Int. j. adv. multidisc. res. stud. 2025; 5(3):459-469

Received: 27-03-2025
Accepted: 07-05-2025

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Examining Project Completion Failures in Road Construction: A Case Study of Kafue and Mazabuka Road

[1] Mweene Kambombi, [2] Kelvin Chibomba

[1, 2] School of Humanities and Social Sciences, Information and Communications University, Lusaka, Zambia

DOI: https://doi.org/10.62225/2583049X.2025.5.3.4258

Corresponding Author: **Mweene Kambombi**

Abstract

The general objective of this research study was to analyse project completion failures in road construction industry. This is a case study of Kafue Mazabuka Road. Specific objectives of the study were to; assess factors that lead to project failure in road construction industry, analyze how time affect road construction projects among contractors, determine how project costing affect road construction projects and identify changes in government policy on road construction. Using the case study research design, this study focused on acquisition of quantitative and qualitative data from a cross-section of people involved in the road construction sector. In consonance with the mixed method design, interview schedule, interview guide and observation checklist were developed to collect the primary data from the field. These instruments were chosen because they are the most appropriate. The interview schedule was used because of its known advantages of building good rapport, creating a relaxed and healthy atmosphere in which respondents easily cooperate, answer questions, and clear misapprehension about any aspect of a study. The data that was collected from the field was cross-checked and edited to ensure that there are no mistakes in the responses and the information given is relevant. The data was then coded and fed into the computer. The Statistical Product for Service Solutions (SPSS version 16) was employed to process and analyze the interview schedules. The in-depth interviews will be analyzed manually. Three reasons were highly emphasized from the response. The first which accounted for 30% was lack of monitoring, secondly, poor scheduling accounted for 20%. The third as indicated by the majority was poor planning 50%. The researcher sought to analyze how time affects road construction projects among contractors. As such the findings below show that time needs to be considered because it its part of scheduling 47%. 20% said it is an importance factor in networking diagrams whilst 33% said it is an important element in planning. Time and cost are considered to be the most crucial factors that contribute to the success of a project, and in reality are the only factors on which everything hinges, and are the most critical factor in the decision on whether a project commences or is shelved. The following are the recommendations; It would not be accurate to identify the causes of cost overrun for a specific country from global literature only. Out of those causes, seven factors were recognized as factors that make the most significant effect on the cost of construction projects in general, namely (1) project management, (2) risk assessment, (3) cost-benefit analysis, (4) construction management, (5) time overrun (6) decision making, (7) design/ methodology/ approach. These must be studied separately. One of the potential solutions to reduce the effect of cost overrun in construction projects is the embedding of an effective resources (human, technical, and material) management system within construction projects as it seems that most of the causes of cost overrun are related to and external stakeholders is a very important task to deliver projects successfully and reduce cost overrun. Training is important to project teams. Finally, the risk is more important in construction megaprojects to identify these causes beforehand so that the team can take necessary actions to prevent them or reduce the effect of the risk. Therefore, a proper risk assessment at the beginning of the project is essential to identify these causes.

Keywords: Scope, Time, Cost, Project, Overrun

1. Introduction

Construction Industry is the backbone for economic development. Kenny (2017) mentions that “construction sector role in economic development is Undeniable”. In view of its importance, large investments were made by governments all across the

globe for many years. In view of its identity as world oldest engineering division, construction process and practices has evolved over the centuries. As, Kenny (2017) mentions, "During last 100 years, technology in construction has developed drastically paving way for modern buildings and scientific designs". Also, the importance of construction was aptly brought out by Leesard (2021) who says that "Large engineering projects are important not only because they transform the physical landscape and change the quality of human life, but because they are the crucibles in which new forms of collaboration are developed". Now, during last few decades there has been increasing importance to improve the practices and quickly contribute to the growing needs of society. History of construction projects can be traced back to Egyptian Pyramids, early Greek settlement around Mediterranean, Roman Empire constructions of temples and structures in medieval age (Lewis, 2008). As it is known that in the 18th Century is Renaissance period which saw much significance to architecture and industrial revolution. Lewis, (2008) mentions that Great Britain was first to go global with railway construction and the first major international construction company was built up by Pearson in Great Britain at about the turn of the century.

Now there are massive projects constructed all over the world, driving the national economy. Reschke and Schelle (2010) mentions that large engineering projects such as airports, transport, power, oil and gas constitute most important business sectors in the world. This massive infrastructure investment has led to the emergence of companies such as Vandevoorde and Vanhoucke (2006) who assert that "Construction is a $3.5 trillion industry world. Performance is related to many topics and factors such as time, cost, quality, client satisfaction; productivity and safety. Construction industry in the Kenya suffers from many problems and complex issues in performance. For example, construction of 10 dwelling units at Nairobi Area suffered from poor performance because of delay for about 3 months. There are many realistic reasons such as closures, amendment of drawings and amendment of the design and delayed funds release.

1.1 Statement of the problem

In Zambia, Construction projects are facing challenges of non-Completion. Many construction projects fail due to factors like time in efficiency, lack of adequate funds and lack of advance working equipment. The Road Development Agency, (2013) reported there were many projects which were not completed due to obstacles by client, non-availability of materials, poor infrastructure, lack of funds and lack of project managers competency. Local studies have not focused on factors affecting roads Construction Projects delivery in other places in Zambia. Musa (2015) did a study on effects of total quality management on performance of Companies in Kenya a case study of Inter build Company Limited. He found that human resource management and resource management affects performance of the building company to a great extent. Bundi (2015) did a survey on challenges in the management of procurement services within Kenya Urban Roads Authority. She found that political interferences and inadequate allocations of funds hinder completion of KURA activities even though the authority fully implements procurement policies. Nyamwaro (2015) did a study on analysis of challenges facing project implementation a case study of Ministry of Roads Projects. The study deduced that poor communication and lack of awareness on POA which is also used in the implementation of the Ministry's Projects were the main challenges facing project implementation.

1.2 General Objective of the Study

The general objective of this research study was to analyse project completion failures in road construction industry: a case study of Kafue Mazabuka Road.

1.2.1 Specific Objectives of the study

1. To assess factors that lead to project failure in road construction industry.
2. To analyze how time affect road construction projects among contractors.
3. To determine how project costing affect road construction projects.
4. To identify changes in government policy on road construction.

1.3 Conceptual framework

This study will use the following conceptual framework in Fig 1.1:

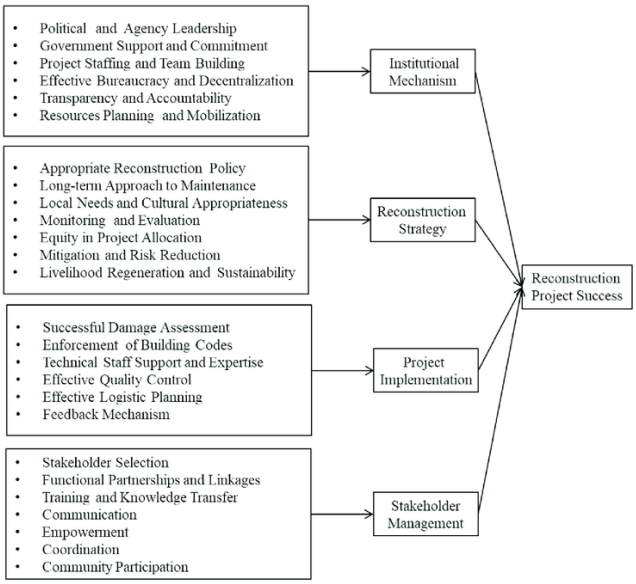


Fig 1.1: Source: (Researchers model, 2024)

Chen (2007) mentions that for a project to be successful there should be adequate fund allocated to finance its completion. Jackson (2010) added that project funds availability is an important factor that influences delivery of a project. Sambasivan and Soon (2007) stated that reports are an essential way of keeping everyone informed and therefore managers should manage the project, plan for the project and monitor. Also the structure of the industry is fragment with increasing number of small companies and consolidation of large companies. Strenman (2012) says that the international construction is dominated by very large contracting firms such as Bechtel, Skanska and Taisei Corporation, who undertake large volumes of work. Construction process is labor intensive includes management of difficult site condition, bulky materials. Construction companies are diversified, have low fixed assets, have positive cash flow, and subcontract extensively (Gyula, 2008). Hackley (2006) says that the "strategic systems are the determinant of the success or failure of Large engineering projects". Strenman (2012) noted that

"Construction projects are inherently complex and dynamic". Also, every construction project is unique having its own set of stakeholders and unique International Journal of Scientific and The environment governing every project changes rapidly and cannot be compared to each other. So, the governing principle connecting all construction projects can be said as 'Project Management Practice'. Collis and Hussey (2009) indicate that "Management in construction, on the other hand, has always been based on experience and organizational talent". In most of the construction projects, technicalities are frozen during design phase. Dai, Cao and Su (2006) mentions that the important category in constructions is construction firm i.e. Contractor because; Contractor gives real shape to the product following the design. So, the main issue lies in managing resources, material, equipment, stakeholders effectively by the contractor. Hyvari (2006) argues that main contractor is employed to build what designers have specified and contracting was a response to the sophistication of industrialization.

1.4 Significance of the study

Project management is becoming an important skill set in industry, and many companies seek graduates trained in project management core competencies. Identifying the most important core competencies is an important input into curriculum development. With the changing work place and increasingly global market that businesses now operate in, both the hard skills defined by the Project Management Body of Knowledge (PMBoK) and interpersonal, soft skills are in demand for today's Project Managers. This study is designed to determine the effect of manager's competencies, for effective project managers. The study also identifies gaps between these important project management competencies and the current performance of project managers with respect to delivery of roads construction projects. Krazner (2015) mentioned that project equipment is necessity and should influence performance by saving cost; also he added that project equipment enhances increased production.

2. Literature Review

2.1 Factors that lead to project failure in road construction industry

Despite the contribution of construction projects in the development of many countries, the literature indicates that most of them fail to achieve their anticipated objectives; and in some cases, they are totally abandoned. Accordingly, researches have been devoted to identify and evaluate factors that account for failure. For instance, Shehu *et al.* (2014) explored the construction cost performance in Malaysian construction industry and found that there are cost overruns of 55%, the cost overrun in the private sector was more than those in the public sector. They also found that the various sectors of the countries perform differently in terms of the negative cost variance.

Frimpong *et al*. (2003) investigated the significant factors that cause delay and cost overruns in the construction of underground water projects in Ghana using consultants, owners, and contractors as participants. They identified twenty-six factors and categorised them into four. The participants agreed that project financing, economic, natural conditions, and material supply are the four main categories of causes of delay and cost overrun factors.

2.2 How time affect road construction projects among contractors

The increasing complexity of infrastructure projects and the environment within which they are constructed place greater demand on construction managers to deliver projects on time, within the planned budget and with high quality. In many developing countries, major construction activities account for about 80 percent of the total capital assets, 10 percent of their Gross Domestic Product (GDP), and more than 50 percent of the wealth invested in fixed assets. In addition, the industry provides high employment opportunity, probably next after agriculture (Ofori, 2006). Despite the construction industry's significant contribution to the economy of developing countries and the critical role it plays in those countries development, the performance of the industry still remains generally low (Enshassi, 2008). Studies over the past 20 years reveals a trend of rising cost of construction input resources (Osei-Tutu, 2008) and this trend is expected to continue because the factors responsible for the increased cost trend remain the same. In Africa, the combined prices of labour and materials have increased by 1,229 percent between 1997 and 2010 (Ghana Statistical Services, 2010). Generally, construction industry in developing countries fails to meet expectations of governments, clients and society as a whole (Ofori, 2006; & Jekale, 2004). In Kenya, major road projects have a history of problems; cost overruns, delays, failed procurement, or unavailability of private financing is common yet most overruns are foreseeable and avoidable with the right legal and institutional frame works. Researches on construction projects in some developing countries indicate that by the time a project is completed, the actual cost exceeds the original contract price by about 30 percent (Bruland & Mahamid, 2011). Risk is also under-managed in the later stages of infrastructure projects, 2 destroying a significant share of their value. Apart from causing budget overruns, it also results in uncertain cost-benefit for decision-making (Jenpanitsub, 2011). Cost overrun of transport projects is one of the most important problems in transport planning.

2.3 How project costing affect road construction projects

Research conducted by Azis, Memon, Rahman, Latif and Nagapan (2012) focused on the objective of assessing the level of effectiveness of various cost management techniques implemented in large construction projects in South Malaysia. The results of the study showed that the most effective technique of cost management was cash flow forecasting, tender budgeting/estimating, and an elemental cost plan. Caruthers, Kuotcha MaCcaffer and Edum (2008), however described a cost estimate as an approximation. Therefore, cost estimations require the utmost accuracy in order for clients to ensure that they have sufficient funds to execute the projects without delays due to underestimations (Kaliba, Muya & Mumba, 2010). Caruthers *et al*. (2008) stated that the management of costs begins with the financial feasibility study, progresses through all the costs that are required to purchase all the resources needed by the project, through to using cost control to ensure that all work that is done is properly completed.

2.4 Assessing changes in government policy including privatization and liberalization

Shakantu (2000) stated that the shift in government policy is another driver of change in the construction industry.

Economic regulation was drastically reduced in favour of privatization and liberalization. The reform agenda has extended beyond issues of stabilization and prudent economic management to regarding the private sector activity as the main engine for growth. The government is concerned about fiscal and monetary policy discipline. In the light of Chola (2002) the client organizations construction budgets decrease and economics is winning over tradition.

In view of the assertion thatConstruction projects play a significant role in the economic development of every nation, most countries allocate large sums of funds towards construction industry (Shahhosseini and Sebt, 2011). It was observed with regret that, the majority of these projects failed to finish, and many others incurred cost and time overruns. Therefore, considering such outcomes, it is obvious that projection completion failure has negative implications to the economy of the nation. In spite of the negative outcome of project completion failure, its implications on the national economy may not be left to speculations hence the utmost importance of this study in Lusaka province of Zambia.

Additionally, equipment-related causes of delays: the literature above further revealed the causes of delays that are equipment related and after being ranked by the respondents, the following were the results; Equipment breakdowns, use of outdated equipment, shortage of equipment, lack of high-technology mechanical equipment, low productivity and efficiency of equipment and shortages of skilled operators were all found to be major causes of delay in construction projects in Zambia. These results are in general agreement with the work done by Sambasivan and Soon (2007), Theodore (2009) and Assaf and Al-Hejji (2006) where it was identified that equipment breakdown is the major cause of delays in construction projects that are related to the equipment hat is being used on sites. Further the study of Wei (2010) identified that the major cause of delays that are equipment related was Lack of high-technology mechanical equipment. However Hasseb *et al* (2011) identified the use of improper equipment as the major cause of delays on construction projects. Other causes identified by the scholarly studies above were use of outdated equipment and Shortage of equipment as some of the major causes of delays. In Kenya, research found that time and cost overruns are rampant in projects within the public sector (Mburu, 2018). The findings showed that, the majority of road construction projects don't get completed within the set timelines. In view of the foregoing, it observed that these delays affect the development of a country but more so the impacts are felt heavily on the society where the projects are targeted and the parties involved in the execution of the projects.

In the context of Zambia, Bobo (2021) assessed the effect of construction delivery and lead time on the performance of local road contractors in Lusaka District, Zambia. This study was carried out with a view that Contactor's expertise and performance plays an important role in successful delivery of a project. Research used the mixed method research methodology. The local road contractor's performance was looked at from the perspective of quality of work and timely completion of projects. The sample consisted of 54 respondents from local road contractors, chosen using data from National council of Construction, of Grade 1 to 4 of Road contractors in Lusaka and directors from government agencies using purposive sampling to select key informants.

2.5 Establishment of research gaps

The output of this study could contribute to the understanding of the critical challenges contractors are facing that inhibit their performance on projects in the road sector in Kenya and other developing countries. The findings may be used by government to provide the necessary incentives and regulations to ensure sustainable growth, capacity building and policy framework to regulate the construction industry toward achieving millennium goal such as Vision 2030. The outcome of the study may be useful to the contractors in providing an in-depth perceptive of the factors that inhibit their performance and therefore ensure that they improve in the organization of their finances and employ competent skilled manpower in order to improve on their profitability and reputation. The study may be useful for construction supervision consultants who may comprehend how their services impact performance of contractors in the road sector. The result of the research could be vital to other researches involved in formulation of policy and will provide academicians with further data and information of factors influencing performance of contractors particularly in the road sector. The study may also make numerous contributions to literature on factors influencing performance of contractors in the road construction sector. The study can be merged with others done in other nations for comparison of factors affecting performance of contractors in the road sector in order to facilitate worldwide exploration on strategy to improve performance of contractor

3. Methods and Procedures

3.0 Overview

Research Methodology chapter shall describe the approach that the study followed. As such there are various techniques and methods that were used to select respondents to participate in the study have been outlined. This chapter shall describe the study area, the study design, data and source, the target population, sample size for the study, sampling techniques employed, the research instrument used, data processing and analysis, and the ethical issues arising from the research. The chapter shall end with a statement on the challenge from the field.

3.1 Research design

Research Design Research design is the scheme, outline or plan that is used to generate answers to research problems. This research problem was studied through the use of descriptive research design. According to Kothari (2007), descriptive survey research design is a type of research utilized to find data that can assist establish exact character of a cluster. A descriptive case study survey involves getting answers to questions (often in the form of a questionnaire) from a large cluster of persons either by mail, telephone or in person. The main benefit of descriptive survey research is that it contains potential to grant us a lot of information from a fairly huge sample of individuals. Using the case study research design, this study focused on acquisition of quantitative and qualitative data from a cross-section of people involved in the road construction sector.

3.2 Target Population

According to Borg and Gall (2009) target population as is a universal set of research of all members of actual or

imaginary set of people, events or objects to which an investigator wishes to generalize the result. The target population of this study were the road contractors while the study population will be government representatives from road authorities contractors (project managers), consultants (Supervising engineers), and technical auditors participating in road construction. Mugenda and Mugenda (2003) explained that the target population should have observable characteristics to which the study intend to generalize the result of the study. This definition assumes that the population is not homogeneous.

3.3 Sample Size and Sampling Procedure

The sampling frame describes the list of all population units from which the sample will be selected (Cooper & Schindler, 2003). Sampling is selecting a given number of subjects from a defined population as representative of that population. Gay (2001) pointed that a sample of 10-40% is representative. In this study, 40% of the sample was considered, thus the sample size was calculated to be 80. The technique was applied so as to obtain a representative sample when the population does not constitute a homogeneous group. In stratified random sampling subjects are chosen in a manner that the existing sub-groups in the population are more or less represented in the sample (Mugenda & Mugenda, 2003).

3.4 Piloting the research instruments

Taking into consideration the significance and need to identify and establish weaknesses in the instrument that was used in the research study, the self-administered questionnaire was pre-tested before distributing it it to the respondents. The questionnaires were reviewed by the research supervisor and researcher‟s professional peers and then tested on a small pilot sample of respondents with similar characteristics as the study respondents. The pilot sample consisted of 10 road construction professionals who were randomly selected. Mugenda and Mugenda (2003) suggest that the piloting sample ought to represent 10% of study sample based on the study sample size. Piloting helps in revealing questions that could be vague which facilitates their examination until they communicate the same sense to all the subjects (Mugenda & Mugenda, 2003).

3.5 Validity of the research instruments

Validity is the degree to which the sample of the test item represent the content that is designed to measure. Creswell (2003) notes that validity is considering if one can draw consequential and valuable inference from scores on the instrument. The research adopted content validity which refers to the extent to which a measuring instrument provides adequate coverage of the topic under study. To ensure content validity, the instruments were reviewed by the research supervisor hence enabling the content to address the purpose and avoided ambiguity. This ensured that all respondents understood the content on the questionnaire. Response options were provided for some of the questions to ensure that the answers given are in line with the research questions they are meant to measure.

3.6 Reliability of research instruments

Reliability is the extent to which a research instrument yields findings that are consistent each time it is administered to same subjects (Mugenda & Mugenda, 2003). A pilot study was carried out to determine reliability of the questionnaires. The pilot study involved the sampled respondents. Reliability analysis was subsequently done using Cronbach‟s Alpha which measured the internal consistency by establishing if certain item within a scale measures the same construct. Gliem and Gliem, (2003) had indicated a value of 0.7 to be an acceptable reliability coefficient but lower thresholds are sometimes used in literature (Rousson, Gasser & Seifer, 2002), thus forming the study‟s benchmark.

3.7 Data collection methods

In consonance with the mixed method design, interview schedule, interview guide and observation checklist were developed to collect the primary data from the field. These instruments have been chosen because they are the most appropriate. The interview schedule will be used because of its known advantages of building good rapport, creating a relaxed and healthy atmosphere in which respondents easily cooperate, answer questions, and clear misapprehension about any aspect of a study (Kumekpor, 2002).

3.8 Data analysis

The data that was collected from the field was cross-checked and edited to ensure that there are no mistakes in the responses and the information given is relevant. The data was then coded and fed into the computer. The Statistical Product for Service Solutions (SPSS version 16) was employed to process and analyze the interview schedules. The in-depth interviews was analyzed manually. As such the data from the in-depth interviews shall be transcribed, categorized under specific themes and will be used for analysis of the data that will be collected. However, frequencies, percentages, averages, proportions and diagrams will be used to present the results. Inferential statistical technique in the form of factor analysis shall be used to analyze the factors inhibiting road contractors to complete projects on time.

3.9 Triangulation

In order to expedite authentication of collected data were cross-verified by comparing it to the data that would be obtained from a parallel source that would involve respondents that were not holding any administrative positions. Triangulation refers to the use of multiple methods or data sources in qualitative research to develop a comprehensive understanding of phenomena (Patton, 1999). In other words triangulation also has been viewed as a qualitative research strategy to test validity through the convergence of information from different sources. Denzin (1978) triangulations are a powerful technique that facilitates validation of data through cross verification from two or more sources.

3.10 Limitations of the study

This study will involve only Lusaka province. Consequently its results may not be generalized to all the other nine (9) provinces of Zambia. Other study limitations may be finances and time that will limit this researcher in collecting data as most of our intended respondents will be in far distances this researcher to visit all the road constructions sites. However, the findings from this study can still be of

great use in the management, awareness, measures, planning and effective policy implementation on road project construction failures.

3.11 Ethical considerations

The purpose of this study and the nature of the interview schedule shall be clearly made known to the respondents. As participation in this study will not by force but on the willingness of respondents to participate. Anonymity of respondents will be serious be respected. Research is a scientific human endeavor that is organized according to a range of protocols, methods, guidelines and legislation (Gunawan, 2015). To ensure that ethics are observed, all ethical issues are strictly considered and observed for the purpose of safeguarding the dignity, rights and interests, safety and well-being of the actual and potential respondents. Ethics are said to be defined as 'a morality or a position of doing what is right both morally and legally (Furrow 2004).

Finally but not least during the field work all forms of identification including names, addresses and telephone numbers of respondents were avoided. The topic under investigation will be discussed with participants before they participate in the study. In the light of (Smith, 2003) any researcher must ensure that participants are clear on the fact that participation is voluntary. As such this ensured the participants to know exactly what was expected from them together with the costs and benefits before participating in the study. Participation in this study was voluntary and thus participants were free to take part or withdraw from the study.

The purpose of this research and its duration was explained to participants. Information obtained through this investigation will be treated with high level of confidentiality. The data obtained in this study was not used for any purpose other than to achieve the aims of this study and the results was given or explained to participants. The study was to ensure that no participant is physically and mentally harmed during the study (Davis, 2000). All sources used in this study will be acknowledged and listed in the list of references. Confidentiality and privacy is a central tenet of every study (Smith, 2003) and as such names of respondents will not be shared and disclosed to anyone and the rights of participants will be duly respected in this study.

Prsentation of Results and Discussions

This study will present findings based on the following objectives;

Specific Objectives of the study

1. To assess factors that lead to project failure in road construction industry
2. To analyze how time affect road construction projects among contractors
3. To determine how project costing affect road construction projects

To identify changes in government policy on road construction

Gender

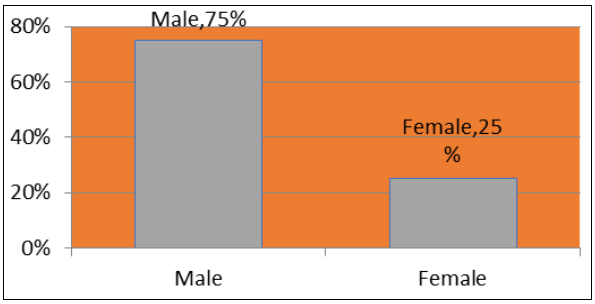


Fig 1: Gender

Age

The study sought to find out the gender of those who participated in the study. The figure below shows that 20% respondents were females, while 80% were males.

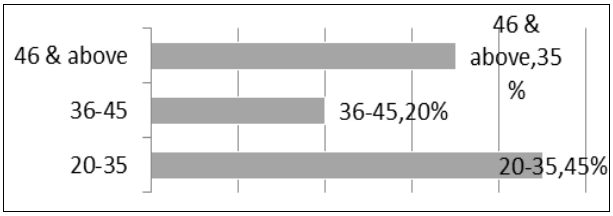


Fig 2: Age

The researcher sought to find out the age groups of the participants who took part in the survey. The results below shows that those aged between 20 and 35 accounted for 50% and were majority. Those aged between 36 and 45 recorded 20% while those who were 46 and above accounted for 30%.

Years of Service

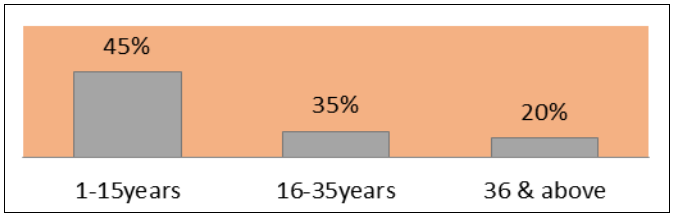


Fig 4: Years of service

The researcher sought to find out the years of service for those who took part in the study. Findings below show that those who had worked between 1 and 15 years accounted for 45% and were the majority. Those who worked between 16 and 35 years recorded 35% while those who worked 36 years and above accounted for 20%.

Employment mode

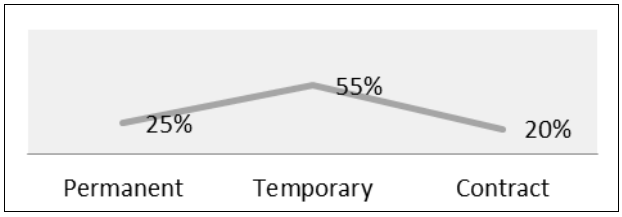


Fig 6: Employment mode

The researcher sought to find out the terms of employment of those who took part in the survey. Findings below show that those who were on permanent accounted for 25%. Those who indicated temporary recorded 55% and were the majority while those who were on contract accounted for 20%.

Functional area

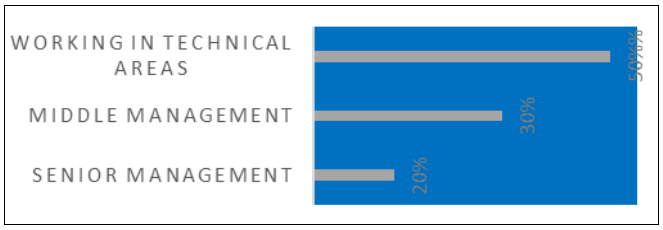


Fig 7: Functional Area

The researcher sought to find out the level of position in the institution of those who took part in the survey. Findings below show that those who were in senior management accounted for 20 %. Those who indicated middle management recorded 30% while those who were working under technical areas accounted for 50% and were the majority.

Thematic area 1. To assess factors that lead to project failure in road construction

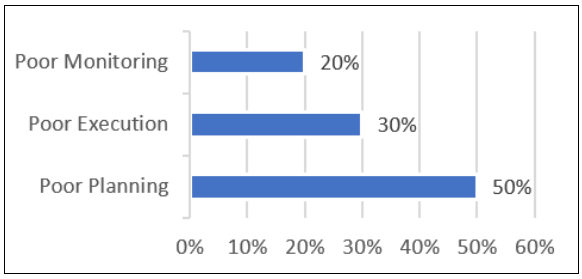


Fig 8: Factors leading to project failure in road construction industry

The researcher sought to find out from those who indicated witnessing abandoned projects to highlight what they consider to cause such mismanagement of projects from all those who participated in the survey. Three reasons were highly emphasized from the response. The first which accounted for 30% was lack of monitoring, secondly, poor monitoring accounted for 20%. The third as indicated by the majority was poor planning 50%.

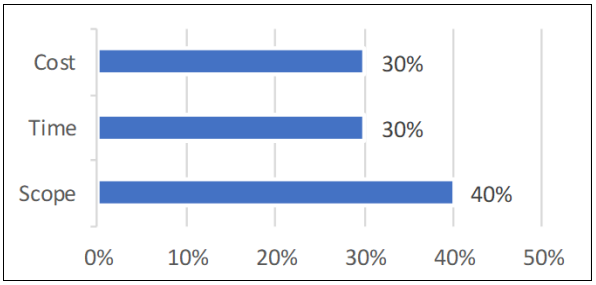


Fig 9: Key performance areas in road construction

The researcher sought to find out key performance areas in road construction from all those who participated in the survey. Three reasons were highly emphasized from the response. The first which accounted for 30% was costing, secondly, time which accounted for 20%. The third as indicated by the majority was understanding the scope at 40%.

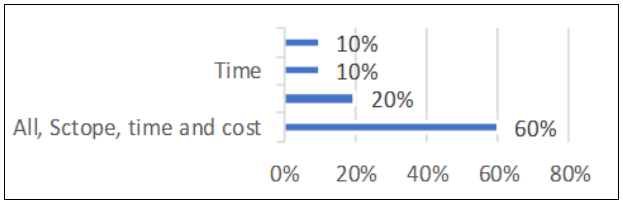


Fig 10: Which variant could mostly led to project overruns

The researcher sought to find out which variant could mostly led to project overruns in road construction from all those who participated in the survey. Three reasons were highly emphasized from the response. The first which accounted for 10% was poor costing, secondly, poor scheduling or time which accounted for 10%. The third was not having a clear scope accounting for 20% and the majority was said all three are important indicating 40%.

Thematic area 2. To analyze how time affect road construction projects among contractors in Lusaka Province.

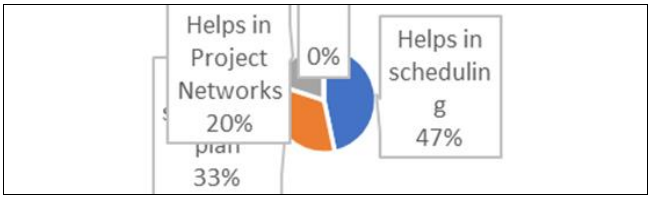


Fig 11: How time is a factor in road construction projects

The researcher sought to analyze how time affect road construction projects among contractors. Findings below show that time needs to be considered because it its part of scheduling 47%. 20% said it is an importance factor in networking diagrams whilst 33% said it is an important element in planning.

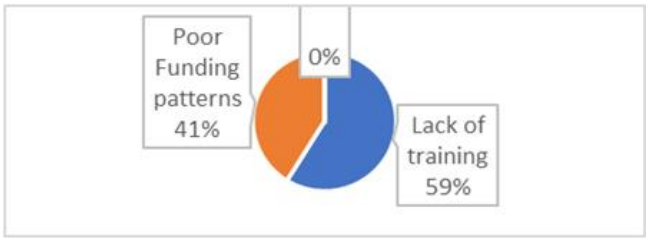


Fig 12: Why project managers fail to manage time in road construction projects

The researcher sought to find why project managers fail to manage time in road construction projects. Findings showed that 59% said it was due to lack of training and 42% said poor funding systems.

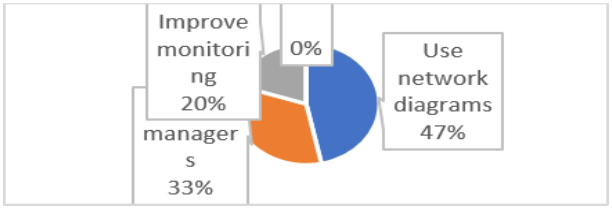


Fig 13: How time can be managed in projects

The researcher sought to find out how time can be managed in projects. Findings below showed those who indicated need to use project network diagrams 47%. Those who indicated need to train managers were 39% those who indicated need to improve monitoring and evaluation accounted for 20%.

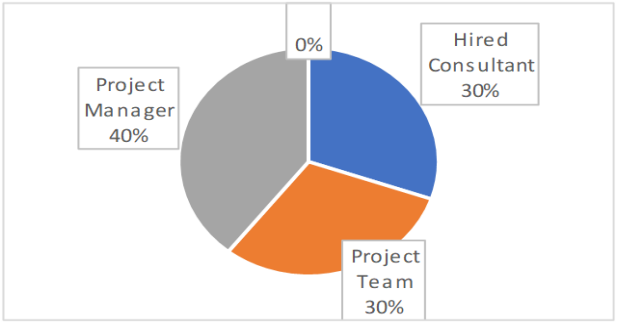


Fig 14: Who manages time in a project

The researcher sought to find out who manages the project or the center of the project from those who took part in the survey. Findings below showed those who indicated consultants accounted for 30%. Those who indicated project team recorded 30% while those who indicated project managers accounted for 40%.

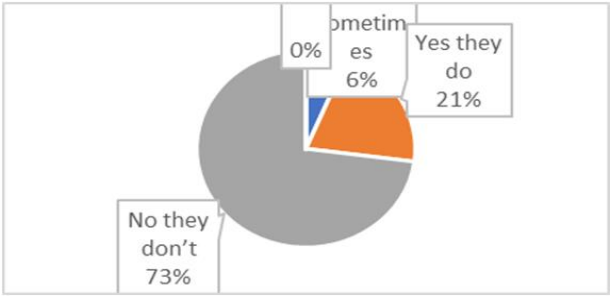


Fig 15: Whether the project involves local communities and other beneficiaries in planning and implementation

The researcher sought to find out whether the project involves local communities and other beneficiaries in planning and implementation of these projects from all those who participated in the survey. Findings below show that that majority (73%) they do not, 21% said they do and 6% said sometimes

Thematic area 3: To determine how project costing affect road construction projects

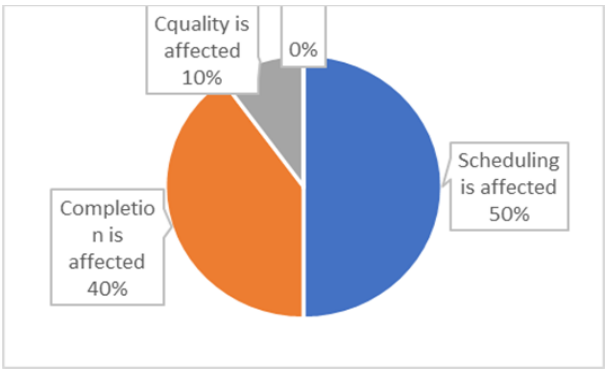


Fig 16: To determine how project costing affect road construction projects

The researcher sought to find out how project costing affect road construction projects. Three reasons were 50% said it affects scheduling, 40% said it affects completion and 10% said it affects quality.

Fig 17 To determine how project costing can be enhanced in road construction projects

The researcher sought to find out how project costing in road construction projects can be enhanced. Three reasons were 50% said clearing budgetary planning, 40% said good monitoring and 10% said good and clear scope.

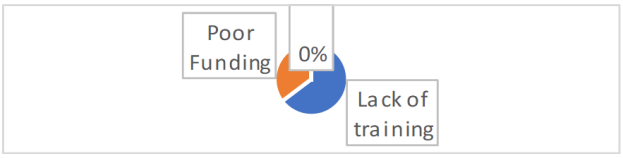


Fig 18: Why project managers fail to manage cost in road construction projects

The researcher sought to find why project managers fail to manage cost in road construction projects. Findings showed that 65% said it was due to lack of training and 35% said poor funding systems

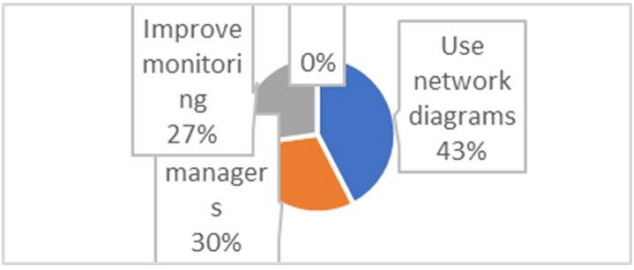


Fig 19: How cost overruns can be managed in projects

The researcher sought to find out how cots can be managed in projects. Findings below showed those who indicated need to use project network diagrams 43%. Those who

indicated need to train managers were 30% those who indicated need to improve monitoring and evaluation accounted for 27%.

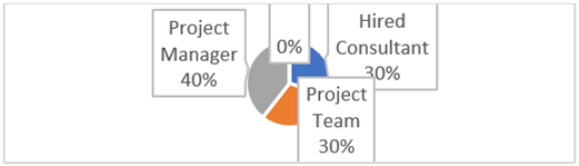
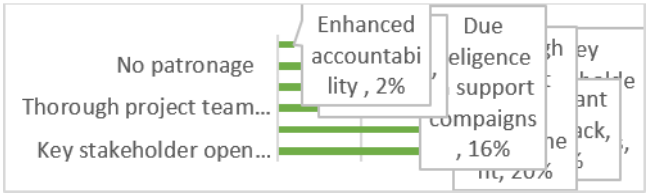


Fig 20: Who manages cots in a project

The researcher sought to find out who manages the project or the center of the project from those who took part in the survey. Findings below showed those who indicated consultants accounted for 30%. Those who indicated project team recorded 30% while those who indicated project managers accounted for 40%.

Thematic area 4: Policy interventions



4. Discussions

4.1 Thematic area 1. To assess factors that lead to project failure in road construction

The researcher sought to find out from those who indicated witnessing abandoned projects to highlight what they consider to cause such mismanagement of projects from all those who participated in the survey. Three reasons were highly emphasized from the response. The first which accounted for 30% was lack of monitoring, secondly, poor sheduling accounted for 20%. The third as indicated by the majority was poor planning 50%. Individuals who are knowledgeable about specific construction skills gained from training or from practical experience in construction can be defined as skilled manpower (Medugu *et al*, 2011). Rafee (2012) noted that skilled manpower in the construction industry play a very critical function to the survival and growth of the sector as they are directly involved in construction process. In Kenya there is an acute shortage of skilled manpower despite the many construction projects that the government is undertaking. Elevation of middle level colleges to universities has further eroded the development of skilled manpower creating a major shortage of skilled manpower. Wang (2010) indicated in his report that labour shortage is a problem faced by many countries all over the world.

4.2 Which variant could mostly led to project overruns

The researcher sought to find out which variant could mostly led to project overruns in road construction from all those who participated in the survey. Three reasons were highly emphasized from the response. The first which accounted for 10% was poor costing, secondly, poor scheduling or time which accounted for 10%. The third was not having a clear scope accounting for 20% and the majority was said all three are important indicating 40%.A project management triangle is a project management model. It proposes that managing three constraints-cost, scope and time-leads to a quality final deliverable.

The project management triangle helps project managers manage risks and change easier, pinpoint and manage project priorities well and offer clear communication to clients. In the end, with these factors well managed, the project is more likely to produce a quality final deliverable. Below is a deeper look at these benefits and how they work in real time.

Thematic area 4.2 To analyze how time affect road construction projects among contractors

The researcher sought to analyze how time affect road construction projects among contractors. Findings below show that time needs to be considered because it its part of scheduling 47%. 20% said it is an importance factor in networking diagrams whilst 33% said it is an important element in planning. Time and cost are considered to be the most crucial factors that contribute to the success of a project, and in reality are the only factors on which everything hinges, and are the most critical factors in the decision on whether a project commences or is shelved. Azhar, Farooqui and Ali and Kamaruzzan (2010) concluded that cost performance of construction projects in Malaysia was a critical issue in that country and the recurrence of this problem indicated a need for research to clarify what should be done to mitigate the said problem.

The researcher sought to find why project managers fail to manage time in road construction projects. Findings showed that 59% said it was due to lack of training and 42% said poor funding systems ccording to PMI (2017) time is an integral part of life. However, many people and organizations do not actively manage it. Chan and Kumaraswamy (2002) stated that construction time increasingly important because it often serves as a crucial benchmarking for assessing the performance of a project and the efficiency of the project organization.

4.3 Fig 13 How time can be managed in projects

The researcher sought to find out how time can be managed in projects. Findings below showed those who indicated need to use project network diagrams 47%. Those who indicated need to train managers were 39% those who indicated need to improve monitoring and evaluation accounted for 20%. A recurring challenge encountered by numerous stakeholders globally in the building construction sector is delay in project delivery. Time management (TM) can be regarded as an indispensable chain among numerous processes required to achieve success in project delivery. In Africa for example after extensive review of most studies on project performances, the general consensus by most construction stakeholders and the public was that the construction sector is not that forthcoming both in efficiency and effectiveness in project delivery. Studies such as in (Project Management Institute [PMI], 2017), Chin and Abdulhamid (2015), (Chartered Institute of Building [CIOB], 2008) are in corroboration that poor time management can result in delay completion and even outright failure of construction project and efficient utilization of time will lead to successful attainment of the project objectives. However, poor compliance with time management processes occasioned with paucity of information on the principles as well as practices

influencing time management seems to have contributed a lot to failure on timely delivery of construction.

4.4 Thematic area 3: To determine how project costing affect road construction projects

The researcher sought to find out how project costing affect road construction projects. Three reasons were 50% said it affects scheduling, 40% said it affects completion and 10% said it affects quality. Cost overruns in construction projects are considered one of the major issues globally, without any control or solution for the last 70 years. According to the facts, construction projects experienced 28% of the mean percentage of cost overrun (MPCO) (Flyvbjerg, *et al*., 2003; Lind and Brunes (2015) studied Swedish infrastructure projects and identified that mostly the cost overruns take place at the initial stages of design and planning until the design is finalized due to technical and administrative issues. This means considering the avoidable causes of cost overruns, the project team should pay more attention to these pre-construction issues. This emphasised the value of proper cost control of the project. According to Seeley (1996), the most important duty of a Quantity Surveyor is cost controlling while giving the value for money set against perceived expectations. Nonetheless, cost control alone cannot address the issue of cost overruns. There are three elements or processes of Cost Management; cost estimating, cost budgeting, and cost controlling (Owens *et al*., 2007). Having accurate project estimates and a project budget accordingly is essential to delivering the project within the budget (Malkanthi, *et al*., 2017).

5. Conclusions and Recomednations

5.1 Conclusion

Originally, time management was not seen as important beyond business or work activities, but finally the term widened to include personal activities as well. Currently time management system is a designed combination of processes, tools, techniques, and methods. Project time management starts at the very beginning of initiating the project by identifying the required project duration and its milestones, before getting a detailed schedule during the planning phase (Hazar, 2014). According to Romel & Gilberto (2016), the delays on the deliveries are one of the most frequent problems affecting project with close to 47%, resulted from a poor application of project time management. Vennila, (2018) suggested various ways of managing time effectively by highlighting many techniques that can be borrowed by project team. Project team should arrange their schedule according to project priorities as per the work breakdown structure or critical path analysis, Project team including stakeholders should get over any bad feelings that the project might face during project life cycle and move beyond them by having proper risk mitigation plan. Proper.

5.2 Recommendations

Construction projects around the world will normally have poor performance in terms of achieving cost, quality, and time targets. Therefore, cost and time overruns are considered a common feature in construction projects. The studies show that the causes of cost overruns are similar in all contexts. The following are the recommendations;

It would not be accurate to identify the causes of cost overrun for a specific country from global literature only. Out of those causes, seven factors were recognised as factors that make the most significant effect on the cost of construction projects in general, namely (1) project management, (2) risk assessment, (3) cost-benefit analysis, (4) construction management, (5) time overrun (6) decision making, (7) design/ methodology/ approach. These must be studied separately.

One of the potential solutions to reduce the effect of cost overrun in construction projects is the embedding of an effective resources (human, technical, and material) management system within construction projects as it seems that most of the causes of cost overrun are related to and external stakeholders is a very important task to deliver projects successfully and reduce cost overrun. Training is important to project teams.

Finally, the risk is more important in construction megaprojects to identify these causes beforehand so that the team can take necessary actions to prevent them or reduce the effect of the risk. Therefore, a proper risk assessment at the beginning of the project is essential to identify these causes.

6. Acknowledegments

Thanks to my supervisor and entire ICU team.

7. References

1. Abdul-Rahman H, *et al*. Delay Mitigation in the Malaysian Construction Industry. Journal of Construction Engineering and Management. 2006; 132(2).
2. Ahmed SM, Azhar S, Castillo M, Kappagantula P. Construction Delays in Florida: An Empirical Study. Department of Construction Management, Florida International University of Miami, 2002.
3. Aibinu AA, Odeyinka HA. Construction Delays and Their causative Factors in Nigeria.Journal of Construction Engineering and Management, 2006.
4. Braimah N. An investigation into the use of Construction Delay and Disruption Analysis Methodologies. University of Wolverhampton. PhD. Thesis, 2008.
5. Chola J. No excess demand for advance rentals-state. Sunday Mail, 10 March, 2002, 2002.
6. Creswell J. Research design: Qualitative, quantitative and mixed methods approaches (2nded.). Thousand Oaks, CA: SAGE Publications, 2003.
7. Kaliba C, Muya M, Mumba K. Cost escalation and schedule delays in road construction projects in Zambia.International Journal of Project Management. 2009; 27.
8. Kashweka MS. Building Cost Information Service: An Evaluation of its costs and benefits for the ZCI. Unpublished Thesis in Quantity Surveying, Copperbelt University Library, Kitwe, 2001.
9. Ibinu AA, Jagboro GO. The effects of construction delays on project delivery in Nigerian construction industry: International Journal of Project Management. 2002; 20.
10. Zambia: Causes and Effects. Journal of Economics and Behavioral Studies. 2014; 6.
11. Chabota Kaliba, Mundia Muya, Kanyuka Mumba. Cost escalation and schedule delays in road construction projects in Zambia. International Journal of Project Management, 2008.

12. Chilongo Sylvia. An Investigation into the factors affecting project performance among contractors in Lusaka District of Zambia. The International Journal of Multi-Disciplinary Research, 2017. ISSN: 3471-7102
13. Creswel JW. Educational Research: Planning, Conducting and Evaluating Qualitative and Quantitative Research.4th edition. Boston: Pearson Education, Inc, 2012.
14. Green J, Thorogood N. Qualitative methods for health research. London: Sage, 2004.
15. Isaac Sakyi Damoah, Cynthia Akwei. Causes of government project failure in developing countries Focus on Ghana, 2015.
16. Lavagnon Ika, Jan Saint-Macary. Special Issue: Why Do Projects Fail in Africa? Journal of African Business, 2014.
17. Alkhathami MM. Examination of the correlation of critical success and delay Factors in construction projects in the kingdom of Saudi Arabia (Doctoral dissertation, University of Pittsburgh), 2004.