Chunnel, United Kingdom and France; Dutch Sea Barrier in Holland. In the America Panama Canal in Panama; Hoover Dam, Nevada, United States has been instrumental in shaping modern day construction projects. It is also noted that the historical buildings were influenced by culture and had impact on the livelihood of the community people (Diekmann, 2007).

Four major errors according to Azzopardi (2009) have influenced and shaped modern day project management approaches. Prior to 1958 project management was perceived as complex process that project managers were preoccupied with work simplification. A major milestone in the project management movement was the introduction of work breakdown structure (WBS). This was followed by application of management science theories to project management (1958-1979) such as project planning, organizing and controlling for enhanced achievement of project

objectives. It was at this time that project planning and scheduling (PPS), Critical Path Method (CPM) of scheduling, Programme Evaluation Review Technique (PERT), and Operational Research (OR) were introduced and underpin modern day project evaluation even in the construction sector.

The period 1980-1994 also called the production center human resources was characterized by a revolution in the development in the information management sector with the proliferation of the personal computer (PC) and associated computer communications networking facilities. The result was availability of low cost PCs that had high efficiency in the management of project management including project evaluation. The projects of the time focused on risk management, group dynamics, and quality management. These have underpinned modern day project evaluation where formative and summative evaluations are used to establish the extent to which projects have achieved their implementation and post implementation objectives and identification of project risks which (may) constraint the attainment of the project objectives (Azzopardi, 2009).

The period 1995 present, project management is characterized with creating a new environment enabled by information technology especially internet. Today, there are many project management software packages which allows automatic uploading of data so that anyone with a standard browser can; input the recent status of the assigned task within a given project; find out how the overall project is doing; be informed of any delays or advances in the schedule; and stay in the loop for their project role while working independently at a remote site. Naidoo (2011) notes that effective project monitoring and evaluation enhances the basis for project performance. M&E itself as a management function, consists four key activities: M&E Planning, M&E Training, Baseline surveys and Information systems (Ogula, 2002). Other scholars

(Maddock, 2009; Roza, 2013) also hold this view. With the advent of globalization, organizations all over the world are grappling with internal and external demands and pressures for continuous improvements in project management to enhance performance and stay competitive (Kusek&Rist, 2004). These demands come from a variety of sources including donors, governments, private sector, civil society and the media. Whether it calls for greater accountability and transparency in exchange for foreign aid or real results, organizations must be increasingly responsive to stakeholders' demand to demonstrate tangible results (Khan, 2001).

According to Kusek and Rist (2004), one of the most powerful tools that influence the performance of a project, program, or policy is Monitoring and Evaluation (M&E). This is echoed by Shapiro (2004) that monitoring and evaluation enable one to assess the quality and impact of a project, against project plans and work plan. Wysocki and McGary (2003) crown it all by saying " If you don't care about how well you are doing or about what impact you are having, why bother implement a project at all? You can only tell how well you are doing by monitoring performance (Wysocki&McGary, 2003).

In the 1960s the approach of earned value management was developed whose objective was to monitor project progress based on time and cost. According to most literature modern project management began in the 1950s. In 1896-1910 Karol developed the first Gantt Chart- a graphical schedule for planning and controlling work. The philosophical orientation and conceptualization of M&E has evolved over time (Rodgers & Williams, 2006).

In Africa, the emphasis on monitoring and evaluation of projects mirrored the period of discontent around project management in the late 1950s when the project management was formally recognized as a distinct discipline arising from the management discipline (Cleland

&Ireland, 2007). The focus on M&E practices sought to concentrate on lived experiences, and give voice to as many stakeholders as possible, which was a secondary goal of a consensus-shaping evaluation processes before (Schwandt&Burgon, 2006).

In Uganda however, particularly on Mukono-Katosi Road infrastructure Project, M&E practices have long way been a confusing and unclear concept and this has caused UNRA and the government to experience various loop holes in the department of M&E, this study therefore will seek to study the M&E practices and performance of road infrastructure projects in Uganda. (OAG Report (2010-2012) on Uganda National Roads Authority)

Al-jibouri (2003) notes that within construction projects, divergences from the original plan will occur; therefore project evaluation has always been inbuilt within the project implementation as a control measure for completing project within acceptable time and budget through monitoring the actual output, reports and taking of corrective actions on the construction project. However, as noted by Cooper (2014) communicating and using findings into learning still remains a challenge to many organizations. There is also scanty literature on the extent to which M&E influences performance outcomes (Makarivo&Sokolova, 2014). Therefore this study therefore will seek to study the M&E practices and performance of infrastructure projects in Uganda, using the case of Mukono-Katosi Road Construction Project in Mukono district.

1.3 Statement of the Problem

Over the years, infrastructure development, and road construction in particular has taken a lion's share of the Ugandan national budget estimated at (18.7%) to ensure economic growth and development (2016/2017, Budget Framework). Uganda National Roads Authority (UNRA) put in place a Monitoring and Evaluation unit responsible for tracking progress on implementation of

its strategic plan, in order to identify and promptly report observed or likely deviations (UNRA, cooperate strategic plan 2014-2019).

However, even with this in place most road infrastructure projects like Mukono-Katosi road, have failed to be completed in the set timeline, are of poor quality, and have cost variations. A case in point, Mukono-Katosi road cumulative target was 95% by June 2017, but according to the annual sector performance report, financial year 2016/17, its performance deteriorated to 74 KMs (78%) in terms of physical progress affecting its initial completion time and cost overruns hence unmet output targets which indicates loopholes in the monitoring and evaluation systems (PPDA Audit, 2013; OAG Report, 2016/17).

Despite of the above, few researchers like Chabotaet al. (2009) have come up to study the influence of monitoring and evaluation on the performance of road infrastructure projects, and more so no one has come up to specifically study M&E practices and their influence on road infrastructure projects in relation to UNRA taking an example of the Mukono–Katosi road construction project. It was on this ground that this study seeks to understand the influence of monitoring and evaluation practices on the performance of road infrastructure projects.

1.4General Objective

The purpose of the study was to examine the influence of monitoring and evaluation practices on the performance of road infrastructure projects in Uganda. UNRA is taken as a case.

1.4.1Specific Objectives

i. To establish the influence of M&E planning on the performance of road infrastructure projects.

ii. To examine the influence of M&E capacity on the performance of road infrastructure projects.

iii. To examine the influence of M&E communication on the performance of road infrastructure projects.

1.5Research Questions

i. How does M&E planning influence the performance of road infrastructure projects?

ii. How does M&E capacity influence performance of road infrastructure projects?

iii. How does M&E communication influence the performance of road infrastructure projects?

1.6 Research Hypotheses

The study is supported by the following hypotheses;

M&E Planning has no significant influence on performance of road infrastructure projects in Uganda.

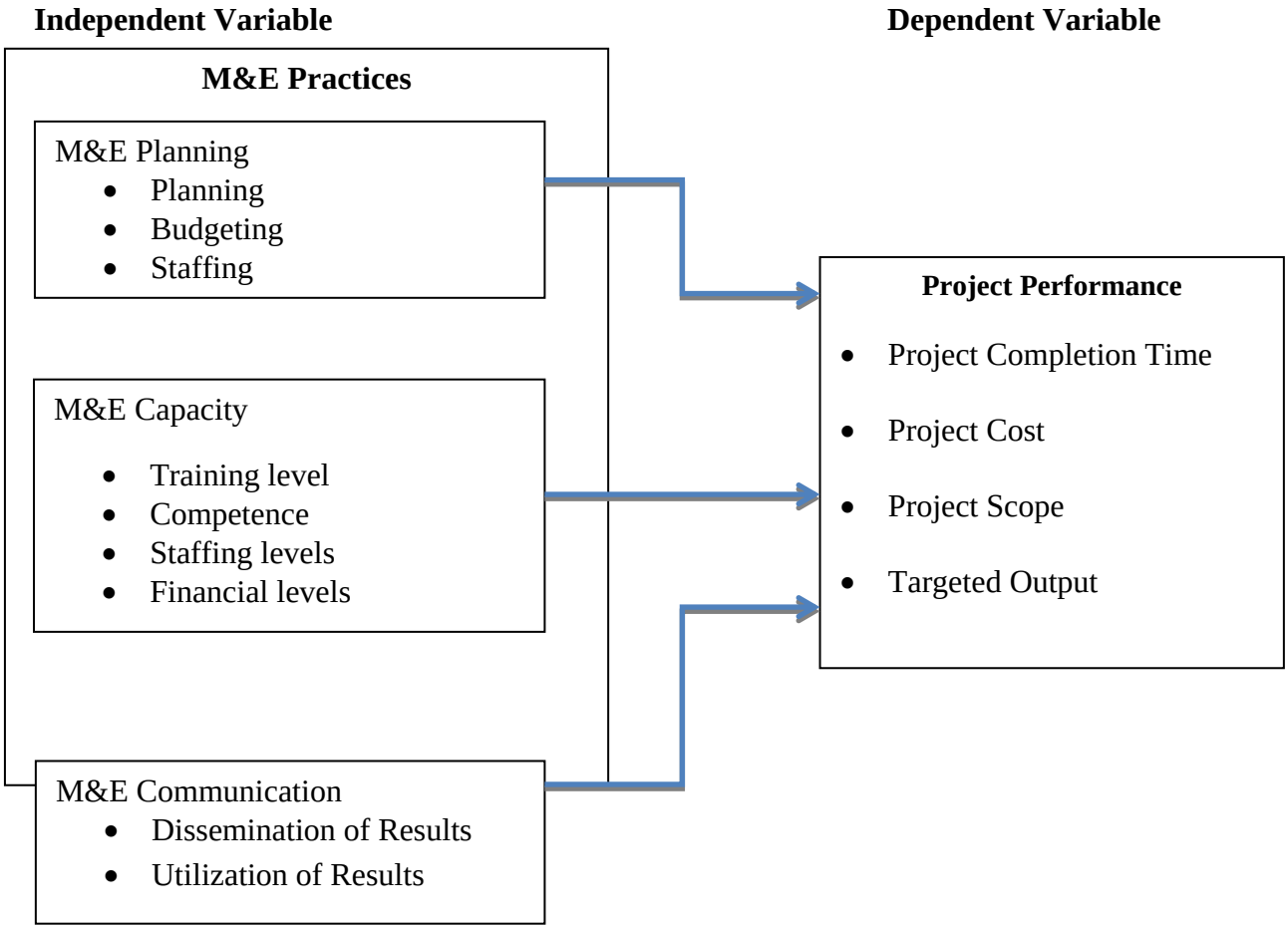
M&E capacity does not significantly influence project performance of road infrastructure projects in Uganda.

M&E communication does not significantly influence performance of road infrastructure projects in Uganda.

1.7 Conceptual framework

This section presents the conceptual framework, through which a clear understanding of the relationship between the dependent and independent variable were presented.

Figure 1: The conceptual framework



Source: *Adapted from Best Practices in Monitoring and Evaluation by (Jill, 2001) and modified by the researcher*

The conceptual framework is a research tool used to facilitate a clear understanding of the measurement of the key variables of interest and their interrelationship (Norton, 2006). In the above conceptual framework, the relationship between the Dependent variable and Independent

Variable is explained. The dependent variable is the performance of infrastructure projects which is measured in terms of project completion time, project cost, project quality, and the targeted output in order to bring about change as the theory of change which is a tool used for developing solutions to complex social problems. The independent variable in this study is monitoring an evaluation practices which will be measured in terms of M&E Planning, M&E Capacity and communications, among others. The conceptual framework assumes that, in order for the theory of change to be effected, project managers should put into practice these monitoring and evaluation practices so as to result into good performance of the infrastructure projects. On the other hand, if these practices are not given high consideration, then there is a likely hood of failing to achieve good performance hence violating the assumptions of the theory of change.

Guided by the Butt (2012) theory of change this study will thus seek to examine the influence of monitoring and evaluation practices on the performance of road infrastructure Projects in Uganda in particular, the road projects under UNRA by looking at the clearly interaction between the above dependent and independent variables.

1.8 Significance of the study

To the management of UNRA, the study will generate empirical information on the monitoring and evaluation and road infrastructure project performance which may be used to strengthen project evaluation and project performance policy in the authority. It is hoped that the study will suggest measures that could improve the utilization of M&E practices to enhance better performance of road infrastructure projects in Uganda.

The findings are also hoped to improve and create a fundamental change in as far as the use of M&E practices and performance of projects in various road infrastructure projects. To the

government, the study may help policy makers to create better strategies through the use of monitoring and evaluation practices to improve infrastructure project performance in Uganda. By so doing, the study helps to link M&E theory to practice in the construction sector.

The body of knowledge, the study helps cover literature gaps on the extent to which monitoring and evaluation practices influences road infrastructure projects in the construction sector of a developing country like Uganda.

The institution (UCU), once a copy of the research findings is put in the library at the end of the study; it will be a reference to other researchers having interest in the field of the monitoring and evaluation practices and the performance of projects at UCU.

To the researcher, the study will enhance his knowledge in understanding M&E practices and performance and also be a partial fulfillment of the award of a Master in Business Administration.

1.9Justification of the study

The government of Uganda's works and transport sector budget constitutes 14.9% of the national budget. The road development sector reveals that UNRA takes 64.73% of the road development fund (URF, Physical and Financial performance report, 2011-2012). The budget performance Financial Year of 2011/2012, the Government budget that was revised was 6,841,489,157 UGX. Released for FY 2011/2012 6,697,682,837 UGX, and the expenditure of the FY 2011/2012 it was 6,697,682,837 UGX for the Mukono-Katosi infrastructure road in particular. The release performance for the FY was 98% and absorption rate was 100%. (MoFPED, P: 41, 2012). The attainment of the UNRA mandate largely depends on generation of performance reports and

reviews to account to the stakeholders, and fostering learning through participatory evaluations and documenting lessons learnt (UNRA Corporate strategic plan, 2011-2015). This means that the failure to learn by utilizing the knowledge gained from evaluation in the development of the road infrastructure projects lead to enormous adverse effects not only on budget performance but also road service delivery or value for money in the road sector which is critical economic growth and development.

This study focused on M&E practices and project performance of road infrastructure Projects in Uganda, specifically looking at those under UNRA like Mukono-Katosi Road infrastructure project. This is because there seems to be project performance challenges which are probably arising from M&E practices on road infrastructure performance. This also included bridging the gap between the M&E practices and Performance of road infrastructure projects in Uganda.

It was therefore necessary that an extended empirical study is carried out on M&E practices to inform management on how they can use monitoring and evaluation practices/ results for evaluation for road infrastructure performance to enhance the achievement of its mandate of developing and maintaining of road infrastructure projects.

1.10 Scope of the study

The scope of the study included; - the content, geographical and time scope.

1.10.1 Content Scope

The main purpose of this study was to investigate the extent to which monitoring and evaluation practices influence performance of infrastructure project- a case of Uganda National Roads Authority (UNRA). The study focused on M&E practices covering; Planning, Capacity and

Communication as well as project performance. Project performance has dimensions of project completion time, project cost, project quality and targeted output. Important to note also is that, there are many M&E practices but this study particularly reckoned the above mentioned practices, among others.

1.10.2 Time scope

The study was focused on the period from 2012-2017. This was the period between the award of contracts to the expected completion time of one of the major road infrastructure project under UNRA; Mukono-Katosi road project.

1.10.3 Geographical Scope:

The study was conducted at the UNRA offices, Kampala District, located on Plot 3-5 New Port Bell Road, UAP Business Park Nakawa, in central region of Uganda

1.11Operational Definition of Key Terms and Concepts

Monitoring as a continuous function that uses the systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of planned outputs, objectives and progress in the use of allocated funds

Evaluation in this study refers to a structured process of assessing the success of an ongoing program or project in meeting its goals and to reflect on the lessons learned. The aim is to determine the relevance and fulfillment of objectives, development efficiency, effectiveness, impact, and sustainability.

Monitoring and evaluation planning is defined as the structured process of forecasting and linking the past, present and future interventions and development outcomes.

Monitoring and Evaluation Capacity is defined as the capabilities of employees and facilities in an organization to enable them perform their monitoring and evaluation duties efficiently, effectively and sustainably to support the M&E system.

Monitoring and evaluation communication refers to consultative process of addressing knowledge, attitudes, practices, through identifying, analyzing, and segmenting audiences and participants in categories and by providing them with relevant information and motivation through well-defined strategies.

Project performance is the accomplishment of set tasks as measured against preset standards of accuracy, cost, completeness and quality (Alchian&Demsetz, 2012).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section presents a review of the literature related to the study concepts and the research objectives. The literature review in this study has been done by a careful consideration of the works that have been done by other scholars regarding the variables in the study, that is, M&E practices and Performance of Road Infrastructure Projects, a case of Uganda National Roads Authority (UNRA). In this chapter, the underlying gaps in the literature that the study intends to fill are given.

2.2 Theoretical Review

This study was guided by Theory of Change (ToC) as promoted by Burt (2012).ToC is a specific type of methodology for planning, participation and evaluation that is used in the philanthropy, not-for-profit and government sectors to promote social change.

Theory of change is part of the program theory that emerged in the 1990s as an improvement to the evaluation theory (Stein &Valters, 2012). A theory of change is a tool used for developing solutions to complex social problems. It provides a comprehensive picture of early and intermediate term changes that are needed to reach a long term set goal. It therefore provides a model of how a project should work, which can be tested and refined through monitoring and evaluation.

Theory of Change defines long-term goals and then maps backward to identify necessary preconditions, (Brest, 2010) Theory of Change explains the process of change by outlining causal linkages in an initiative, i.e. its shorter-term, intermediate and longer-term outcomes. The identified changes are mapped –as the "outcomes pathway" showing each outcome in logical relationship to all the others, as well as chronological flow. The links between outcomes are explained by "rationales" or statements of why one outcome is thought to be a prerequisite for another, (Clark, 2012)

A theory of change is a model that explains how an intervention is expected to lead to intended or observed impacts (Burt, 2012). A theory of change methodology will also help to identify the way people, organizations and situations change as a result of an organization's activities or services, helping to develop models of good practice" (Jean, Diana, &Avan, 2011).

Guided by the (Burt, 2012) theory of change, this study will specifically focus on Monitoring and Evaluation practices in UNRA on construction of road infrastructure projects and will strive to examine how M&E practices contribute to performance outcomes of organizations in the road construction sector. It is hypothesized that the outcomes of the roads project evaluation and performance outcomes acted as input or feedback for problem solving in UNRA leading to creation, integration and utilization of knowledge necessary to deal with the UNRAs complex problems thereby enhancing the attainment of mandate of developing the road network in the country. The three concepts of project monitoring and evaluation practices; planning, capacity, communication are detailed in the next subsection of conceptual background.

2.2.1 Conceptual Review

A number of concepts wereutilized during the study and these included, Monitoring and Evaluation planning, capacity and data management all as monitoring and evaluation practices among others.

Monitoring and evaluation is a Monitoring and Evaluation is a combination of two processes which are different yet complementary (Gorgens and Kusek, 2009). It is therefore a process of systematically collecting and analyzing information of ongoing project and comparison of the project outcome/impact against the project intentions (Hunter, 2009).

Bamberger (1999) defines monitoring as "an internal project activity designed to provide constant feedback on the progress of a project, the problems it is facing, and the efficiency with which it is being implemented". Pamela, Joe and Nay (1994) asserts that monitoring in its general sense is used to describe a systematic framework to collect and analyze information on events associated with implementation of a policy with a view to improving their management.

According to McNamara, (1998), project evaluation involves carefully collecting information about a project or some aspects of a project in order to make necessary decision about the project. Project evaluation can include any or a variety of at least thirty five different types of evaluation such as for needs assessment, accreditation, cost benefit analysis, effectiveness, efficiency, formative, summative, goal based, process, outcomes etc. the type of evaluation you undertake to improve your program depends on what you want to learn about the program (OECD,1999).

Monitoring and Evaluation Planning, is that aspect that enhances clear links between past, present and future initiatives and development results. Monitoring and evaluation can help an organization extract relevant information from past and ongoing activities that can be used as the basis for program-matic fine-tuning, reorientation and future planning. Without effective planning, monitoring and evaluation, it would be impossible to judge if work is going in the right direction, whether progress and success can be claimed, and how future efforts might be improved. This chapter describes the purposes of planning, monitoring and evaluation. United Nations Development Program (UNDP, 2009). For purposes of this study monitoring and evaluation planning is defined as the structured process of forecasting and linking the past, present and future interventions and development outcomes.

Monitoring and Evaluation Capacity; this is defined as the capabilities of employees in an organization to perform their monitoring and evaluation duties efficiently, effectively and sustainably to support the M&E system (UNDP, 2011). For the system to perform employees should have the skills and experience. This study will adopt the above definition as its operational definition.

Monitoring and Evaluation Communication is a research-based consultative process of addressing knowledge, attitudes, practices, through identifying, analyzing, and segmenting audiences and participants in programmes and by providing them with relevant information and motivation through well-defined strategies, using an appropriate mix of interpersonal, group and mass media channels, including participatory methods. (WHO, 1999). In this study monitoring and evaluation communication refers to consultative process of addressing knowledge, attitudes, practices, through identifying, analyzing, and segmenting audiences and participants in

categories and by providing them with relevant information and motivation through well-defined strategies.

As Baum, et al, (1985) argue, the need for information systems is actually one of the "techniques" for managing program/ project implementation, especially because they provide an early warning to project management about potential or actual problems. Subsequently, when problems are identified, questions about assumptions and strategy behind a given program or project may be raised.

2.3 Monitoring and Evaluation

M&E is made up of two different processes; monitoring and evaluation. Monitoring is the process of regular and systematic collection, analysing and reporting information about a project's inputs, activities, outputs, outcomes and impacts. Monitoring is therefore a way of improving efficiency and effectiveness of a project, by providing the management and stakeholders with project progressive development and achievement of its objectives within the allocated funds (World Bank, 2011). It therefore keeps track of the project work and informs the management when things go wrong. Hence it is an invaluable tool for good management as well as a useful base for evaluation. Monitoring is an internal function to a project and it involves: establishing indicators, setting up systems to collect information, collecting and recording and analysing information, and using the information to inform day- to-day management. Monitoring is important since it necessitates the modification of activities if they emerge not to be achieving the desired results (Hunter, 2009 and Shapiro, 2011).

OECD, (2002) defines Monitoring as a continuous function that uses the systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds (p. 27) while evaluation is the systematic and objective assessment of an ongoing or completed project, program, or policy, including its design, implementation, and results. The aim is to determine the relevance and fulfillment of objectives, development efficiency, effectiveness, impact, and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision making process of both recipients and donors (p. 21).

Evaluation, on the other hand, is a scientific based appraisal of the strengths and weakness of the project (Hunter, 2009). It is therefore a comparison between the actual and the planned. Evaluation is a means of checking efficiency, effectives and impact of a project. There are two types of evaluations: evaluation done when the project is ongoing – Formative evaluation; and evaluation done after the completion of the project – Summative evaluations. Evaluation involves: looking at what the project intended to achieve, assessing progress towards what was to be achieved and impact on targets, looking at the effectiveness of the project strategy, looking at the efficient use of resources, opportunity costs and sustainability of the project, and the implications for the various stakeholders (Hunter, 2009 and Shapiro, 2011).

National Policy on Public Sector Monitoring and Evaluation, (NPPSME, 2011) policy handbook defines monitoring as a continuous process of systematic data collection to inform managers and key stakeholders on progress in relation to planned inputs, activities and results, as well as the use of allocated resources. Monitoring is structured around indicators, which are the measures of performance of the input, activity or results (output or outcome).

Evaluation is an assessment, as systematic and impartial as possible, of a policy, programme or project and its contribution to global objectives. It focuses on expected and achieved accomplishments, examining the results chain, processes, contextual factors and causality, in order to understand achievements or the lack thereof. It aims at determining the relevance, impact, effectiveness, efficiency and sustainability of the interventions and the contributions of the implementing bodies. An evaluation should provide evidence-based information that is credible, reliable and useful, enabling the timely incorporation of findings, recommendations and lessons into the decision-making processes of the implementing agencies.

Monitoring and evaluation is therefore conducted for the following reasons; the first one being to provide the project managers and stakeholders (including donors) with information on the extent to which the projects is meeting its objectives; secondly, is to build transparency and accountability on the use of project resources; thirdly, to provide project staff with a clearer basis for decision; and fourthly for future project planning and development which is improved when guided by lessons learned from project experience.

Regular monitoring of change forms an important part of Theory of Change thinking. Many organizations choose to link their monitoring and evaluation systems to their Theories of Change, either by setting indicators at each level of change on their conceptual pathway or by attempting to assess change directly (James, 2011). This enables organizations to assess where change is happening, and where it is not happening, and to track whether or not they are making progress towards their longer-term goals or impact.

2.3.1 Monitoring and Evaluation Planning and Project Performance

Poor planning and budgeting negatively affects completion, it brings about delays because of closures and materials shortage (Aibinu, A.A &Jagboro, G.O., 2002; Saleh S, A, S., 2008). The study emphasizes that availability of resources as planned brings about timely completion of projects. According to Jean, Diana & and Avan, "A theory of change is utilized in strategic planning by management and decision making as a project or programme develops and progresses. It can also reveal what should be evaluated, and when and how, so that project and programme managers can use feedback to adjust what they do and how they do it to achieve the best results.

The project budget should provide a clear and adequate provision for monitoring and evaluation activities. A monitoring and evaluation budget can be clearly delineated within the overall project budget to give the monitoring and evaluation function the due recognition it plays in project management (Gyorkos, 2003; McCoy, 2005).

A monitoring and evaluation budget should be about 5 to 10 percent of the total budget, (Kelly and Magongo, 2004): (IFRC, 2001). Crawford and Bryce, (2003) how argue that awareness of project budget allocation to the stakeholders is key to successful monitoring and evaluation.

According to Otim and Alinaitwe (2015), poor planning and poor management by UNRA Weaknesses were observed in the planning, supervision and monitoring of work contracts by UNRA. There were many projects going on at the same time creating a contract management crisis to UNRA leading to ineffective monitoring. This signifies poor initial planning yet it is the determinant of the future projects.

According to Annie (2009) planning for Monitoring and Evaluation helps an organization can achieve a variety of results which are instrumental in its growth namely; strengthened organisational capacity through skills, staffing and leadership; strengthened alliances through level of coordination, collaboration and mission alignment; strengthened base of support through the grassroots, leadership and institutional relationships and alliances; improved policy through stages of policy change in the public policy arena, including adoption, implementation and funding; shift in social norms through the knowledge, attitude, values and behaviours; changes in impact through the ultimate changes in social and physical lives and conditions. Impact is affected not just by policy change, but by other strategies, such as community support and changes to behaviours (Annie, 2009).

The United Nations Development Program (UNDP, 2009) handbook on planning, monitoring and Evaluation for development results emphasizes that human resource is vital for an effective monitoring and evaluation, by stating that staff working should possess the required technical expertise in the area in order to ensure high-quality monitoring and evaluation. Implementing of an effective M&E demands for the staff to undergo training as well as possess skills in research and project management, hence capacity building is critical (Nabris, 2002).

ChabotaK, Mundia, MandKanyuka M. (2009). On the other hand, delayed payments, financial processes and difficulties on the part of contractors and clients, contract modification, economic problems, materials procurement, changes in drawings, staffing problems, equipment unavailability, poor supervision, construction mistakes, poor coordination on site, changes in specifications and labor disputes and strikes were found to be the major causes of schedule delays in road construction projects.

2.3.2 Monitoring and Evaluation Capacity and Project Performance

Monitoring and evaluation capacity refers to an organization's ability to conduct, use, and continuously learn from evaluation processes, (James Bell Associates, 2013).

According to Gibbs, et al., 2002, monitoring and evaluation capacity is the extent to which an organization has the necessary resources and motivation to conduct, analyze, and use evaluations.

The technical capacity of the organization in conducting evaluations, the value and participation of its human resources in the policymaking process, and their motivation to impact decisions, can be huge determinants of how the evaluation's lessons are produced, communicated and perceived, Vanessa and Gala, (2011). Human resources on the project should be given clear job allocation and designation befitting their expertise, if they are inadequate then training for the requisite skills should be arranged. For projects with staff that are sent out in the field to carry out project activities on their where is need for constant and intensive on-site support to the outfield staff, Ramesh,(2002):and Reijer et al, (2002).

Pearce and Robinson, (2004) argue that in most poorly performing projects, monitoring and evaluation is not prioritized. One if the larger aspects of developing employee's skills and abilities is the actual organizational focus on the employee to become better, either as a person or as a contributor to the organization. The attention by the organization coupled with increased expectations following the opportunity can lead to a self-fulfilling prophecy of enhanced output by the employee, Pearce and Robinson, (2004).

It is essential to build capacity to stakeholder's carrying out M&E of any project. Good M&E is dependent on good planning. Evaluation must also be independent and relevant.

Independence is achieved when it is carried out by entities and persons free of the control of those responsible for the design and implementation of the development intervention; OECD, (2002) and Gaarder and Briceno, (2010). Research shows that it is vital to determine what methods are appropriate to the users' needs the given context and issues of data, baseline and indicators (Hulme, 2000).

If the capacity building in monitoring and evaluation is to be effective it is important to know what the purpose of capacity building is, who the providers and recipients of capacity building are, and whose perspectives is one interested in? According to World Bank (2008) a capacity building provider may carry out activities (such as training or mentoring) in order to support the capacity development of a partner. If this is designed to improve results in a specific project then it may be theoretically possible to measure the results in terms of improved outcomes/impact at beneficiary level within that project (Carroll, 2009).

Other necessary skills including data collection skills such as conducting interviews, conducting focus group discussion, data analysis and report writing skills, Hughes d'Ateth, (2002): and Gibbs et al., (2002) are not there altogether.

Reichardt and Rallis, (2004) argues that if the capacity building is of a more general nature, seeking improvements in the invisible core areas of vision, values and culture, or if it is concerned with internal organizational systems such as planning, fundraising or human resources, then it was impossible to trace all the wider results (whether positive or negative) as

they spread out in time and space. In these circumstances, the best that can be done is to record some of the changes that have occurred.

There has been a consensus with regards to the effect of monitoring and evaluation training on performance of road construction projects; studies (have found out that higher levels of competence and training have a positive effect on performance, (Wambui, Ombui&Kagiri, 2015). An increment in training increases performance. This is because training entails the decision making capabilities, management skills and experience which all affect performance of road construction projects to a very large extent.

The data findings also show that a unit increase in contractors' competency variable will lead to an increase in performance of road construction projects. This implies that the most significant factor is contractors' competency

Nyangwara and Datche, (2015), in their study on road construction project found out that competence development between employees and belonging to work affect strongly on productivity, cost and time performance of contractors.

Aibinu, and Jagboro (2002) and Saleh, (2008), poor planning and budgeting negatively affects completion, it brings about delays because of closures and materials shortage. The study emphasizes that availability of resources as planned brings about timely completion of projects.

M&E practical training is important in capacity building of personnel because it helps with the interaction and management of the M&E systems. M&E systems training starts with the understanding of the M&E theory and ensuring that the team understands the linkages between

the project theory of change and the results framework as well as associated indicators (CPWF, 2012). Training should therefore be practical focused to ensure the understanding (CPWF, 2012).

Theory of change (Perrin, 2012); it is a casual logic that links research activities to the desired changes in the actors that a project targets to change. It is therefore a model of how a project is supposed to work. The function of a theory of change is to provide a road map of where the project is heading while monitoring and evaluation tests and refines that road map (CPWF, 2012 and Perrin, 2012).

Training is essential in improving performance of employees as well as supporting them; it also helps in identifying their competencies so that they can perform a task and evaluating how they perform. (Wagonhurst, 2002; Ridha, 1998).

Nyerere (2009) is in agreement with the previous statement that, failure to invest in skill training by Kenyan institutions results in understaffing which leads to poor quality education that is not synchronized with the requirements of the labor market or local livelihoods (Nyerere, 2009).

In addition, Susan (2013) postulates that, relevance, efficiency, effectiveness, sustainability and impact measures, could be used to measure evaluation of the training programs. This could possibly be done through designing a logical framework that shows the activities, predictable outputs, M&E tasks, verification measures, the action centers, resource requirements and the time-frame" (Susan, 2013). This theory emphasizes the significance of the relationship between training of employees with performance at the work place. Specifically, managers should understand the success of the projects can be influenced greatly by training employees on monitoring and evaluation practices.

Barney (1991) further states that a firm is a collection of physical capital resources, human capital resources and organizational resources. The core premise of the resource-based view is that organizational resources and capabilities can vary significantly across firms, and that these differences can be stable. The theory focuses on the idea of costly-to-copy attributes of the firm as sources of business returns and the means to achieve superior performance and competitive advantage (Conner, 1991).

Chandler (1990) indicates that an organizational capability emanates from lower management, middle and top management and that a firm can gain competitive advantage when its resources and capabilities are used properly. He further states that if these organization capabilities were carefully synchronized and assimilated it could achieve the economies of scale and scope needed to compete in national and international markets (Chandler, 1990).

Barney (1986) states that, "sustainable competitive advantage is derived from resources that are valuable, rare, imperfectly imitable (due to path-dependence, causal ambiguity, and social complexity), and no substitutable" (Barney, 1986).A resource-based view of the firm accepts that attributes related to past experiences, organizational culture and competences are critical for the success of the firm (Hamel &Prahalad, 1996). The above theory relates to human resource on performance of public organizations projects.

Additional studies indicate that, in –turn numerous training manuals, hand books and toolkits have been developed for NGO staffs working in project, in order to provide them with practical tools that will enhance result-based management by strengthening awareness in M&E (Hunter, 2009). They also give many practical examples and exercises, which are useful since they

provide the staff with ways of becoming efficient, effective and have impact on the projects (Shapiro, 2011).

According to Woolcock (2011), "some projects may, of their nature; yield high initial impacts while others may inherently take far longer, even decades, to show results, not because they do not work after three years, but because it is simply how long it takes. Burt (2012) further states that the theory of change is useful during implementation as it can check on quality and thus help program team distinguish between implementation failure and theory failure. Burt further contends that it is essential to involve key stakeholder and staff in the development of the theory of social change as it will create a sense of ownership.

Building an adequate supply of human resource capacity is critical for the sustainability of M&E system and is generally an ongoing issue. Furthermore, it needs to be recognized that "growing" evaluators requires far more technically oriented M&E training and development than can usually be obtained with one or two workshops. Both formal training and on-the-job experience are important in developing evaluators with various options for training and development opportunities which include: the public sector, the private sector, universities, professional associations, job assignment, and mentoring programs (Acevedo et al., 2010:24).

Monitoring and evaluation carried out by untrained and inexperienced people is bound to be time consuming, costly and the results could generated prove impractical and irrelevant. Therefore, this will definitely impact the success of projects (Nabris, 2002). In assessment of CSOs in the Pacific, UNDP (2011) discusses some of the challenges of organizational development as having inadequate monitoring and evaluation systems. Additionally, the lack of capabilities and opportunities to train staff in technical skills in this area is clearly a factor to be considered.

During the consultation processes, there was consensus among CSOs that their lack of monitoring and evaluation mechanisms and skills was a major systemic gap across the region. Furthermore, while there is no need for CSOs to possess extraordinarily complex monitoring and evaluation systems, there is certainly a need for them to possess a rudimentary knowledge of, and ability to utilize reporting, monitoring and evaluating systems.

2.3.3 Monitoring and Evaluation Communication and Project Performance

According to S. Meeampol and S.O Oqunlan, (2006), lack of communication between designers and contractors, lack of communication between client and project team, customer/end-user related issues negatively affects project performance in terms of cost and completion time.

The study further emphasizes that poor communication by consultant with other parties, contractor with other parties as well as insufficient communication between the owner and designer or other parties in design phases has significant influence on the project performance.

Ogutu, B. O and Muturi, W (2017), agree that timely communication affects successful completion of road construction projects. To avoid delays, convey correct information about road construction issues, information should be relayed on time and to the right parties.

In the study by Mwanjiku, (2015), the inadequacy of the management of information system was characterized by poor means of monitoring and evaluation data storage, poor data processing, poor means of dissemination of monitoring and evaluation information.

Mwanjiku, (2015) ascertains that lack of an effective communication strategy to convey information on M&E reports is considered a great challenge in construction projects.

Fast and effective communication transfer among managers and participants speed up road construction process and hence performance of road contractors, (Mwangi, 2016).

The theory of change also assumes as a powerful tool for project reflection and communication in order to influence policy and participation (James, 2011).

2.4 Summary

The review of literature reveals wide use of theory of change perspective to monitoring and evaluation practices suggesting a lot of influence on projects. There is however limited empirical research testing the theory of change of project performance in the construction sector.

Correspondingly, the review of existing literature suggested that project M&E practices according to the literature takes the form of planning, human and budgetary capacity and communication, data management and there has been increased interest to research on the influence of M&E practices on project performance of the road construction sector. However, there is scanty literature on the extent to which M&E practices have influenced the performance of projects in the road construction sector especially in the developing countries.

The study will therefore strive to cover the raised literature gaps by testing the applicability of the theory of change to project performance and provide empirical evidence in the extent to which monitoring and evaluation practices contribute to project performance in the road construction sector of Uganda.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a description of the methodology the researcher employed in collecting and processing data about the topic of study. It specifies the research design; sampling procedures, research instruments and data analysis techniques that were used to explore the concepts under study. The chapter also describes the methods and the procedures which were used to conduct the study, as well as the research design, validity, reliability, data collection procedures, instruments and methods, primary data, data collection methods and ethical issues.

3.2 Research design

This study adopted cross-sectional research design. Kothari (2004), states that this is a type of design where data is collected from a cross sectional of respondents at a single point in time. Cross sectional survey contains multiple wealth of details, totality and variation which allows the author to understand fully how and where intervention may have worked collectively with correlated general effects. The study also applied quantitative and qualitative approaches. The qualitative approach analyzes deep facts through the use of open-ended questions as well as descriptive analysis (Creswel, 2009). The quantitative approach was used to establish a relationship that exists between Monitoring and evaluation practices and the performance of projects (Amin, 2005). It aimed at accurately describing monitoring and evaluation practices as perceived by the participants of the study and how it relates to performance of road

infrastructural projects in general. Quantitative approaches were adopted in sampling, data collection, data quality control and in data analysis.

3.3 Study population

The study was conducted at the UNRA offices, Kampala District, located on Plot 3-5 New Port Bell Road, UAP Business Park Nakawa, in central region of Uganda.

The study focused on Uganda National Roads Authority (UNRA). The study was carried out on an accessible population of 68 UNRA staff comprising of Directors, Managers, M&E Officers, Project Engineers, and Station Engineers. These were considered because of their influential role in roads project monitoring and evaluation and how it has influenced performance of road infrastructure projects. Effective use of lessons learnt in the different directorates would ideally contribute to a comprehensive road infrastructure project performance leading to improved attainment of UNRA's mandate.

3.4 Sampling procedure and sampling techniques

The study used stratified random sampling in which the selection of study respondents will be done by a Probability Proportional to Size (PPS) sampling method. A stratified random sampling involves dividing the entire population into homogeneous groups which are called strata (singular is stratum). Random samples are then selected from each stratum (Amin 2005). According M. H. Alvi (2016), this type of sampling method is used when population is heterogeneous i.e. every element of population does not matches all the characteristics of the predefined criteria.

This is a sampling technique for use with surveys or mini-surveys in which the probability of selecting a sampling unit is proportional to the size of its population. It gives a probability (i.e., random, representative) sample (Leedy, 1980). In other words, the number of respondents selected from each management category was based on the number of staff there. This method is very useful when sampling units vary considerably in size because it assumes that those in larger category have the same probability of getting into the sample as those in the smaller one, and vice versa.

3.5 Determination of the sample size

Through the above research population, appropriate representation of sample size was determined so as to get all the necessary information for the study. Since the research population is 68 UNRA staff, the sample size was determined by the use of Slovene's formula as indicated below:

$$n = \frac{N}{1+N(e^2)}$$

Where; n=sample size; e = the proportion of sampling error/ the level of significance, which is 0.05; N=Population Size. This can further be illustrated as below:

$$n = \frac{68}{1+68(0.05^2)}$$

n= 68

Thus, using the above formula, the sample size in this study was 68. Therefore, this study used stratified random sampling in which the selection of study respondents was done by a Probability Proportional to Size (PPS) sampling method. This sampling technique uses surveys or mini-

surveys in which the probability of selecting a sampling unit is proportional to the size of its population. It gives a probability (i.e., random, representative) sample (Leedy, 1980). In other words, the number of respondents selected from each management category is based on the number of staff there. This method is very useful when sampling units vary considerably in size because it assumes that those in larger category have the same probability of getting into the sample as those in the smaller one, and vice versa (Leedy, 1980). The information concerning the number of staff in each management category is got from Uganda National Roads Authority, (UNRA) Human Resource Establishment 2013. The number of staff to be selected randomly from each category is shown in table below.

Table 1: Distribution of number of staff selected randomly by Management position

Category of Respondents by management position	Target Population	Percentage proportion to total size	Proportion to sample size	Sampling Technique
Directors	6	8.8%	6	Census
Managers	30	44.1%	30	Census
M&E Officers	2	2.9%	2	Census
Project Engineers	8	11.8%	8	Census
Station Engineers	22	32.4%	22	Census
Total	**68**	**100**%	**68**	

Source: UNRA HR Establishment 2013

3.6 Data collection techniques

Given the nature of the study objectives, the study intends to use a survey approach where both qualitative and quantitative data were collected mainly from Directors, Managers, M&E Officers, Project Engineers, and Station Engineers, questionnaire survey and key informant

interviews review approaches were used to enable triangulation (Sekaran, 2003). Each of the methods used were discussed below:-

3.6.1 Questionnaire Survey

Questionnaire is one of the primary sources of data collection. The tool is designed to collect raw information or data using both open and closed ended questionnaire. Amin (2005) describes a questionnaire as a self-report instrument used for gathering information about the variables of interest under investigation. The researcher prepared set of interrelated questions about the subject based on the objectives and hypothesis of the study. Both open and closed ended questions were used. Open ended questions provided the respondents with an opportunity to give deeper understanding of the phenomena compared to the closed ended. The questionnaire were self-administered, 6 Directors,30 Managers, 2 M&E Officers, 8 Project Engineers, and22 Station Engineers. Mugenda and Mugenda (1999), notes that questionnaire method was valuable in collecting data from a large number of respondents.

3.6.2 Key Informant Interview

Key informant interviews according to Carter & Beaulieu (1992), are qualitative in-depth interviews with people who know what is going with the road projects. The purpose of key informant interviews is to collect information from a wide range of people-including community leaders, professionals, or residents-who have first-hand knowledge about the community. These community experts, with their particular knowledge and understanding, can provide insight on the nature of problems and give recommendations for solutions. Structured interview guides were designed for the directors & managers. The interviews were conducted with 6 Directors, 2

M&E Officers, 8 Project Engineers. This enabled the researcher to interact, probe and collect more accurate data from the respondents.

3.7 Data Collection Instruments

The data collection instruments mainly included; questionnaires and a key informant interview guide.

3.7.1 Questionnaires

The researcher used one questionnaire, for all the four categories that is; project managers, M&E Coordinators, support staff and beneficiaries. The questionnaire was self-administered to administer 6 Directors,30 Managers, 2 M&E Officers, 8 Project Engineers, and22 Station Engineers. The questionnaires contained interrelated questions about the subject being investigated, and was based on the objectives and hypotheses of the study. In the questionnaire, two broad categories of questions were formulated: structured or closed-ended questions to collect quantitative data and unstructured or open-ended questions for qualitative data as recommended by (Mugenda and Mugenda, 1999). In this study, a five headed response rating using the Likert scale; (5. Strongly agree, 4. Agree, 3.Not sure 2. Disagree and 1. Strongly disagree) was used to ease the filling of the questionnaire. The questionnaire was attached in the appendix.

3.7.2 Key Informant Interview Guide

One interview guide was administered to the selected groups of respondents, that is, Directors, M&E Officers, Project Engineers, and Maintenance Engineers. An interview guide was preferred to an interview schedule because it minimized response errors and places the researcher in a

better position to obtain accurate and detailed information from the respondents. Moreover, it is much more flexible than an interview schedule, thereby allowing for the collection of more and deeper information than a schedule does. The standardized open-ended interview is extremely structured in terms of the wording of the questions. Participants are always asked identical questions, but the questions are worded so that responses are open-ended (Gall, Gall, & Borg, 2003). This open-endedness allows the participants to contribute as much detailed information as they desire and it also allows the researcher to ask probing questions as a means of follow-up. According to Gall, Gall, and Borg (2003), this reduces researcher biases within the study, particularly when the interviewing process involves many participants. The interviews were conducted with 6 Directors, 2 M&E Officers, 8 Project Engineers. The guiding interview questions were based on the specific objectives of the study and the research hypotheses.

3.8 Data Quality Control

To ensure data quality, the study tested for both relevance of items in the data collection instruments and ability to produce consistent data. Presented in this section is a description on how validity and reliability of the instruments will be ensured.

3.8.1 Validity

Validity is the extent to which the data collection strategies and instruments measure what they purport to measure (OECD, 2002). Validity can also be an assessment of whether an instrument measures what it aims to measure (Bowling, 2002). This was established using a Content Validity index (CVI) through expert judgment of the items that were in the questionnaire. Each item in the questionnaire was rated by two or more experts in order to determine how valid the study instrument is.

The CVI = number of items rated relevant by the judges.

Total number of items in the instrument

The CVI was 0.8 meaning that the instrument was considered valid (Amin, 2004)

3.8.2 Reliability

The study undertook a pilot testing exercise on similar respondents from a different infrastructure project (about 10), later data was entered in SPSS to allow running for Cronbach Alpha.

Reliability is a measure of the questionnaire's consistency, in other words its precision of measurement (Cormack, 2000). The Cronbach's Alpha coefficient was used to measure the internal consistency and thus the reliability of the questionnaire. The SPSS computer program was used to compute coefficient values of each item in the questionnaire to obtain the coefficient value. Values which are high and close to one meant higher reliability or inter-item consistency. This therefore meant that the tools used produced consistent and stable result.

3.9 Data Collection Procedure

Upon the approval of the research proposal by the Uganda Christian University, and having received an introductory letter, the researcher went on to seek permission from, line head of various development projects for information before conducting the research. In addition, the researcher explained clearly the purpose of this study to the respondents so as to avoid misinterpretation and win their consent to participate in the study,so that the research study could

not be mistaken for a non-academic effort. All the information gathered was handled with utmost confidentiality.

3.10 Data Processing and Analysis

The study collected both quantitative and qualitative data. The section therefore presents how the different sets of data were analyzed.

3.10.1 Qualitative Data Analysis

The data was processed by clearing it and identifying gaps while still in the field (each day) in order to ensure that all questions are answered. In case of errors or unanswered questions, these were identified and corrected with clarity from the specific respondents. Data from interviews will be transcribed from oral into written format ready for analysis. Coding of all data was done by classifying it into meaningful, exhaustive and representative categories for purposes of data presentation and analysis.

3.10.2 Quantitative Data Analysis

The data was entered and later analyzed by SPSS. Quantitative data will be expressed in numeric terms for analysis using a SPSS (64.0). The researcher adoptedUnivariate analysis techniques in analyzing his data. Univariate analysis is the simplest form of quantitative (statistical) analysis. In addition to frequency distribution, tables, mean, standard deviation and other measures of central tendency will be used in data analysis. The statistical programme was used in the calculation of descriptive statistics, frequency percentages, drawing of frequency tables and figures. This is well-suited for quantitative description. Analysis and explanations were made to give meaning to the collected data. The Pearson correlation coefficient, Analysis of variance and

regression analysis was used to analyze quantitative data. According to Sekaran (2003), a correlation study is most appropriate to conduct the study in the natural environment of an organization with minimum interference by the researcher and no manipulation.

3.11 Measurement of Variables

The Likert scale was used as a measurement scale. A five Likert scale to be used on the questionnaire took this form: for instance 1. Strongly Disagree .2Disagree 3. Not Sure 4. Agree 5. Strongly Agree.

3.12 Ethical considerations

The researcher sought permission from the University authorities after having obtained a letter from the Proposal Defense Committee. He further informed respondents that the information required is entirely for academic purposes and response to the questionnaires should be done at will with anonymity.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter analyses and presents the study findings of Monitoring and Evaluation; Planning, Capacity and Communication's influence on the Performance of Road Infrastructure Projects in based on the information obtained from the study questionnaire, interviews and observation. It specifically presents the background information about the respondents and a presentation of the inferential findings in relation to the specific objectives.

4.2 Characteristics of Respondents

In this section, the characteristics of respondents included in the study are presented.

Table 2: Descriptive results on characteristics of respondents

Item	Description	Frequency	Percentage (%)
Age	18-25 years	17	25.0
	26-35 years	18	26.5
	36-45 years	26	38.2
	46-55 years	7	10.3
	Total	**68**	**100.0**
Gender	Male	40	58.8
	Female	28	41.2
	Total	**68**	**100.0**
Level of education	PhD	1	1.5
	Postgraduate	17	25.0
	Degree	36	52.9
	Diploma	10	14.7
	Certificate	4	5.9
	Total	**68**	**100.0**
Departments	Human Resource	10	14.7
	Planning	17	25.0
	Finance & Accounts	18	26.5

	Monitoring & Evaluation	19	27.9
	Others	4	5.9
	Total	**68**	**100.0**
Administrative positions	Directors	3	4.4
	Human Resource Manager	1	1.5
	Project Engineers	9	13.2
	Station Managers	9	13.2
	M & E Officers	15	22.1
	Project Managers	12	17.6
	Maintenance Engineer	8	11.8
	Assistant Station Engineers	11	16.2
	Total	**68**	**100.0**
No. of years in current position	Below 1 year	8	11.8
	1-5 years	37	54.4
	6-11 years	15	22.1
	12-17 years	7	10.3
	24 years & above	1	1.5
	Total	**68**	**100.0**
Involvement in M & E	Yes	59	86.8
	No	9	13.2
	Total	**68**	**100.0**

Source: Primary data

From the analysis conducted on the respondents' characteristics, majority 26(38.2%) of the respondents in the study were aged between 36 and 45 years and 7(10.3%) were aged 46 and 55 years. Among the respondents, majority 40(58.8%) were male and 28(41.2%) were female. Furthermore, only 1(1.5%) of all the respondents had been educated to a PhD level, 36(52.9%) had attained an undergraduate degree, and very few 4(5.9%) had certificates as their highest education level. The study findings also showed that most of the respondents 19(27.9%) were employed in an M&E department, followed by those employed in Finance and Accounts 18(26.5%), then 17(25%) in Planning department. Others were 10(14.7%) employed in Human Resource and 4(5.9%) in other departments. Important to note is that 15(22.1%) of the respondents were M&E Officers, followed by Project Managers 12(17.6%), 9(13.2%) Station

Managers and Project Engineers were included in the study. Only 8(11.8%) Maintenance Engineer and 3(4.4%) Directors were studied. Among the respondents, majority of them 37(54.4%) had been working for between 1-5years, and 15(22.1%) of them for 6-11years. There was only 1(1.5) had had work experience of 24 years and above. Others included 8(11.8%) for less than a year and 7(10.3%) for between 12-17 years. However, among all the workers, above average 59(86.8%) had experience in Monitoring and Evaluation.

4.3 The influence of M&E Planning on the Performance of Road Infrastructure Projects

The first objective of the study was to establish the extent to which M&E Planning influences the Performance of Road Infrastructure Projects. The performance of Road Infrastructure Projects according to the conceptual framework has one indicator of M&E Planning measured using 12 items scored on a five point Likert scale ranging from 5= Strongly Agreed, 4= Agree, 3= Neutral, 2= Disagree, 1= Strongly Disagree and the findings are presented two steps. In the section that immediately follow the descriptive statistics for M&E planning variable are presented and thereafter the correlation and regression results presented. In Table 1 below the descriptive statistics of the variable M&E planning are presented.

Table 3: Descriptive Results for M &E Planning

SN	Item	Disagree (%)	Agree (%)	Mean	S.D
i.	The top management had a positive attitude towards strengthening the monitoring and evaluation system of managing these activities	8.8	89.7	4.35	1.03
ii.	The organization had a well-defined structure that includes a monitoring and evaluation unit	10.3	79.4	4.00	1.051
iii.	The organization had a policy or set standards in place describing roles and responsibilities of the operation of M&E System.	11.7	80.9	4.03	1.036
iv.	The organization had an existing monitoring and	5.9	85.3	4.09	.842

	evaluation action plan and procedure to guide the M&E activities				
v.	The organization allocated sufficient Finances for M&E activities.	16.2	66.2	3.79	1.087
vi.	The period which was designated for the M&E was enough to exhaust requirements of the tasks involved.	14.7	75	3.81	1.110
vii.	There was a dedicated budget for M & E processes in the previous project	16.1	73.5	3.84	1.087
viii.	The amount provided on the budget was sufficient for an effective M&E exercise.	16.1	83.8	3.96	1.057
ix.	Availability of Monitoring tools and equipment influenced the success of M&E processes.	10.3	72.6	3.88	1.100
x.	The organization provided sufficient finances for M&E Staff Hiring.	25	63.2	3.60	1.248
xi.	Finances for M&E Staff training were availed as required	14.7	64.8	3.76	1.173

N=68

Source: Primary data

The results from table 3 above shows that majority 89.7% of the respondents agreed that the top management had positive attitude towards strengthening the M&E system of managing various activities (Mean = 4.35). A total of 79.4% of the respondents agreed (Mean = 4.00) that UNRA had a well-defined structure that includes a M&E unit; 80.9 agreed (Mean = 4.03) that the organization had a policy or set standards in place describing roles and responsibilities of the operation of M&E System; 85.3% agreed (Mean = 4.09) that UNRA had an existing M&E action plan and procedures to guide the M&E activities. This also was highlighted by an M&E officer during the interview;

> *"We have an M&E Manual prepared which highlights all the activities that are supposed to be undertaken/contactor activities"*

While 66.2% agreed (Mean = 3.79) that the organization allocated sufficient finances for M&E activities. Additionally, results also indicated 75% of the respondents agreed (Mean = 3.81) that

the period which was designated for the M&E was enough to exhaust requirements of the tasks involved. This is backed by this statement from the interview with the M&E officer as part of their M&E planning activities;

> *"…for example during the project we had with the World Bank, we first scheduled a work plan on the landscape and the work was successfully achieved"*

73.5% agreed (Mean = 3.84) that there was a dedicated budget for M&E processes in the previous project; and it was sufficient for an effective M&E exercise (Mean = 3.96); and the success of M&E process was influenced by the availability of Monitoring tools and equipment (72.1%, Mean = 3.88). Furthermore, 63.2% of the respondents agreed (Mean = 3.60) that UNRA provided sufficient finances for M&E staff hiring; and training them (64.8%, Mean = 3.76).

From the above results, what seemed to stand out among the respondents was that the top management had a positive attitude towards strengthening the monitoring and evaluation system of managing these activities which was shown by a very high Mean = 4.35 and a low S.D of 1.03.

4.3.1 Pearson's Correlation Analysis between M&E planning and the performance of road infrastructure projects

To test if there was relationship between M&E Planning and Performance of Road Infrastructure Projects, a correlation analysis was conducted using Pearson's correlation coefficient and significance at the 99 and 95 confidence limits (two tailed level) and the findings are presented in Table below.

Table 4: Correlation Results between M&E Planning and Performance of Road Infrastructure Projects

		M&E Planning	Project Planning
M&E Planning	Pearson Correlation	1	.424**
	Sig. (2-tailed)		.001
	N	68	68
Project Performance	Pearson Correlation	.424**	1
	Sig. (2-tailed)	.000	
	N	68	68
**. Correlation is significant at the 0.01 level (2-tailed).			

P≤ 0.01

Source: Primary data

Table 4 above shows Pearson's correlation coefficient r = 0.424** between M&E Planning and Performance of Road Infrastructure project suggesting that the two variables had a positive significant relationship. The r = 0.424** and significance p = 0.001 suggests that there was a moderate positive significant relationship between M&E Planning and performance of roads infrastructure projects. This meant that an increase in M&E planning would be associated with an increase UNRA's roads project performance i.e. greater M&E planning is associated with greater performance of roads infrastructure projects.

4.4 The influence of M&E Capacity on the performance of road infrastructure projects

The second objective of the study was to establish the extent to which M&E Capacity influences the Performance of Road Infrastructure Projects. The performance of Road Infrastructure Projects according to the conceptual framework has two indicators of Budgetary Allocation and Human Resources Capacity measured using 13 items scored on a five point Likert scale ranging from 5= Strongly Agreed, 4= Agree, 3= Neutral, 2= Disagree, 1= Strongly Disagree and the

findings are presented two steps. In the section that immediately follow the descriptive statistics for M&E capacity variable are presented thereafter the correlation and regression results presented. In Table 5 below the descriptive statistics of the variable M&E capacity are presented.

Table 5: Descriptive Results for M&E Capacity

SN	Budgetary Allocation for road infrastructure projects	Disagree (%)	Agree (%)	Mean	S.D
1.	Project budgets provide a clear and adequate provision for M&E activities	8.9	86.8	4.12	.907
2.	The money for M&E was usually channeled to the right purpose.	5.9	75	3.87	.827
3.	A realistic estimation for M&E is usually undertaken while planning for projects.	13.3	72	3.82	1.119
4.	Two separate budget lines are provided to this department for its M&E.	19.1	66.2	3.66	1.045
5.	The major challenge faced by this team is sourcing and securing financial resources for M&E of outcomes.	16.1	72	3.91	1.143
	Human Resources Capacity Building for road infrastructure projects				
6.	Proper training and experience is vital for the production of M&E results.	13.3	80.1	4.06	1.157
7.	Technical capacity of the organization can be a huge determination of how the evaluation's lessons are produced.	13.2	79.4	3.84	1.180
8.	Building and adequate supply of human resource capacity is critical for the sustainability of the M&E system.	7.4	79.4	4.01	1.086
9.	Staff commitment contributes more to the success of the projects.	10.3	83.8	3.97	1.079
10.	Monitoring and Evaluation system cannot function without skilled people.	7.4	83.8	4.35	.974
11.	Training levels of M&E personnel influences effectiveness of M&E.	7.4	75	4.04	.969
12.	Dominance of the unskilled M&E staff on road projects influences the level of efficiency of M&E processes.	10.3	78	3.96	1.043
13.	Remuneration of M&E staff significantly influences M&E of roads projects.	5.9	75	4.01	1.015

Source: Primary data

Table 5 above shows that majority of 86.8% of the respondents agreed that project budgets provide a clear and adequate provision for M&E activities (Mean = 4.12) while 75% indicated that the money for M&E was usually channeled to the right purpose (Mean = 3.87). This statistic is affirmed by what the interviewee had to say;

> *Yes; we always have budget to meet transport costs, salaries/ remuneration, and risk assessment. The budgets also cater for the purchase of machinery like compressors/tractors/hoes and spades used in the field"*

A total of 72% indicated that a realistic estimation for M&E is usually undertaken while planning for projects (Mean = 3.82) while 66.2% indicated that two separate budget lines are provided to the M&E department (Mean = 3.66). Furthermore, 72% of the respondents indicated that the major challenge faced by the M&E team is sourcing and securing financial resources for the M&E outcomes (Mean = 3.91) whereas 80.1% of the respondents indicated that proper training and experience is vital for the production of M&E results (Mean = 4.06). As affirmed by the following statement from the interviewee;

> *"YES; we acquire kills, knowledge and exposure"*

These findings revealed that 79.4% of the respondents agreed that technical capacity of the organization can be a huge determination of how the evaluation's lessons are produced (Mean = 4.01) while 83.8% agreed that staff commitment contributes more to the success of the projects similar to those who stated that M&E system cannot function without skilled people (Mean = 3.97, 4.35) respectively. The study findings indicated that majority 75% of the respondents agreed that the training levels of M&E personnel influences effectiveness of M&E (Mean = 4.04), as stated by this officer;

> *…especially risk assessment training, and equipment usage and handlinge.g. staff are trained on how to handle equipment, reducing the extra costs that could have been incurred regularly in replacing and repairing the machines"*

while 78% also indicated that if an organization is dominated by unskilled M&E staff on the road projects influences the level of efficiency of M&E processes (Mean = 3.96). Respondents as well agreed that remuneration of M&E staff significantly influences monitoring and evaluation of roads projects.

In summary, the above respondents seemed to agree that the Monitoring and Evaluation system cannot function without skilled personnel. This is shown by a very high Mean of 4.35 and a low Standard Deviation of 0.974.

4.4.1 Correlation Analysis between M&E Capacity and Performance of Road Infrastructure Projects

To test if there was relationship between M&E Capacity and Performance of Road Infrastructure Projects, a correlation analysis was conducted using Pearson's correlation coefficient on M&E Budgetary Allocation, Human Resources Capacity and Performance of Road Infrastructure Projects and significant at the 99 and 95 confidence limits (two tailed level) and the findings are presented in the Table below.

Table 6: Correlation Results between M&E Budgetary Allocation, M&E Human Resource Capacity Building and Performance of Road Infrastructure Projects

		M&E Budgetary Allocation	**M&E Human Resource Capacity Building**	**Project Performance**
M&E Budgetary Allocation	Pearson Correlation	1	.500**	.406**
	Sig. (2-tailed)		.000	.001
	N	68	68	68
M&E Human Resources Capacity Building	Pearson Correlation	.500**	1	.387**
	Sig. (2-tailed)	.000		.001
	N	68	68	68
Project Performance	Pearson Correlation	.406**	.387**	1
	Sig. (2-tailed)	.001	.001	
	N	68	68	68
**. Correlation is significant at the 0.01 level (2-tailed).				

$P \leq 0.01$

Source: Primary data

Table 6 above shows Pearson's correlation coefficient $r = 0.406^{**}$ between M&E Budgetary Allocation and Project Performance suggesting that the two variables had a positive significant relationship. The $r = 0.406^{**}$ and significance $p = 0.001$ suggests that there was a moderate positive significant relationship between the two variables. Additionally, Pearson's correlation coefficient $r = 0.387^{**}$ between M&E Human Resource Capacity Building and Performance of Roads Infrastructure projects suggested that there was a moderate, positive statistically significant relationship between the two variables ($p = 0.001$). The implication was that the performance of roads infrastructure projects in UNRA highly depended on the Monitoring and Evaluation Capacity (Human Resource Capacity Building and Budgetary Allocation). Since it

was a positive correlation, it signified that an increase in M&E Capacity would mean an increase in the performance of roads infrastructure projects.

4.5 The influence of M&E Communication on the performance of road infrastructure projects

The third objective of the study was to establish the extent to which M&E Communication influences the Performance of Road Infrastructure Projects. The performance of Road Infrastructure Projects according to the conceptual framework has one indicator of M&E Communication measured using 7 items scored on a five point Likert scale ranging from 5= Strongly Agreed, 4= Agree, 3= Neutral, 2= Disagree, 1= Strongly Disagree and the findings are presented two steps. In the section that immediately follow the descriptive statistics for M&E communication variable are presented and thereafter the correlation and regression results presented. In Table 7 below the descriptive statistics of the variable M&E communication are presented.

Table 7: Descriptive Results for M&E Communication

SN	M&E Communication	Disagree (%)	Agree (%)	MEAN	SDV
1.	Usually, there is a management information system or database to frequently provide data.	5.8	89.7	4.25	.904
2.	All staff get feedback after measurement of project activities.	7.4	82.4	3.99	1.044
3.	The overall M&E systems meet the information needs of staff	8.8	76.5	3.87	.929
4.	Organisation's M&E materials available support data sharing	16.2	70.6	3.81	1.249
5.	Feedback shared with M&E staff enables quality decision making and clear judgments of actions to be shared.	13.3	80.8	3.99	1.165
6.	Through M&E information sharing there is timely corrective actions and problem solving.	4.4	75	4.06	.862

7.	Feedback of M&E information after measurement of project activities enhances clarity and changes in practices	11.7	75	4.00	1.079

Source: Primary data

Table 7 above shows that a big portion (89.7%) of the respondents agreed that UNRA has a management information system or database that frequently provides data. On the other hand, a slightly lower percentage (82.4%) of the respondents agreed that all staff get feedback measurement of project activities (Mean = 3.99). This statistic is affirmed by this statement as mentioned during the key informant interview;

> *"Staff meetings carried out to share information of what has gone right or wrong and what needs to be done"*

A total of 76.5% also agreed that the M&E systems meet the information needs of staff while 70.6% stated that UNRA's M&E materials available, support data sharing (Mean = 3.81). For example a key informant had this to say about the M&E systems of information sharing;

> *"Management software systems have been designed to help store timely information in the field which is recorded by the field supervisors"*

In addition, respondents stated that the feedback shared with M&E staff enables quality decision making and clear judgments of actions to be shared (80.8%, Mean = 3.99) and it is through information sharing, that there is timely corrective actions and problem solving (75%, Mean = 4.06),

> *"…feedback is sent to the field operators with correctional information about what went wrong and what is proposed to be done moving forward"*

Lastly, the respondents also agreed that feedback of M&E information after measurement of project activities enhances clarity and changes in practices (75% and Mean = 4.00).

From Table 5 above, results from the majority of the respondents suggested that UNRA has a management information system or database to frequently provide the required data. This was shown by a high Mean of 4.25 and a standard deviation of 0.904.

4.5.1 Correlation Analysis between M&E Communication and the Performance of Road Infrastructure Projects

To test if there was relationship between M&E Communication and the Performance of Road Infrastructure Projects, a correlation analysis was conducted using Pearson's correlation coefficient and significant at the 99 and 95 confidence limits (two tailed level) and the findings are presented in the Table below.

Table 8: Correlation Results between M&E Communication and Performance of Road Infrastructure Projects

		M&E Communication	Project Performance
M&E Communication	Pearson Correlation	1	.586**
	Sig. (2-tailed)		.001
	N	68	68
Project Performance	Pearson Correlation	.586**	1
	Sig. (2-tailed)	.000	
	N	68	68
**. Correlation is significant at the 0.01 level (2-tailed).			

P≤ 0.01

Source: Primary data

From table 8 above, Pearson's correlation coefficient r = 0.586** between M&E Communication and Project Performance suggests that the two variables were significantly related. The r = 0.586**and significance p = 0.001 between M&E Communication and performance of road infrastructure projects suggests that there was a high positive significant relationship between the variables. The positive correlation coefficient (r) implied that the two variables moved in the same direction where by an increase in Monitoring and Evaluation Communication would mean increased performance of roads infrastructure projects in Uganda.

4.6 Multiple Linear Regression Analysis

Multiple regression analysis was carried out to establish the overall causal effect of M&E Planning, M&E Capacity (Budgetary Allocation and Human Resource Capacity) and M&E Communication on the Performance of Road Infrastructure Projects using adjusted R2 statistics. The multiple regression analysis was also conducted to establish which among the dimensions of the independent variable was the most significant predictor of the variance in the Performance of Road Infrastructure Projects in UNRA using standardizes coefficient statistics and are presented in the Table below.

Table 9: Multiple Linear Regression Analysis Results for Monitoring and Evaluation Practices and Performance of Road Infrastructure Projects in Uganda

Model Summary					
R	R Square		Adjusted R Square	Std. Error of the Estimate	
.647[a]	.419		.382	.42990	
ANOVA					
Model	Sum of squares	df	Mean Square	F	Sig.
Regression	8.405	4	2.101	11.370	.000[b]
Residual	11.643	63	.185		

Total	20.049	67			
Coefficients					
	Unstandardized Coefficients		**Standardized Coefficients**		
Variables	B	Std. Error	Beta	T	P-value
(Constant)	1.296	.423		3.065	.003
M&E Planning	.092	.092	.114	.997	.322
M&E Capacity	.097	.092	.123	1.049	.298
M&E HR Capacity	.140	.095	.166	1.480	.144
M&E Commn	.344	.089	.438	3.877	.001
a. Dependent Variable: Project Performance					
b. Predictors: (Constant), M&E Planning, M&E Capacity, M&EHR Capacity, M&E Commn					

P<0.05

Source: Primary data

According to Table 9 above, R Square is the coefficient of determination. It indicates how much of the total variation in the performance of road infrastructure projects can be explained by M&E Planning, M&E Capacity, M&E HR Capacity, and M&E Communication. In this case R square of 0.419 or 41.9% of the total variation in the performance of road infrastructure projects can be explained by M&E Planning, M&E Capacity, M&E HR Capacity, and M&E Communication putting into consideration all the variables and the sample size of the study.

The Analysis of Variance (ANOVA) established whether the regression model predicted the performance of road infrastructure projects significantly well. From the above model, F-ratio is 11.370, which is very unlikely to have happened by chance (P<.001). Therefore, the results show that the model predicts the performance of road infrastructure projects significantly well.

The standardized coefficient statistics revealed that M&E Communication is the single highest significant predictor of the variance in the Performance of Road Infrastructure Projects (β = 0.438, t = 3.877, p = 0.001) compared to M&E Planning, M&E Capacity, and M&E HR

Capacity whose t-test results were very low thus insignificant values (P>0.05). The implication is that Monitoring and Evaluation Communication influences Performance of Road Infrastructure Projects by 43.8%.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

In this chapter the discussion of the study findings are presented. The discussion is organized around the three objectives of the study. In the section which immediately follows, the discussion regarding the findings of the first objective is presented. In this objective, the study sought to establish the influence of M&E planning on the performance of road infrastructure projects. This discussion is given in section 5.2. Section 5.3 (5.3.1 & 5.3.2) present the discussion pertaining the second objective. In this objective, the study sought to examine the influence of M&E capacity (budgetary allocation and human resource capacity building) on the performance of road infrastructure projects. Lastly, section 5.4 presents the discussion pertaining to the third objective. This objective sought to examine the influence of M&E communication on the performance or road infrastructure projects.

5.2 Discussion of the findings in relation to the influence of M&E planning on the performance of road infrastructure projects

Objective one sought to establish the influence of M&E planning on the performance of road infrastructure projects. The findings of the study revealed that a positive influence between M&E Planning and performance of road infrastructure projects which planning in the study context involves; strengthening M&E systems, having policies and standards that describe the roles and responsibilities of M&E operations, having an M&E action plan and procedure that guide the M&E activities, and having sufficient funds allocated for hiring and training staff for M&E

planning activities. This means that, if the above factors are properly implemented, the performance of road infrastructure projects will be enhanced. However, it also means that, in an instance that those factors are poorly implemented; the performance of the road infrastructure projects will be negatively affected.

These findings are also in a close concurrence with the statement from the key informant interview from one UNRA M&E officer that;

> *"M&E Planning made our work easier/successful in that through planning we were able to get the sketch map that guided us to every road centre we had to construct."*

In addition, the findings also suggest that M&E planning is an integral part of any project, which is normally done during the phase one of the project cycle, while carrying out feasibility study of the project. The phase one of the projects includes clearly outlining the projects objectives and making financial arrangement for the project in question, as this key informant interviewee seemed to agree that;

> *"The compensations that were made helped solve issues of conflicts between contractors and the members of the society especially on MukonoKatosi Road. Failure to plan means planning to fail."*

More so, Gyorkos (2003) notes that M&E planners should include a clearly delineated monitoring and evaluation plan as an integral part of the overall project plan. Having a clearly delineated monitoring and evaluation plan ensures that monitoring and evaluation activities are given the due attention they require and are not treated as a peripheral function on the project.

5.3 Discussion of the findings in relation to the influence of M&E capacity on the performance of road infrastructure projects

Objective two sought to examine the influence of M&E capacity on the performance of road infrastructure projects. The findings concluded that M&E capacity seemingly has a positive influence of the performance of road infrastructure projects which capacity in the study context included budgetary allocation and human resource capacity building as the two indicators that can influence the performance of road infrastructure projects.

5.3.1 Budgetary allocation and its influence on road infrastructure projects

Findings concluded that UNRA provides a clear and adequate budget for M&E activities. This therefore means that the budget is usually channeled to its right purpose which is M&E. This seems to stress the fact that most of the road infrastructure projects under UNRA are government funded or donor funded, and hence a strict monitoring and accountability mechanism.

The findings also are in concurrence with what a key informant interviewee who said that, *"a realistic portion of the M&E budget is usually undertaken while planning for projects"*. This means that M&E capacity is built during the planning stage, as this other key informant agrees in the statement below;

> *"Budget allocation helped improve delivery of road project results for instance finances allocated towards the road infrastructure was able to cater for the most important activities like carrying out assessment of where the roads are supposed to pass"*

More to the above, the production of M&E results calls for proper training and experience and as a result, a deliberate budget allocated for this skilling of the M&E teams is required.

In addition to that, findings also agree with Gibbs, et al., 2002, whose definition of M&E capacity is that monitoring and evaluation capacity is the extent to which an organization has the necessary resources and motivation to conduct, analyze, and use evaluations.

Finally, findings also indicated that despite the benefits of proper M&E budget allocation in building capacity, there lays a challenge of limited budgets as also stressed by the following statement from the key informant;

> *"There is normally a deficit budget to work with compared with the amount of work to be accomplished. The budget allocated is not effective enough for the operation of all activities in road infrastructure"*

5.3.2 Human resource capacity building and its influence on road infrastructure projects

The findings revealed that human resource capacity building is a huge determination of how the evaluation's lessons are produced. This therefore means that M&E staff needs to be highly motivated in order for them to be committed to the work. The success of a road infrastructure project, as indicated by the findings cannot happen without skilled personnel. This was also highlighted during the interview with an M&E field officer from UNRA, that;

> *"Trainings help motivate the employees to effectively produce good work"*

These findings also believe that the levels of training and skilling of the M&E team are very important. This means therefore that the higher the level of training for the M&E personnel, the greater the influence and effectiveness of road infrastructure projects. When an organization is dominated by unskilled M&E staff on the road projects, the levels of M&E efficiency will be greatly compromised, as stressed by this officer of M&E from UNRA;

> *"...personnel training is very important since most of the work involved during construction are practical and involved use of machinery and equipment to produce output"*

In addition to the above, findings indicated that proper remuneration of M&E staff significantly influences their performance and as a result the performance of road infrastructure projects. This result agrees with the report from the World Bank (2008) that a human resource capacity building provider may carry out activities (such as training or mentoring) in order to support the capacity development of a partner. This was also expressed by an interviewee that;

> *"Human resource capacity building helps in increased innovation in strategies, for instance once trained, a worker can easily invent new ways in which they can accomplish their targets"*

5.4 Monitoring and Evaluation Communication and performance of road infrastructure projects

Objective three sought to examine the influence of communication on the performance of road infrastructure projects. The findings of the study indicate that communication has the biggest significant percentage of influence on the performance of road infrastructure projects in which communication according to the context of the study included a management information system and a database that frequently provides data for M&E and met the information needs of the M&E staff, feedback to enable decision making and timely corrective actions.

This coincides with Mwanjiku (2015) who states that the inadequacy of the management of information system is characterized by poor means of monitoring and evaluation data storage, poor data processing, poor means of dissemination of monitoring and evaluation information.

More so, the findings show that not only are these information systems in place, but they are also meeting the needs of the staff because the UNRA's M&E materials available support data and communication sharing, as supported by this key informant interviewee;

> *"... especially the social media or the online sharing of information since almost all the workers have smart phones and gadgets to enable information sharing. Management software systems which are designed to help store timely information in the field which is recorded by the field supervisors. Weekly meetings of staff help to air out the current issues at hand and provide remedies to the issues raised. E.g. on Bukelele road project the systems"*

In addition, the findings also indicate that the feedback is received from the different communication channels helps in decision making and clear judgments for the next course of action, and as a result that there is timely corrective actions and problem solving, as supported by this statement from a UNRA official, that;

> *"Timely feedback helps staff to correct their mistakes/errors for instance in the LOT 7 Project with the World Bank, most junior staff gave substandard information from the field and then the seniors interjected in their mistakes were corrected"*

More to the above, another UNRA field officer stated that;

> *"Field supervisors write reports by recording activities that take place in the field. On MukonoKatosi road project, supervisors were assigned to report daily activities and later feedback is delivered for the corrective action e.g. Change of plans on how the project should progress"*

These findings are also supported by Ogutu and Muturi (2017) who argue that timely communication affects successful completion of road construction projects; which means that to avoid delays, convey correct information about road construction issues, information should be relayed on time and to the right parties.

In addition to the above, findings also noted that apart from providing information that enhances project activities, M&E communication and feedback also provides clarity and change of practice for the future projects, so that the project doesn't have to repeat the similar mistakes, as stated by one UNRA officer that it *"enables quality decision making and clear judgment. Managers and supervisors can be able to make reviews in time and mitigate challenges in the future of the project".*

Lastly, the study shows that M&E communication and performance of road infrastructure project have a positively significant relationship. This means that when M&E communication is harnessed and increased, the performance of the roads infrastructure projects also improve. This is in agreement with what Mwanjiku (2015) states that, lack of an effective communication strategy to convey information on M&E reports is considered a great challenge in construction projects.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

In this chapter, the conclusion and recommendations of the study are presented.

6.2 Conclusion

The main aim of this study was to examine the influence of monitoring and evaluation practices on the performance of road infrastructure projects in Uganda.

The study aimed to achieve three objectives which were; to establish the influence of M&E planning on the performance of road infrastructure projects, to examine the influence of M&E capacity on the performance of road infrastructure projects, and lastly to examine the influence of M&E communication on the performance of road infrastructure projects.

The study adopted both quantitative and qualitative approaches to achieve the three objectives of the study as highlighted above. The study also adopted a stratified random sampling method to select the respondents accordingly. Specifically, the focus was on management and M&E staff of UNRA. A total of 68 UNRA staff participated in the study. The study utilized Pearson's correlation coefficient analysis to address all the three objectives. In addition, a multiple linear regression analysis was used to establish the overall casual effect of the three objectives.

The first objective examined the influence of M&E planning on the performance of road infrastructure projects. The findings showed that planning had a moderate positive significant influence to the performance of the road infrastructure projects.

In respect to the second objective, the findings indicated that M&E capacity which in the study context meant, human resource capacity building and budgetary allocation also had a moderate positive significant influence on the performance of road infrastructure projects.

Concerning the last objective which sought to examine the influence of M&E communication on the performance of road infrastructure projects, the findings revealed that actually M&E communication has the highest positive significant influence on the performance of road infrastructure projects as pertains to the study context. Therefore, the study concluded that an increase in M&E communication majorly and single handedly influences the performance of road infrastructure projects.

Lastly, the study found out that monitoring and evaluation practices have a positive and significant influence on the performance of road infrastructure projects in Uganda. This was supported by the 64.7% majority of the respondents. Therefore, the study concluded that M&E practices on a whole have a positive influence the performance of the roads infrastructure projects.

6.3 Recommendations of the study

Based on the study findings, the following recommendations were made regarding M&E practices and their influence on road infrastructure projects in Uganda, basing on the study context of UNRA.

The study showed that M&E planning has a moderate positive significant relationship on the performance of road infrastructure project. Therefore, the study recommends that UNRA management should uphold and continue to strengthen the M&E systems of managing various

activities. They should ensure there is always a policy or set standards describing the roles and responsibilities under which M&E systems operate. There should always be an action plan and procedure that guides the activities of M&E. Sufficient finances should always be separately allocated to run M&E activities and processes, to provide for M&E tools and equipment, for hiring and training of staff. Lastly but not least, the study also recommends that M&E activities should always have enough time allocated to them.

Secondly, the study also established that M&E capacity also had a moderate positive significant influence on the performance of road infrastructure projects. The study therefore recommends that the road infrastructure projects' budgets should always have a clear and adequate provision for M&E activities. Funds for M&E activities should always be channeled to the right purpose. There should always be a realistic estimation for M&E. UNRA should ensure that there is proper source of funding for M&E outcomes. In order to build an adequate supply of human resource capacity; proper training to motivate and enhance staff commitment, technical capacity, and experience for M&E staff should never be compromised.

Thirdly, the study recognized that M&E communication had the highest positive significant influence on the performance of road infrastructure projects. Therefore, the study recommends that UNRA should always ensure there are materials that support data sharing, a management information system or database that meets the information needs of staff which will frequently provide data for M&E. They should ensure that all the staff get feedback after measurement of project activities in order to enable quality decision making and clear judgments of actions to be undertaken, hence, informing and facilitating changes in practice.

6.4 Further Research

Since the study was done at UNRA, the findings of the study could differ from other government and non-governmental agencies that are involved in road construction projects. Thus, a similar study should be undertaken at the different levels, for instance at the local government levels like district and municipality levels, to find out whether the M&E practices influence the performance of the road infrastructure projects for those roads that are under the districts and municipalities.

However much it was evidenced that the variables of M&E capacity, M&E communication and M&E planning influence the performance of road infrastructure projects in Uganda. The researcher also is aware that there are other M&E factors and practices that may or may not influence the performance of road infrastructure projects, for instance factors like monitoring and evaluation participation, M&E relevance and fulfillment of objectives, M&E effectiveness, M&E impact, M&E sustainability and efficiency, among others.

In addition, since UNRA projects are mostly donor funded, the researcher recommends another study to be done on the influence of monitoring and evaluation practices to the success of donor funded road infrastructure projects in Uganda.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Dear respondent,

My name is Andrew Ayebare, a student of Uganda Christian University pursuing a Master's Degree in Business Administration. I am conducting an academic study on the topic: "Monitoring and Evaluation Practices and Performance of Road Infrastructure Projects in Uganda. A case of Uganda National Roads Authority (UNRA).As one of the requirements of the degree, am required to conduct research on "M&E practices and Performance of Road Infrastructure Projects". This questionnaire is used to collect relevant data for my research. Kindly, note that data collected will be entirely for academic purposes and as such your responses will be used for only this study and with high level of confidentiality. Please spare some time to answer this questionnaire.

Thank you in advance.

SECTION A

Biographic data (tick where applicable)

a) Age (years)

18-25 { } 26-35 { } 36-45 { } 46-55 { } 56 and above{ }

b) Gender

Male { } Female{ }

c) Highest level of education qualification attained

PHD { } Postgraduate { } Degree{ } Diploma { } Certificate{ }

Specify any others trainings received...…….…….

d) Which department do you work with?

Human Resource { } Planning{ } Finance &Accounts{ } Monitoring & Evaluation { }

Others please specify…….…….……

e) Administrative Position held in this organization?

Director { } Human Resource Manager { } Project Engineer { } Asst. Station Engineer { }

M&E Officer { } Project Manager { } Station Engineer { } Maintenance Engineer { }

Others please specify…..……

f) Number of years in current position

Below 1 year { } 1-5 years { } 6-11years { } 12-17 Years { } 18-23 years { } 24 years above { }

g) Have you been involved in conducting monitoring and evaluation of road infrastructure projects in Uganda? Yes { } No { }

SECTION B

1. Monitoring and Evaluation Planning and performance of road infrastructure projects.

Using the scale provided, indicate the extent to which you agree/disagree with the following statements

SA-Strongly A-Agree (5), Agree (4), N-Neutral (3), D-Disagree (2), SD-Strongly Disagree (1).

Statement	**SA**	**A**	**N**	**SD**	**D**
In the previous road infrastructure projects or activities I have been involved in, the top management had a positive attitude towards strengthening the monitoring and evaluation system of managing these activities					
In the previous road infrastructure projects or activities I have been involved in, the organization had a well-defined structure that includes a monitoring and evaluation unit					
In the previous road infrastructure projects or activities I have been involved in, the organization had a policy or set standards in place describing roles and responsibilities of the operation of M&E System.					
In the previous road infrastructure projects or activities I have been involved in, the organization had an existing monitoring and evaluation action plan and procedure to guide the M&E activities					
In the previous road infrastructure projects or activities I have been involved in, the M&E plans used had exhaustive capacity guidelines for effective and efficient M&E processes					
In the previous road infrastructure projects or activities I have been involved in, the period which was designated for the M&E was enough to exhaust requirements of the tasks involved.					
In the previous road infrastructure projects or activities I have been involved in, there was a dedicated budget for M & E processes					
In the previous road infrastructure projects or activities I have been involved in, the amount provided on the budget was sufficient for an effective M&E exercise.					

In the previous road infrastructure projects or activities I have been involved in, availability of Monitoring tools and equipment influenced the success of M&E processes.					
In the previous road infrastructure projects or activities I have been involved in, the organization allocated sufficient Finances for M&E activities.					
In the previous road infrastructure projects or activities I have been involved in, the organization provided sufficient finances for M&E Staff Hiring.					
In the previous road infrastructure projects or activities I have been involved in, Finances for M&E Staff training were availed as required.					

i. In your own opinion, do you think that budgetary allocation amount disbursed met the time deadlines of the infrastructure projects you were involved in?

……
……
……

ii. Did availability of financial resources influence the effectiveness of M&E processes of the infrastructure projects you were involved in?

Yes { } No { }

Explain your Answer above

……
……

2. Monitoring and Evaluation Capacity and performance of road infrastructure projects.

a. Budgetary Allocation for road infrastructure projects.

(i) Are there budgets set to carry out M&E among road infrastructure projects in your institution? Yes { } No { }

If yes please explain various activities included in M&E budget.

…….....……

…….....……

(ii) To what extent do you feel the money allocated for M&E is adequate?

a) Small extent { } b) Moderate extent { } c) Large extent { }

(iii)Are you aware of the proportion of the total budget that is allocated to M&E?

Yes { } No { }

(iv)The following are statements on M&E indicate your feeling in each;

Using the scale provided, indicate the extent to which you agree/disagree with the following statements

SA-Strongly A-Agree (5), Agree (4), N-Neutral (3), D-Disagree (2), SD-Strongly Disagree (1).

Statement	SA	A	N	SD	D
In the previous road infrastructure projects I have been involved in, the project's budget provided a clear and adequate provision for M&E activities					
In the previous road infrastructure projects that I have been involved in, the money for M&E was usually channeled to the right purpose					
In the previous road infrastructure projects that I have been involved in, a realistic estimation for M&E is usually undertaken while planning for projects.					
In the previous road infrastructure projects that I have been involved in, two separate budget lines are provided to this department for its M&E					
In the previous road infrastructure projects that I have been involved in, the major challenge faced by this team is sourcing and securing financial resources for M&E of outcomes					

(v) In your own opinion, kindly indicate how M&E budget allocation affect road infrastructure project performance?

……

……

b. Human Resource Capacity building for road infrastructure projects.

Using the scale provided, indicate the extent to which you agree/disagree with the following statements.

SA-Strongly A-Agree (5), Agree (4), N-Neutral (3), D-Disagree (2), SD-Strongly Disagree (1).

Statement	SA	A	N	SD	D
In the previous road infrastructure projects that I have been involved in, human capital, with proper training and experience is vital for the production of M&E results.					
In the previous road infrastructure projects that I have been involved in, the technical capacity of the organization can be a huge determinant of how the evaluation's lessons are produced					
In the previous road infrastructure projects that I have been involved in, building an adequate supply of human resource capacity is critical for the sustainability of the M&E system					
In the previous road infrastructure projects that I have been involved in, staff commitment contributes more to the success of the projects					
In the previous road infrastructure projects that I have been involved in, monitoring and Evaluation system cannot function without skilled people					
In the previous road infrastructure projects that I have been involved in, training levels of M&E personnel influences effectiveness of M&E					
In the previous road infrastructure projects that I have been involved in, dominance of the Unskilled M&E staff on road projects influences the					

level of efficiency of M&E processes					
In the previous road infrastructure projects that I have been involved in, remuneration of M&E staff significantly influences M&E of roads projects					

3. Monitoring and Evaluation Communication and performance of road infrastructure projects.

Using the scale provided, indicate the extent to which you agree or disagree with the following statements.

SA-Strongly A-Agree (5), Agree (4), N-Neutral (3), D-Disagree (2), SD-Strongly Disagree (1).

Statement	**SA**	**A**	**N**	**SD**	**D**
In the previous road infrastructure projects that I have been involved in, usually there is a management information system or database to frequently provide data					
In the previous road infrastructure projects that I have been involved in,all staff got feedback after measurement of project activities					
In the previous road infrastructure projects that I have been involved in, the overall M&E systems met the information needs of staff					
In the previous road infrastructure projects that I have been involved in, the organization's M&E materials available support data sharing.					
In the previous road infrastructure projects that I have been involved in, feedback shared with M&E staff enables quality decision making and clear judgments of actions to be taken					
In the previous road infrastructure projects that I have been involved in, through M&E information sharing there was timely corrective actions and problem solving					
In the previous road infrastructure projects that I have been involved in, feedback of M&E information after measurement of project activities enhances clarity and changes in practices					

4. Project Performance of road infrastructure projects.

Using the scale provided, indicate the extent to which you agree or disagree with the following statements.

SA-Strongly A-Agree (5), Agree (4), N-Neutral (3), D-Disagree (2), SD-Strongly Disagree (1).

Statement	**SA**	**A**	**N**	**SD**	**D**
In previous road infrastructure projects that I have been involved in, we have always met timeliness of project delivery					
In previous road infrastructure projects that I have been involved in, at the end of the project, we ensure all the project deliverables are clearly defined					

In previous road infrastructure projects that I have been involved in, at the end of the project, we ensure all set activities are performed					
In previous road infrastructure projects that I have been involved in, at the end of the project, we ensure that the project is not over or under budgeted					
In previous road infrastructure projects that I have been involved in, at the end of the project, we make sure that the general level of satisfaction is high					

END

APPENDIX 2: INTERVIEW GUIDE

Section A: Background Information

Gender: ……

Age in years: ……..……..

Number of years in current position:…….

Section B: Monitoring and Evaluation Practices and its influence on the performance of road infrastructure projects.

1. Planning
   (i) Briefly share your experience on how planning was conducted in the previous road infrastructure activities you have conducted.
   (ii) How did the planning influence performance of these particular projects? Please give details?

2. (A).Budgetary Allocation

   (i) Are there budgets set to carry out M&E among projects in your institution? If yes, please explain various activities included under the M&E budgets?
   (ii) How has M&E budget allocation always affected project performance of road infrastructure projects? Please give details?

   (B).Capacity building

   (i) Have you (manager) or your staff attended any M&E training sessions/workshops in the past 1 year? If yes, please give details of how these trainings/workshops have benefited them?
   (ii) What type of training do you think you and/ or your staff need for M&E?
   (iii)Are you (manager) or M&E team usually equipped with necessary facilities? Please specify which facilities?

3. Dissemination/Communication of M&E information

   (i) How is information/ results from the M&E exercise usually shared amongst staff and other stakeholders for corrective action? Please give details?
   (ii) In your own opinion, do you think the information/ feedback shared with staff enables quality decision making and clear judgments? Please explain?
   (iii)Does the M&E system available support data sharing and how?

APPENDIX 3: LETTER FROM THE UNIVERSITY

UGANDA CHRISTIAN UNIVERSITY
A Centre of Excellence in the Heart of Africa

2nd May, 2019

The Executive Director, Uganda National Roads Authority (UNRA)

Attn:
Head of Research and Development, Uganda National Roads Authority (UNRA)
Plot 3-5 New Port Bell Road,
UAP Nakawa Business Park,
P.O. Box 28487, Kampala.

UGANDA NATIONAL ROADS AUTHORITY
RECEIVED
NAME: Hakiman
03 MAY 2019
TIME: 10.26hrs
MAIN RECEPTION

Dear Madam,

RE: INTRODUCTORY LETTER FOR RESEARCH

Greetings,
This is to introduce to you **Mr. Ayebare Andrew (Tel: 0784350501/0703759411)**, registration number **EJ16M15/098** a student of Uganda Christian University, pursuing a Master of Business Administration (MBA), and is now working on his research project entitled " ***Monitoring and Evaluation Practices and Performance of Road Infrastructure Projects in Uganda:*** A CASE OF UNRA

The purpose of this research is entirely for academic purposes and the findings will be used only for study purposes and with high level of confidentiality.

Any assistance rendered to Mr. Ayebare will be highly appreciated. In case of further information, please do not hesitate to contact me using the contacts below. The attached is the abstract, objectives of the study, the research methodology and the data collection instruments.

UGANDA CHRISTIAN UNIVERSITY
P. O. BOX 4, MUKONO
02 MAY 2019
FACULTY OF BUSINESS ADMINISTRATION

Yours Sincerely,

Dr. Dan Ayebale
Research project supervisor
Senior Lecturer, Faculty of Business and Administration-Uganda Christian University
Email; dayebale@ucu.ac.ug,
Tel: +256 782 817 847/ +256 754 297 602

A Complete Education for A Complete Person