THE DETERMINATION OF FACTORS INFLUENCING CONSTRUCTION PROJECT PERFORMANCE IN PUBLIC INSTITUTIONS

A CASE OF MUSOMA & BUTIAMA DISTRICT COUNCIL

THE DETERMINATION OF FACTORS INFLUENCING CONSTRUCTION PROJECT PERFORMANCE IN PUBLIC INSTITUTIONS

A CASE OF MUSOMA & BUTIAMA DISTRICT COUNCIL

BY

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A Dissertation to be Submitted to Mzumbe University in Partial Fulfillment of the Requirements for the Award of Master Degree of Science in Procurement and Supply Chain Management of Mzumbe University.

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommended for the acceptance by the Mzumbe University, a dissertation entitled **The Determination of factors influencing construction projects in public institutions. A case of Musoma & Butiama District Council** partial/fulfilment of the requirements for award of degree of Master of Science in Procurement and Supply Chain Management of Mzumbe University.

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I, Buzana Kazare, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

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DEDICATION

This work is dedicated to my lovely wife, daughter as well sons Ms Stella, Naomi, Kazare and Kitara respectively for their tired less encouragement and support up on accomplishment of this dissertation report, may our Almighty God bless them. Also I dedicated to my classmate for their fully support and sharing that made me to reach this point.

ABBRIVIATIONS AND ACRONYMS

BDC	Butiama District Council
BOQ	Bill of Quantity
CAG	Controller Audit General
CFA	Confirmatory Factor Analysis
GDP	Gross Domestic Product
ICT	Information Communication Technology
MDC	Musoma District Council
PE	Procuring Entity
PSCM	Procurement and Supply Chain Management
PPA	Public Procurement Act
PPRA	Public Procurement Regulatory Authority
RF	Road Fund
SPSS	Statistical Package for Social Sciences
TASAF	Tanzania Social Action Fund
TCT	Transaction Cost Theory
TZS	Tanzania Shillings
URT	United Republic of Tanzania
VFM	Value for Money
WB	World Bank
WSDP	Water Sector Development Programme

ABSTRACT

The aim of this study was to assess the determination of factors influencing construction project performance in public institutions which was carried out at Musoma and Butiama District Councils. The study comprises individuals from Musoma District Council and Butiama District Council. The study was guided by four objectives which are the effect of project planning on construction projects, the effect of relationship management on construction projects, the effect of institutional factors on construction projects in public institutions and the challenges affecting construction project performance in Tanzania public institutions.

The study adopted explanatory research design were 114 respondents obtained through random sampling and purposive sampling. Explanatory research design employed to determine the relationships between variables. Data were collected through questionnaire and documentary review to supplement the study, both quantitative and qualitative approach was used. The collected data were analyzed using factor analysis, linear regression analysis and correlation analysis. The study found a significant relationship between project preparation, project schedule, trust, communication, political interference, project supervision and technical competency with project performance as all predicators were < 0.05. Furthermore, the study revealed that lack of technical staffs, delay of project completion and inadequate fund are the major challenges facing construction projects in public institutions.

The dissertation concluded that construction project performance in Tanzania public institution is influenced by project planning, relationship management and institutional factors, and revealed that 63% of the respondents agreed that lack of technical staffs is the main challenges facing construction project in public institution.

The study recommended that public institutions should ensure proper preparation of projects; also project schedule should be prepared by skilled personnel in order to ensure VfM in public construction projects. Also the government needs to ensure that project funds are available before commencement of the projects. Additionally, the government should make sure that the public institutions equipped with adequate, skilled, competency and knowledgeable practitioners in order the public institutions to achieve VfM in construction projects.

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CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 Introduction of the Study

This chapter comprises the research report that provides the context of the study. It includes the background of the study, statement of the problem, research objectives, and hypothesis of the study, scope and significance of the study.

1.2 Background of the Study

Construction project is an issue of strategic importance for the development and growth of any nation especially in expanding economy. It also represents a significant proportion of the government budget spent in construction projects. For instance, more than 60 percent of the total value of procurement across Africa used in construction activities (Alshami, 2017; Aluonzi, Oluka, & Nduhura, 2016; Malala, Ndolo, & Njagi, 2015; Daudi, 2012; and Shirima, 2013). Because the government is spending much on construction projects a good management of public project is needed in order to ensure performance as well as national economic development (Bathale, 2017; Alukyode, Mathew, & Taiwo, 2015; Silver, Warnakulasuriya, & Arachchige, 2015).

Construction projects includes activities such as building works, civil works, road works and other activities related with constructions (Rida, 2015; Alukyode et al., 2015 and Silver et al., 2015). However, without proper planning and clear implementation of construction projects management the success in construction projects will not be attained. The level of success in execution of construction projects depends heavily on political stability, respect among the parties in the contract, proper use of bidding documents, technical and risk management (Amarri & Boussabine, 2017; Sarda & Dewalka, 2016).

The World Bank (2017) identified the constraints to the performance of construction projects which includes; poor drafted projects, poor projects supervision, and lack of technology, corruption and poor relationships management. Also the PPRA (2015)

added that many procuring entities they are not managing projects properly. Abiodun et al., (2017) and Alukyode et al., (2015) they also suggested that the success of construction projects in the developing countries and the world over are challenged with badly planned, unprofessionally executed, poor estimation, ambiquities in defining projects, poor management and extended schedules.

African countries have already identified several challenges on construction projects. For instance the government of Ghana in consultation with development partners has recognized that among the challenges affect the performance of works projects in developing countries are cost overruns, payment to uncompleted projects and failure to adhere to PPA guidelines (Nsiah-Asare & Prempeh, 2016). In Uganda, incompetence of contractors, poor site management, poor supervision and cancelation of projects found it affect construction projects negatively (Basheka & Byaruhanga, 2017).

Now days the issue of construction projects in developing countries has received increased attention as an essential aspect for economic development especially in infrastructure sector, health sectors, education and other sector in smoothing government operations towards economic growth (McKevitt, 2015; De Mariz, Menard, & Abbaile, 2014. However, most of projects worldwide they are not executed to the satisfactory level (Abiodun, Segbenu, & Oluseye, 2017; Bathale, 2017; Kumar, Nair & Piecha, 2018; Maendo, James, & Kamau, 2018). For instance, road constructions do not stay for long time before they start developing cracks and ridges; this led the current president Dr. John Pombe Joseph Magufuli of Tanzania to complain over the misuse of public funds for poor quality projects (PPRA, 2017).

Several projects have been completed with poor execution, numerous reasons have suggessted as an obstacles such reasons are change of plan and drawings, unclear defined of Bill of Quantity (BOQ), poor coordination among the parties and poor supervision (Mwakajo & Kidombo, 2017; PPRA, 2017). Rida (2015) argued that most of the developing countries including Tanzania faced with several challenges in implementing construction projects which results to lose of millions of taxpayer through cancellation and unfinished projects.

However, the level of success in construction projects significantly depends on the procurement process (Ambili & Jose, 2017; Haruna & Revocatus, 2018). An organization that fail to plan it leads to poor performance, as it was suggested by Bathale (2017) and Kumar et al., (2018) that a project that spend more resources than what was budgeted leads to poor performance. For the success of public projects the schedule, cost and quality need to be planned accordingly, scholars viewed it as the iron triangle (Ambili & Jose, 2017). This is because construction projects involves different parties with different roles and responsibilities, with different capabilities of handling risks which may result to poor performance if not managed well (Shahid, Ahmad, Ahmad, Shafique, & Amjad, 2015).

Despite the efforts has been undertaken to improve performance in construction projects. However, proper management of works contracts still a challenge to many developing countries. For example, in recent years studies and audit reports from CAG and PPRA respectively, evidenced that several projects such as building projects, water projects and road constructions in Tanzania public institutions are not performed to the satisfactorily level. Project worth TZS 311.67 million identified with poor performance on annual assessment of VfM (URT, 2018). Therefore, this study aimed to determine the factors influencing construction project performance in public institutions.

1.3 Statement of the Problems

Construction project is complex and it involves high risks. Companies and governments all over the world are losing huge sums of money though projects as a result of project failure (Domoah, Akwei, & Mouzughi, 2015). The failure of construction projects may impact the development of other sectors such as manufacturing, agriculture, transportation, health sector and other sectors which are important for the growth of nation (Assem & Mario, 2018; Hazarika & Ranjan, 2017). The construction projects such as water projects, building projects and road projects around the global are increasingly reported for several times that has a

negative impact on countries' economy if not perform to the standards (Alshami, 2017 & Shahid et al., 2015).

In Tanzania, constructions projects in public institutions are confronting with several difficulties which affect the attainments of VfM. For instance, the CAG report for the financial year ended 2017/2018 revealed that the implementation of various projects worth 3,187,957,259/= Tanzanian shillings in 26 public institutions did not performed to the satisfactory level due to inadequate supervision, late release of funds, inadequate community participation and poor relationships management with the contractors.

According to Silva (2016) and Mchopa (2015) the most barriers and challenges to PE's in managing construction projects are poor information dissemination, poor project management, challenges with the law itself, lack of technical expertise, and lack of competent and committed practitioners. Also, Mhando, Mlinga, & Alinaitwe (2017) argued that variations and schedule delay are the chronic problem affecting construction projects. Nditi (2015) indicated that political interference in procurement process results to unsuccessful of construction projects in most of the developing countries. Completing the project within the budget, time schedule and attaining the desired performance (Maendo, James, & Kamau, 2018).

The PPRA annual evaluation report of 2016/2017 found that VfM in water projects funded by the World Bank did not attained, a total number of 29 water projects worth 21.53 billion were reviewed (URT, 2016). Additionally, 8.1% of the projects worth TZS 10.72 billion were unsatisfactorily performed in 2016. Also, Mbarawa, (2016) added that among the factors that affect work projects can be project manager's competence, procurement practice, environmental factors, economic factors, technological factors, and project funds.

The performance of construction projects largely depends on the strategy adopted by the respective organization for its implementation and execution. A construction projects is generally recognized as successful when it is completed on time, within a budget and in accordance with specifications (Morakinyo & Afolabi, 2017). The execution of construction projects globally still face the same challenges, even if

several efforts has been undertaken to improve construction project performance. A number of studies have been conducted to examine the factors impacting on project performance in developing countries (Abiodun et al., 2017; Malala et al., 2015; Shahid et al., 2015). In Tanzania construction projects is facing with several problems which impact the achievements of VfM. Therefore, the study examines the factors influencing construction projects performance in Tanzania public institution.

1.4 Research Objectives

1.4.1 General objective

The general objective of this study is to determine the factors influencing construction projects performance in Tanzania public institutions.

1.4.2 Specific objectives

i. To assess the effect of project planning on performance of constructions projects in public institution
ii. To assess the effect of relationship management on performance of construction projects in public institutions
iii. To find out the effect of institutional factors on performance of construction projects in public institutions
iv. To determine the challenges affecting construction project performance in Tanzania public institutions

1.5 Research Hypotheses

The research hypotheses formulated based on the three specific objectives with the assumption that;

H1: There is a significant relationship between project planning and project performance

H2: There is a significant relationship between relationship management and project performance

H3: There is a significant relationship between institutional factors and project performance

1.6 Significance of the Study

A good management of construction projects helps the public organizations to safeguard the public funds by attaining the basic principle of procurement which is VfM. This study was useful to the following groups;

1.6.1 Government and Policy makers

The study provide aids to the government and policy makers to take necessary actions towards the performance of construction projects in public institutions as the sector plays a significant role in fostering national development.

1.6.2 Academicians

The study broadens understanding on construction projects. Also provides a room for other researchers (academicians) a reference point to use on other related field and also make recommendation for improvement on the management of construction projects.

1.7 Scope of the Study

The study focused on the determination of construction projects in public institutions specifically at Musoma and Butiama District Council

1.8 Organization of the Study

The dissertation is organized into six chapters, chapter One introduces an overview of the study; including background of the study, statement of the problem, research objectives, significance, scope and organization of the study. Chapter Two presents the theoretical review of the study which includes definition of the key terms and concept, theoretical review, empirical review and conceptual framework of the study. Chapter three presents dissertation methodology which include research design, study area, Study population, Sample size, sampling technique, type of data, data collection methods, data reliability and validity ended with data analysis. Chapter four presents data analysis and presentation of findings. Chapter five presents

discussion of the study findings and lastly, chapter six presents the study summary, conclusion and study implications.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the available literatures on the construction projects. It includes sources like journals, books, reports and other relevant articles concerning with construction projects. The section includes definition of concept and terms, theoretical reviews, empirical reviews and conceptual frameworks.

2.2 Definition of concept and terms

2.2.1 Projects

According to Assem & Mario (2018) project can be defined as a set of activities (or usually, a number of related activities) carried out according to a plan in order to achieve a definite objective within a specified period of time that will be close when the objective has been achieved. Projects have specific characteristics including start and an end date, final targets to be achieved, involves number of plan and interrelated activities, unique characteristics, budget and project management team.

2.2.2 Project Management

According to Khamaksorn (2016) Project management defined as the planning, organizing, directing, and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives. It also viewed as the application of knowledge, skills, tools and techniques to project activities.

2.2.3 Value for Money

The Public procurement (Amendments) Act, 2016 VfM can be defined as the attainment of right quality, right quantity, right price, right time and right place when undertaking procurement activities through a project life time to meet the public requirement.

According to Nsiah-Sare & Prempeh (2016) VfM can be defined as the primary driver for procurement, it typically means obtaining an items or procuring of works, goods/services which reflects the value of the purchase costs that aids “fit for purpose” and meets specification.

2.3 Theoretical Review

This part reviews theories that were guide the study. Three theories namely Transaction theory, Relational contract theory and Institutional theory were reviewed.

2.3.1 Transaction Costs Theory (TCT)

The Transaction cost theory was introduced by Coase in 1937 that summarizes that transaction costs are those costs incurred by the company during an economic of exchange; it can be classified as internal or external transaction costs. The study adopted Transaction cost theory with the aim of identifying costs in construction projects so as managers and other stakeholders can identify them and monitor those cost to improve organization performance. Generally, in construction projects, costs such as designing costs, the cost of preparing bidding documents, estimating cost, drawing up a contract, cost of implementing construction projects are inevitable (Huimin, David, & Zhuofu, 2013).

The application of TCT in construction industry help the parties involved in the contract to understand those costs in order to adopt mechanisms which leads to minimizes both internal and external cost in order to attain what is expected, as suggested by Mchopa (2015) and Mkunga & Karanja (2017) that VfM in construction projects can be achieved when buying organization minimizes transactional costs. The effective management of transactional costs in construction projects may lead to improves organizational performance. Also, Lei, Huimin, Peng, & Chengyi (2016) argued that a clear planned schedule, collaborative relationships, between projects participants help to minimize unnecessary cost in construction project.

2.3.2 Institutional Theory

The institutional theory as was suggested by Mayer and Rowan 1977 that the institutional settings influence the development of formal structures in an organization as the organization interact with the surrounding social systems. The theory emphasizes the use of rules, norms, laws and regulation influences performance and development of organization. This means that an organization must maintain rules, norms, laws and regulations in order to improve efficiency; these may also improve construction projects performance.

The institutional theory has effect on construction projects. The institutional theory highlight that procedures, policies, rules and regulations that must be observed by both parties involved in construction projects in order to ensure that all parties in construction projects to perform their roles in accordance with the contract. This may improve performance as all stakeholders involved in construction/procurement activities get fair treatment, also all procedure such as project planning, evaluation, and projects implementation.

Construction project goes similar with the application of institutional theory in several ways; the contractors should obey the established law, rules, regulations and guidelines to improve performance of construction projects. Also social systems such as political, economic, technological and other social systems activities tends to impact the performance of construction projects as already argued by Nditi (2015) that many public institutions failed to achieve their expectation in construction projects due to interference of political activities in procurement. Therefore, the institutional theory is appropriate to identify its influences on the performance of construction projects.

2.3.3 Relational Contract Theory (RCT)

The relational contract theory was developed by Mack Nail in 1970 she stressed the role of norms in determining the conduct in which commercial exchange operate in practice and introduce the concept of relational. Mack Nail tries to explain a number

of norms that can be observed in the practice and operation of contracts for better performance. The theory was merely based on the assumption that all contract which is based on relational governance, facilitates highly on the success of construction projects rather than contractual governance. The relational governance characterized by norms such as communication, trust, respect, and values. The practice of these norms in construction projects may influence performance "norms based approach" (Diathesopoulos, 2010).

The relational contract theory adopted in this study to support the relationship management in construction projects specifically on trust and communication variables in order to determine whether relational contract influences the construction projects through the relationship management between the parties in the contract.

2.4 Empirical Review

This part reviews what other scholars have been said on the success of construction projects. The study aims to examine factors influence the performance of construction projects in public institutions.

2.4.1 Performance of Construction Projects

Efficient performance of construction projects is crucial for economic growth and development. The Public Procurement (Amendment) Regulation 2016 Section 4 & 5 requires the Public Entity (PEs) to ensure the best use of public funds with honest and fairness when performing procurement activities of which construction projects are among. Several projects in public institutions was implemented during the financial year 2017/2018 which was financed by the government and other partners such as African Development Bank (ADB), Water Sector Development Programme (WSDP), Road Fund (RF), Tanzania Social Action Funds (TASF), and the World Bank (URT, 2018).

The CAG report for the financial year ended 2017/18 revealed that many projects in public institutions not implemented well due to shortage of staffs who are capable in the related projects, also 32 projects worth TZS 52,497,989,455 financed by road

fund and water sector development programme was delayed which results to non-attainment of VfM in public institutions. Additionally, the financial year ended 2015/16 the development projects worth TZS 15,048,767,538 did not started however funds has already received, these also may affect project performance as markets tends to change time to time. The regulation 243 of the Public Procurement (Amendment) Regulation, 2016 requires all procuring entities to manage all the procurement of works of which construction projects is among effectively so as to achieve the basic principle of procurement which is VfM.

The performance measurement of construction projects can be done using performance indicators such as timely completion, reasonable prices, high quality, client's satisfaction and business performance (Morakinyo and Afolabi, 2017; Alshami, 2017; McKevitt, 2015; Matta and Ashkenas, 2015). The main three indicators of construction projects employed in this study as a performance measurements which includes cost, quality and time.

Quality is one of the main key components of performance in construction projects. The clients in projects construction expects to achieve high quality works when entered into contract. Not only quality, they also expect to complete projects within the time frame with the reasonable price. The Transaction cost theory provides a theoretical basis of costs in construction projects by classifying costs into two categories (internal and external costs) which are required to be minimal for the success of construction projects (Sarmento & Renneboog, 2016; Harazika and Ranjan, 2017).It is the responsibility of the PE to ensure quality of public projects, within the right time at the right price (URT, 2016).

2.4.2 Project Planning in Construction Projects and Performance

Planning is one of the key elements of any project and failure to plan vividly can result to project's failure (Domoah, Akwei, & Mouzughi, 2015). Project planning is a set of established processes used to make a decision on what tasks must be performed to achieve project's set of objectives within schedule and cost. Planning involves the development of realistic schedule and cost estimate, the assignment and coordination of resources (Jallow, Demian, Baldwin, & Anumba, 2014). The main

aim of project planning is to ensure success of the project (Ainasseri, 2015). It plays a significant role on construction projects performance. The successful construction projects should be completed within the estimated time and costs, and should be performed to the specified standard level, delivered in accordance to the needs and expectation and finished within the defined and contracted scope (Ainasseri, 2015; Alias, 2014)

According to Murith, Makoka, & Otieno (2017) project planning is a set of activity contained a series of predetermined and coordinated actions and process for carrying out operation for identifying, preparation, appraisal and implementation of projects. Project planning viewed as the heart of the project life cycle as it captures key points information regard to the contract, establish system and procedures that make contractor to comply with the PE, provides the basis for performance measurement and also defines who is involved in managing the project together with his roles and responsibilities (Amarri & Boussabine, 2017).

In construction project, project preparation is a key aspect for the success of projects. Project preparation should be integrated and communicated effectively to project stakeholders in order to facilitate performance of the particular projects (Ainasseri, 2015); Alias et al (2014) argued that many public institutions failed to ensure success in construction projects due to failure in preparation and proper schedule preparation. The PE should be confident in decision making regarding clear definition of the scope of projects. This is because project preparation and schedule recognized as the critical aspect in construction projects. The improper planning preparation, poor site management, inadequate resources and poor project design ends to impact the performance of construction projects (Murith, Makoka, & Otieno, 2017).

Amarri & Boussabine (2017) argued that construction projects should be prepared and defined in a more precise and predictable way to meet stakeholder's needs. (Jallo et al., 2014) indicates that project planning and schedule should properly defined success in construction projects. Poor planning may result to unrealistic schedule and budget, without accurate estimates construction projects will not be performed to a standard because it will be difficult to allocate the exactly resources.

Inadequate project preparation may impact the performance of construction projects. In order for a project to be successful, it is important to identify, evaluate and analyses the project requirement prior to start the project, this will help project managers, project team members and other parties involved in the projects to execute the project preferably (Anoop, Asadi, & Prasad, 2016; Amarri & Boussabine, 2017). There must be a balance between project time and budget, too much time spend in planning can be linked with poor project performance.

Project preparations require staffs with the required qualifications in order to facilitate project performance. The construction project needs competent and highly qualified personnel for the effective implementation of construction projects (Moura, Carneiro, & Diniz, 2018). Moreover, on their study of analysis of project success factors in construction industry recommended that capabilities, technical knowhow and commitment among the participants in construction project are important for the success of projects (Yahya & Gunduz, 2018).

Project schedule is representation of project activities identified by the work breakdown structure as part of the definition of the project scope. It is act as the instrument that communicates what activities to be performed by whom and when and which resources needed to perform the projects (Murith, Makoka, & Otieno, 2017). The essence of project schedule is to deal with the sequencing of activities and the addition of the activity duration. The project schedule provides the basis for measuring performance through regular review and updating the plan with nature of the project (Jallow et al., 2014)

Projects that start without clear schedule is one that is suspicious to fail because it performed without understanding the project baseline of what the project seeks to achieve within a specified period of time (Domoah et al., 2015). Schedule delays are common in construction projects which tends to impact the performance of construction projects as may result into unnecessary cost (Kusakci, Ayvaz, and Bejtajic, 2017). A project that uses more resources than what was planned did not result to the attainment of VfM. (Malala, Ndolo, & Njagi, 2015)

Proper project schedule in construction projects may help the organization to avoid delays in construction projects, also it help to identify possible factors which may impact the success of projects (Kusakci, Ayvaz, and Bejtajic, 2017). A good scheduling in construction projects is a vital for project performance (Ainasseri, 2015). Project schedule must be reviewed regularly depending on the nature of the project and the client need. The flexibility of the project schedule may help the client to track the project progress, and to figure out the excess resources to other activities while monitoring and controlling project activities (Alshami, 2017).

In order to ascertain the effect of project planning in construction projects which is the first objective of this study as presented in chapter one, the research hypotheses formulated in the assumption that;-

HI a: There is a significant relationship between project preparation and project performance

H1b: There is a significant relationship between project schedule and project performance

2.4.3 Relationship Management in Construction Projects and Performance

Relationship means association between individual/groups. In order to develop a relationship there must be a ground of things which build or develop such kind of relationships. For instance in contract the parties form a relationship in order to achieve their expectations (Amewah, Adjei-Kumi, & Owsu-Manu, 2015). The nature of relationship in construction projects tends to impact the performance of projects (Ecom, Kim, & Jang, 2015). PPRA (2018) indicates that relationship management in any project should be viewed with the professional eye as results to success or failure of construction projects.

The study done by Basheka & Byaruhanga (2017) on the performance of road infrastructure projects in Uganda found that poor relationships management with contractors which resulted by lack of communication, respect and commitment among the parties in a contract. Also other factors such as delay of payment to the contractors, delay in completion of projects by the contractors and deliver of poor quality works tends to impact the relationships in construction projects.

Furthermore, the study done by Loice (2015) on the effect of buyer supplier relationships on procurement performance in public institutions found a positive and significant relationship between trust, commitment, cooperation and communication on procurement performance. The study therefore recommends that relationship management is important, hence high level of respect, trust and commit must be preferred in public sector.

According to Strahorn, Brewer, & Gajendran (2017) trust play a significant contribution to influence project performance. In the whole aspect of human interaction trust play a greater role to reach the destination. The issue of trust has been discussed across various field due to its significant, the effect of trust as recognized in other filed should also be considered in construction projects (Bathale, 2017).

Kasimu, Masaba, Katerega, and Sebunya (2017) suggested that the proper project communication enables the success of project performance. This is because communication simplifies project task and get all stakeholders with the same understanding. It is important to build and maintain effective communication among the project team for the success of projects (Nagoli, 2015).

Effective communication relating to project information is important for the performance of construction projects. Scholars proposed that communication in construction projects is like lifeblood in human life (Muszynska, 2018). In order to ensure performance in construction project, effective project communication is important. However, most of the project challenges affected by poor communication among the project members.

Furthermore, (Butt, Naaranoja, & Savolainen, 2016) added that to communicate effectively proper communication arrangement should be adopted to ensure sharing of project information. Communication is crucial since to project planning stage, the effective communication is essential factor for project success (Taleb, Ismail, Wahab, Mardiah, Rani, & Amat, 2017).

In order to investigate the effect of relationship management in construction projects which is the second objective of this study as presented in chapter one, the research hypotheses formulated in the assumption that;-

H2a: There is a significant relationship between trust and project performance

H2b: There is a significant relationship between communication and project performance

2.4.4 Institutional factors

The institutional factors includes regulative elements, organizational culture, inter and intra departmental relationship and norms (Nguyen & Watanabe, 2017). The institutional factors tend to impact the performance of organization. The literatures show that institutional factors in public entities interfered procurement performance (Damas, 2016). In Tanzania, procurement activities are governed by the PPA No. 7 of 2011 and its regulation of 2013 together with its Amendments of 2016.

According to Nditi (2015) procurement process frequently affected with political interference which also affect the performance of public organizations as results to the selection of unqualified contractors/suppliers, and late deliveries. Also, Nyaonge (2018) on the study of determinants of VfM in procurement of works in Tanzania Local Government Authorities (LGAs) identified that political leaders and senior officials interfered procurement activities which results to non-attainments of VfM.

Technical competence in construction projects is a key aspect for the successful achievement of project objectives. The contractor's competence has found to be the most challenge in most of the construction projects due to lack of skills which results to failure in some projects (Khamaksorn, 2016). Availability of individuals with the necessary skills and knowledge in the implementation of construction projects may improve the performance (Mayer, Bruning, & Nyhuis, 2015).

According to Mohammad, Yaman, & Ismail (2016) the term competency is usually associated with training and educatioanl field. However, Mayer et al., (2015) supplemented that competency is not limited only to some field like educational field, the significance of the concept may also appreciated in other field of which

construction activities is among. Moreover, skills, knowledge and ability of the parties involved in construction projects are important for the success of projects (Khamaksorn, 2016).

Project supervision is defined as the practice of watching over the project activities. According to Ogundipe (2017) poor supervision in construction activities result to poor performance of project activities. Project supervision determines the performance level of the project. Unfavorable conditions, lack of commitment, lack of support from top level management may affect the project supervision. All this tends to impact the performance of construction projects (Ogundipe, Ajao, & Ognibayo, 2018). Also, Morakinyo, Afolabi, & Ibrahim (2017) the project supervision in construction projects requires special attention in order to facilitate the achievements of client objective as well as to safeguard the success of the projects.

Lack of quality supervision and site management affect the performance of construction projects. Alukyode et al., (2015) suggested that in order to ensure good project supervision in construction projects, the project supervisors should posses a good knowledge of project management, interpersonal skills and prctical experience of construction project management. Clear project supervision can influence and encourage team members to achieve the targets. In a situation where there is inadequate supervision, the project may be faced with several challenges including late delivery, rework, unethical practices and quality problems (Ambili & Chinchu, 2017).

In constrction project, supervision management is a tool for improving the whole construction projects. The activities of site supervision management is considerd to have a greator influence on the the success of any project. The study done by (Mohammad, Yaman, & Ismail, 2016) on the determination of technical competencies of construction managers in construction industry argued that site supervision is important in construction projects as the industry are multiplier for other industries such as agriculture, mining, manufacturer and other sectors.

According to (Hackman, Agyekum, Acheampong, & Ayarkwa, 2015) site supervision is neccesary to ensure that work is performed to a standard. The success

of projects depends on the level of supervision. The project supervisor's competency may affect site supervision (Assem & Mario, 2018). The effective site supervision may influence project performance.

To find out the effect of institutional factors in construction projects, the research hypotheses formulated in the assumption that;-

H3a: There is a significant relationship between project supervision and project performance

H3b: There is a significant relationship between political interference and project performance

H3c: There is a significant relationship between technical competence and project performance

2.5 Conceptual framework

A conceptual framework describes dramatically the relationships between independent and dependent variables of a study. This study will assess the determination of factors influencing construction projects performance by presenting the effect of independent variables on dependent variables.

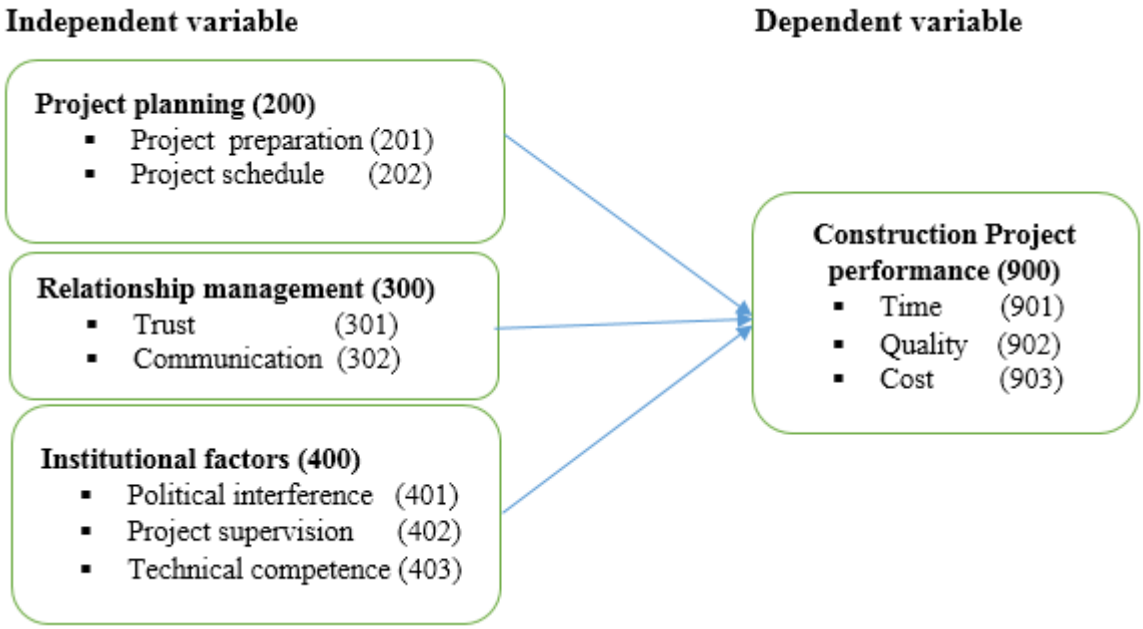
The independent variable in this study is categorized into three categories namely; project planning, relationship management and institutional factors as the research objectives. These objectives together with their indicators may/not influence the performance of construction projects in public institutions.

Project planning as one of the research objective includes project preparation and project schedule as the variables, also relationship management as another objective includes trust and communication as the variables and lastly, institutional factors included as the objective with political interference, project supervision and technical competency as the variables.

On the other hand construction project performance stand for dependent variable which includes quality, cost and time as the dimensions of construction projects

performance which depends on the effect of project planning, effect of relationship management and institutional factors as presented in figure 2.1

Figure 2.1 Conceptual framework



Source: Researcher, (2019)

From the conceptual framework the linkage between variables of interest in this study is clearly shown in in figure 2.1 above the independent variable in respect to this study involved the determination of factors influencing construction project performance in terms of project planning, relationship management and institutional factors. Project planning is one of the independent factors determined by project preparation and project schedule variable, the same applied to relationship management and institutional factors determined by trust, communication, political interference, project supervision and technical competency respectively. The dependent variable is construction project performance which is measured in terms of Cost, time and quality.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides the approach that the study adopted. The research methodology offers the logic behind the methods adopted together with the technics applied (Kothari, 2004). The chapter includes some explanation regarding to the research design, area of the study, study population, sample size, sampling technique, types and sources of data, data collection methods, research validity and reliability, measurement of variables and data analysis method.

3.2 Research Design

Research design act as a path to reach the end point, Malhotra (2004) indicated that research design provides a steps and procedures necessary for obtaining the required information to solve the existed problem. This study titled the determination of factors influencing performance of construction projects in Tanzania public institutions adopted explanatory research design techniques of which both quantitative and qualitative information were collected. The explanatory research design was appropriate in this study because its purpose is to explain the relationship between variables. Since explanatory study emphasized to indicate the influences of one variable on another variable (Saunders, Lewis, & Thornhill, 2009; Jamal & Kamuzora, 2008) that is why was opted in this study.

3.3 Study Area

The research study conducted at Musoma and Butiama District Council (MDC & BDC) in Mara Region. The study area selected due to the fact that public entities has faced several challenges in managing construction projects. These evidenced, through reports from respective authorities such as CAG and PPRA and other research reports (Damas, 2016; Haruna & Revocatus , 2018; & URT, 2018). The performance of construction projects in public institutions is a critical for the development and growth of nation economics. Therefore, the study area selected

because MDC & BDC are among the public entities which struggles to improve performance in construction activities.

3.4 Study Population

The population in research is regarded as the group of people or things of interest that the reseacher is interested to study. Saunders et al., (2009) pointed out that the population includes group of individuals and objects from which samples are drawn for measurements. The targeted population for this study were comprises employees from Musoma & Butihama District Council including procurement department, Health department, Human resource & Administrative department, Education department, Engineering department, Accounts department, members of evaluation committees, members of tender boards, audit section and other sections. This is because they are the main stakeholders and key informants also they are important to the study as they are involved in procurement activities especially construction projects activities.

3.5 Sample Size

Normally, sample refers to the representative of something. Kothari (2004) sample is drawn from the entire population where the elements can be gerneralized. The selected items or individuals should represent the studied population and should be of optimum sample which fulfil the requirement of efficiency, reliability and flexibility of the study. Statistician have proposed that the valid and reliable study to be carried out its sample size should be not less than 30% (Cooper and Schindler, 2008) also, (Saunders, Lewis, & Thornhill, 2009 and Mugenda, 2008 and Borg & Gall, 2003) provides that for a ststistical analysis study, a sample size of 30 and above are normally result in a sampling distribution which is close to normal distribution.

Therefore, the study comprises 114 respondents from two Distict councils (Musoma and Butiama) including procurement management department, engineering depertment, accounts department, finance deartment, education department, health department, human resource and administration and other sections of which 63 respondents from MDC and 51 respondents from BDC from the total population of

134 from MDC and 111 population from BDC. Respondents from each organization considered to be of optimum which fulfil the requirement of efficiency, reliability and flexibility of the study (Kothari, 2004).

Other surroundings that influnced the researcher to use sample rather than a whole population are budget constraints and time limit (Saunders et al., 2009; and Malhotra, 2004). Therefore, based on this senario the reseacher selected 114 respondents from 245 targeted population encompasses inividuals from MDC & BDC. Table 3.1 shows how sample size drown from each orgnization.

Table 3.1 Target population and sample size

MDC			**BDC**		
Section	**Population**	**Sample size**	**Section**	**Population**	**Sample Size**
Procurement Management Unit	16	8	Procurement Management Unit	14	7
Engineering department	14	7	Engineering department	12	6
Accounts department	11	5	Accounts department	8	4
Health department	25	11	Health department	20	11
Education department	14	7	Education department	14	6
Human Resource & Administration	10	5	Human Resource & Administration	7	3
Evaluation commettee members	11	6	Evaluation commettee members	8	5
Tender Board members	5	2	Tender Board members	4	1
Audit section	6	3	Audit section	4	1
Other sections	22	8	Other sections	20	7
Total	**134**	**63**	**Total**	**111**	**51**

3.6 Sampling Techniques

Sampling techniques categorized into two types namely;- random probability and non-probability sampling. Random sampling allows each individual in the population with equal chance of being selected as a sample while non-probability sampling there is no guarantee of being selected as a sample (Kothari, 2004).

For the purpose of this study, random sampling were used to obtain information from those individuals who has intervening with construction project activities where the researcher select the respondents randomly provided that they belong to the

department which intervenes with construction activities, also purposive sampling were used in order to obtain the relevant personnel's with the required information pertaining to construction projects in Tanzania public institutions (Saunders *et al*., 2009).

The study expected to obtain 114 respondents form two District Councils (Musoma and Butiama) in Mara Region. The researcher decided to distribute a total number of 120 questionnaires to the respondents in the study area which resulted to the acquisition of 114 questionnaires dully filled and timely returned. The respondents' rate revealed significant contribution as 100% of the respondents obtained as the expectation. The response rate ware suitable for the study analysis as was early argued by previous researchers that a response rate of 70% and above is considered to be excellent for study analysis (Donald & Schindler, 2013). This implies that the response rate for this study were suitable for analysis.

3.7 Types and Sources of Data

According to Saunders *et al*., (2009) there are two types of data which are primary and secondary data. Data is regarded as a primary if is collected a freshhand by the researcher while when it is collected from other sources of data such as journals, books, magazines, articles, presentations reports, and publication is regarded as a secondary data. In this study, both primary and secondary data were used. The secondary data used as the supplement information in supporting primary data in the determination of factors influencing construction activities in public institutions.

3.8 Data Collection Methods

Data collection process requires a systemetic techniques. The use of data collection methods depends on several fators such as types of data needed, nature of the study, type of questions to be asked and budget availability (Kothari, 2004; & Malhotra, 2004). The commonly methods of data collection methods includes the following; questionaires, interview, observation, experiments and documentary review.

3.8.1 Questionnaire

The researcher prepared questionnaire as a tool of extracting information which is usefull in the study. Both closed and open ended questionnaire formulaed to obtain

information concerning with determination of factors influencing project perfromance in MDC and BDC and the reason for selecting questionnaire in this study is due to the fact that it help in obtaining neccesary information concerning the study, it also provides an effincient way for collecting response from large sample and it is appropriate to gather measureable and quantifiable data using Likert scale format (Kothari, 2004). Furthermore, it facilitate easy answering of questions where the respondents were requitred to indicate the level of agreement through the application of likert scale.

3.8.2 Documentary Review

The researcher also decided to include documentary review in this study as an instrument for supplementing the collected data. In both District Councils the project report were reviewed. At Musoma District Council "Taarifa ya mradi wa ujenzi/ukarabati wa kituo cha afya Mugango wenye jumla ya majengo matano katika kijiji cha Nyang'oma kata ya Mugango" reviewed, while at Butiama District Council " Taarifa ya utekelezaji wa ukarabati wa kituo cha afya na ujenzi wa hospitali ya wiliya" were reviewed. This help the researcher in justifying the collected data.

3.9 Data Reliability and Validity

The two instruments were adopted in this study to ensure the consistence results and quality of the study gathered and collected variables.

3.9.1 Data Reliablity

In ensuring study reliablity the reseacher used the cronbach's alpha coefficients. The general rule is that cronbach's alpha .70 considerd reliable, and below .60 considered not reliable (Pallant, 2010). In this study the cronbach's alpha of all variables is above o.70 as indicated in Table 3.2 which shows that the data are reliable and measures the intended to measure. Saunders *et al.*, (2009) suggests thst reliability refers to the consistency of measures which allows for the replication of the same results when similar study carrioed out.

Table 3.2 Reliability

Variables	Cronbach's Alpha
Project preparation	.873
Project schedule	.747
Trust	.820
Communication	.888
Political iterference	.758
Project supervision	.951
Technical competency	.829

Source: Research Findings (2019)

3.9.2 Data Validity

The research instruments is sid to be validity if it measures what is supposed to be measured (Saunders et al., 2009). The measurement were tested using pre-testing of the questionnaire which were distributed to few respondents to determine whether there is any omission or ambiguity in order to make correction early. Also, clear extraction of questionnaires from the relevant study were applied to obtain to come up with the best questionnaire concerned with construction project which refrects the research objectives. Apart from that the researcher also used cronbach's alpha in testing the reliability and validity.

3.10 Data Analysis

Data analysis is the computation of certain measures along with searching the relationships existed between data goups. Both quantitative data and qualitative data analkyzed with the help of Statistical Package for Social Sciences (SPSS) version 23.0. The descriptive analysis for qualitative data specifically respondents backgroun information and objective number four "challenges affecting construction project performance in public institutions" were analyzed in tabulations forms, using frequencies and percentages for the purpose of gatting understanding into various aspects as applied in this study.

The confirmatory factor analysis technique were also encompassed in this study purposively for data reduction where, both independent and dependent variable were analyzed using factor analysis to measure the sampling adequacy through testing the Kaiser-Mayer-Olkin (KMO) and Bartlett's Test in order to determine the suitability of data. The cut-off point as was suggested by Pallant (2010) were 0.6 and above.

These study were also adopted 0.6 as the cut-off point that means all data below the cut-off point were not included for further analysis.

Linear regression analyisis and correlation analysis were also used to test the hypothesis of the study and describe the extent of relationship among the study variables (Pallant, 2010). The value of correlation range from -1 to 1, which implies that coeffiient correlation of -1 indicate a perfect negative correlation while 1 indicate a perfect positive correlation and o indicate no relationships at all.

Objective one: Project planning variables

Linear regression model was performed to determine the influence of independent varaibles effect of project planning variables (project preparation and project schedule) towards the dependent variable construction project performance.

Regression Model

$$\mathbf{Y} = \boldsymbol{\beta o} + \boldsymbol{\beta_1 PP} + \boldsymbol{\beta_2 PS}$$

Where;

Y = Performance of construction projects

$\boldsymbol{\beta o}$ **=** Constant factor

$\boldsymbol{\beta_1 PP}$ = Project preparation

$\boldsymbol{\beta_2 PS}$ = Project schedule

$\boldsymbol{\beta_1 - \beta_2}$ = Coefficients of the model

Objective two: Relationship management

In order to assess the influence of relationship management based on trust and communication variables towards construction project performance as presented under objective two the researcher used linear regression model to test the hyposeses Linear regression model was performed to determine the influence of independent varaibles effect of project planning variables (project preparation and project schedule) towards the dependent variable construction project performance. The hypotheses related to relationship management were stated as;

H2a: There is a significsnt relationship between trust and construction project perfrmance

H2b: There is a significant relationship between communication and construction project performance

$$\mathbf{Y} = \boldsymbol{\beta o} + \boldsymbol{\beta_1 TST} + \boldsymbol{\beta_2 COM}$$

Where;

Y = Performance of construction projects

$\boldsymbol{\beta o}$ **=** Constant factor

$\boldsymbol{\beta_1 TST}$ = Trust

$\boldsymbol{\beta_2 COM}$ = Communication

$\boldsymbol{\beta_1 - \beta_2}$= Coefficients of the model

Objective three: Institutional factors

Lastly, on the objective number three the Linear regression model was also performed to determine the influence of institutional factors variables (political interference, project supervision and technical competency) towards the dependent variable construction project performance. The hypotheses related to institutional factors stated as;

H3a: There is a significsnt relatioship between politicl interference and performance of construction projects

H3b: There is a significant relationship between project supervision and performance of construction projects

H3c: There is a significant relationship between tehnical competency and performance of construction projects

$$\mathbf{Y} = \boldsymbol{\beta o} + \boldsymbol{\beta_1; PI} + \boldsymbol{\beta_2 PSV} + \boldsymbol{\beta_3 TCY}$$

Where;

Y = Performance of construction projects

$\boldsymbol{\beta o}$ **=** Constant factor

$\boldsymbol{\beta_1 PI}$ = Political Interference

$\boldsymbol{\beta_2 PSV}$ = Project Supervision

$\boldsymbol{\beta_3 TCY}$ **=** Technical Competency

$\boldsymbol{\beta_1 - \beta_3}$= Coefficients of the model

CHAPTER FOUR
PRESENTATION OF FINDINGS

4.1 Introduction

The chapter presents the study findings based on the information obtained from the field which regarded as the primary data. This data used to generate a new knowledge based on the factors influencing construction projects performance in Tanzania public institutions. The analysis was performed using descriptive analysis, factor analysis, regression analysis and correlation analysis with the help of Statistical for Social Sciences Package version 23.0.

The general objective of the study was to determine factors influencing construction project performance in Tanzania public institutions. To accomplish this objective the following specific objectives was formulated, the first objective was stated as; to assess the effect of project planning on the performance of constructions project, the second objective was stated as; to investigate the effect of relationship management on construction management and the last objective was stated as; to find out the effect of institutional arrangement on construction projects performance.

4.2 Respondents profile

The respondents profile describes the general characteristics of the respondents participated in the study which includes respondents gender, age, educational level, experience, position and capacity of involvement in construction projects.

4.2.1 Gender

The respondent's gender shows that 54.4% of the respondents were male and 45.4% of the respondents were female. The study includes all gender category however, there is a slight difference between the gender in both studied areas, this implies that in public institutions there is no gender deference in performing tasks rather than qualifications, this findings conform to (Kavura, 2002).

Table 4.1 Respondents Gender

Respondents	Frequency	Percentage
Male	62	54.4
Female	52	45.6
Total	**114**	**100**

Source: Researcher, (2019)

4.2.2 Age

The information on age shows that among all respondents participated in this study 14.9% were below 30 years, and 36.8%, 34.2% and 14.0% were aged between 31-40, 41-50 and above 50 years respectively. The result implies that all age categories including youth, adult and elder were composed depending on the position and area or section of performance.

Table 4.2 Respondents Age

Respondents	Frequency	Percentage (%)
Bellow 30	17	14.9
31-40	42	36.8
41-50	39	34.2
Above 50	16	14.0
Total	**114**	**100**

Source: Researcher, (2019)

4.2.3 Education level

The information on the respondent's education level indicated that the majority of the respondents participated in this study were those with Bachelor degree level of education 39.5%, followed with diploma, secondary/certificate and master degree with contribution of 32.5%, 16.7% and 11.4% respectively. This implies that public institutions constitute different levels of education. The results resembles those of Lawrence (2013) who argued that practitioners in public institutions constitutes people with different level of education and sometimes most of them have limited level of education especially in lower levels (wards and village level).

Table 4.3 Respondents Education Level

Respondents	Frequency	Percentage (%)
Secondary/certificate	19	16.7
Diploma	37	32.5
Bachelor degree	45	39.5
Master degree	13	11.4
Total	**114**	**100**

Source: Researcher, (2019)

4.2.4 Experience

The result on respondents profile shows that most of the respondents 29.8% have working experience between 11-15 years, followed by 24.6%, 19.35, 17.5% and 8.8% respectively. This implies that most of the respondents have enough experience so the information regarded to factors influencing construction projects in this study provided by experienced individuals who have been involved in implementing different projects.

Table 4.4 Respondent Experience

Respondents	Frequency	Percentage (%)
Below 5	20	17.5
6-10	28	24.6
11-15	34	29.8
16-20	22	19.3
Above 20	10	8.8
Total	**114**	100

Source: Researcher, (2019)

4.2.5 Position

The information from respondents profile indicates that there was equal distribution of respondents in different department depending on the nature and size of each department. The result show that heads of department were 12.3%, procurement officers 22.8%, human resource officers 18.4%, engineers 16.7%, accountants 8.8%, auditors 8.8%, doctors 7% and Teachers 5.3%.

Table 4.5 Position of Respondents

Respondents	Frequency	Percentage (%)
Head of department	14	12.3
Procurement officer	26	22.8
Human resource officers	21	18.4
Engineers	19	16.7
Accountant	10	8.8
Auditors	10	8.8
Doctors	8	7.0
Teachers	6	5.3
Total	**114**	**100**

Source: Researcher, (2019)

4.2.6 Quality established

The researcher wants to know who define the quality of projects performed within the organization. The majority of the respondents 35.1% indicated that consultants define the quality of projects. Other respondents provide the following; 33.3% contractors, 15.8% municipal engineer, 14.9% PMU and 0.9% no standard established.

Table 4.6 Quality established

Respondents	Frequency	Percentage (%)
Contractor	38	33.3
PMU	17	14.9
Municipal engineer	18	15.8
No standard established	1	0.9
Consultants	40	35.1
Total	**114**	**100**

Source: Researcher, (2019)

4.2.7 Capacity of involvement in construction projects

The respondents profile indicates that most of the respondents 44.7% and 38.6% have been involved in construction project as project team member and evaluation committee team members, 16.7% project managers. This implies that the majority of the respondents provides the right information concerned with the factors influencing with construction projects.

Table 4.7 Capacity involvement

Respondents	Frequency	Percentage (%)
Project manager	19	16.7
Project team member	51	44.7
Evaluation committee	44	38.6
Total	**114**	**100**

Source: Researcher, (2019)

4.3 Data Analysis

The study adopted factor analysis to summarize data into small interrelated data using a smaller set of factor/components, a regression analysis was also performed to in order to test the hypotheses as presented in chapter two of this study and lastly a simple correlation analysis was also adopted to measure the strength of relationship resulted in regression analysis.

4.3.1 Confirmatory Factor Analysis (CFA)

Factor analysis techniques were encompassed in this study purposively for data reduction where, both independent and dependent variable was analyzed using factor analysis to measure the sampling adequacy through testing the Kaiser-Mayer-Olkin (KMO) and Bartlett's Test in order to determine the suitability of data for further analysis. The extraction performed through the use of Principle Component Analysis (CPA) and on the rotation method VARIMAX was used. The cut-off point was 0.6 as indicated by Pallant (2010). This study adopted 0.6 as acceptable limit for further analysis.

4.3.2 The Construction Project Performance

The construction project performance in this study considered as the dependent factor which measured by quality, time and cost as discussed in chapter two. The factor analysis techniques were performed to determine whether quality, time and cost data are suitable for factor analysis process. The results indicated that KMO has .814 value which is acceptable with regard to Pallant (2010) that .6 or above is suitable and the Sig value of $\geq .05$, also Chi Square = 947.707, df = 91 and the Bartlett's Test of Sphericity was significant at .000 p value as presented in Table 4.9

Table 4.8 KMO for Construction Project Performance

Keiser-Meyer-Olkin Measure of Sampling Adequacy		.814
Bartlett's Test of Sphericity	Approx. Chi-Square	947.707
	Df	91
	Sig	.000

Source: Researcher, (2019)

The extraction method based on principal component analysis showed that items 901a, 901e and 902e were dropped due to poor loading factor or in other way the items does not fit well with other items as was below the cutting point. Also in order to determine the consistency of the study findings as discussed in chapter three the reliability included in the analysis using Cronbach's Alpha and its results indicated in Table 4.10

Table 4.9 Rotated Matrix for Construction Performance variables

Code	Variable	Cronbach's Alpha	Question code	Components		
				1	2	3
901	Time	0.830	901d	.885		
			901b	.854		
			901c	.847		
			902c		.930	
902	Quality	0.938	902d		.912	
			902a		.899	
			902b		.879	
			903c			.932
903	Cost	0.925	903d			.920
			903b			.915
			903a			.841

Source: Researcher, (2019)

The Table 4.10 above indicated that the value of Cronbach's Alpha of all three variables measured construction project performances are above 0.7 which are 0.925 for cost, 0.938 for quality and 0.830 for time. Hence, all variables Cronbach's Alpha are acceptable with reference to (Saunders et al., 2009). With this reason all three variables computed to form construction project performance as a dependent variable for this study.

4.3.3 The Effect of Project Planning

The effect of project planning were also analyzed using factor analysis technique based on the two variable identified early in chapter two as the measures of the effect

of project planning. The result of KMO and Bartlett's Test measure of Sampling Adequacy were .757 value which is acceptable for further analysis, Chi-Square = 484.739, df =45 and the Bartlett's Test of Sphericity was significant at p value .000 as indicated in Table 4.11

Table 4.10 KMO for the Effect of Project Planning

Keiser-Meyer-Olkin Measure of Sampling Adequacy		.757
Bartlett's Test of Sphericity	Approx. Chi-Square	484.739
	Df	45
	Sig	.000

Source: Researcher, (2019)

As discussed early in chapter three the cut-off point/limit was .6 all variables with poor loading factors were removed hence, item 201e, 202b and 202e was removed. The reliability analysis was also performed to determine the consistency of study findings as discussed in chapter three. The value of Cronbach's Alpha for both variables project preparation and project schedule was 0.873 and 0.747 respectively as presented in Table 4.12

Table 4.11 Rotated Matrix for the Effect of Project Planning variables

Code	Variable	Cronbach's Alpha	Question code	Components	
				1	2
201	Project preparation	0.873	201b	.880	
			201a	.852	
			201d	.804	
			201c	.788	
202	Project schedule	0.747	202a		.837
			202c		.742
			202d		.697

Source: Researcher, (2019)

The use of CPA as an extraction method resulted to the removal of poor loaded factors; only items with value above .6 were remained. Hence, item 201e, 202b and 202e were removed due poor loading problem. The remained item was computed to formulate project preparation and project schedule variables which also used to determine the existence relationships with dependent variable.

4.3.4 Relationship Management

The effect of relationship management on the construction project performance as the independent objective was also analyzed using the factor analysis technique to summarize data into small interrelated components. The results indicated that KMO and Bartlett's Test Measure of Sampling Adequacy was .769 value, Chi-Square = 440.902, df = 45, Bartlett's Test of Sphericity were also significant at .000 as shown in Table 4.13

Table 4.12 KMO for Relationship Management

Keiser-Meyer-Olkin Measure of Sampling Adequacy		.769
Bartlett's Test of Sphericity	Approx. Chi-Square	440.902
	Df	45
	Sig	.000

Source: Researcher, (2019)

The extraction method based on CPA indicated that items 301e, 302a and 302e were removed due to the fact that was below the cut-off point that means item 301e, 302a and 302e does not fit well with other items due to poor loading problem. The internal consistency known as Cronbach's Alpha was also performed and its results are shown in Table 4.14 bellow

Table 4.13 Rotated Matrix for Relationship Management variables

Code	Variable	Cronbach's Alpha	Question code	Components	
				1	2
301	Trust	0.820	301c	.854	
			301b	.853	
			301d	.804	
			301a	.724	
302	Communication	0.888	302d		.914
			302c		.880
			302b		.844

Source: Researcher, (2019)

From the Table 4.14 the Cronbach's Alpha of all variables trust and communication was 0.820 and 0.888 values respectively. This implies that the Cronbach's Alpha of all studied variables are acceptable and good fit for other analysis as indicated in chapter three by (Hair et al., 2010 & Pallant, 2010). The remained item were computed and termed as Trust and Communication variables.

4.3.5 Institutional factors

The institutional factor was measured by project supervision, technical competence and political interference variables. The variables were also analyzed using factor analysis technique in order to come up with the interrelated and summarized data for further analysis process. The results shows that KMO and Bartlett's Test Measure of Sampling Adequacy was .750 value, Chi-Square = 827.545, df = 78, and the Bartlett's Test of Sphericity was significant at .000 as shown in Table 4.15

Table 4.14 KMO for Institutional Factors

Keiser-Meyer-Olkin Measure of Sampling Adequacy		.750
Bartlett's Test of Sphericity	Approx. Chi-Square	827.545
	Df	78
	Sig	.000

Source: Researcher, (2019)

Item 402e were dropped after performing extraction method based on CPA due to poor loading problem. The remained item was used to determine the value of Cronbach's Alpha its result is shown in Table 4.16 bellow

Table 4.15 Rotated Matrix for Institutional Factors variables

Code	Variable	Cronbach's Alpha	Question code	Components		
				1	2	3
401	Political interference	0.758	401c	.805		
			401b	.783		
			401a	.707		
			401d	.697		
402	Project supervision	0.951	402c		.936	
			402b		.928	
			402d		.921	
			402a		.913	
403	Technical competency	0.829	403d			.866
			403c			.861
			403b			.756
			403a			.710

Source: Researcher, (2019)

The Table 4.16 shows the value of Cronbach's Alpha as 0.758 for political interference, 0.829 for technical competency and 0.951 for project supervision. All variables under the institutional factors have Cronbach's Alpha above 0.7 which is acceptable as discussed in chapter three (Sounders et al., 2009).

4.4 Regression Analysis

The technique adopted in order to assess and generate knowledge regarding with the assumption that presented early as study hypothesized.

4.4.1 Effect of Project Planning on Construction Project Performance

The effect of project planning on construction project performance for this study were presented by project preparation and project schedule as the independent variable under project planning as presented in the model. The Cronbach's Alpha of all study variables are above 0.7 as presented in Table 4.6. Multiple regression analysis performed to test the relationship of study variable as the hypothesized in chapter one and two. All the hypotheses under the effect of project planning formulated to determine the associated relationship between project preparation *(H1a*) and project schedule *(H1b*) on construction project performance.

The overall contributions of the independent variables to the dependent variables were performed to verify the performance and proceedings of other analysis process. The overall assessment done through modal summary approach and its results presented in Table 4.17

Table 4.16 Model Summary for Project Planning

Model	R	S Square	Adjusted R Square	Std. Error of the Estimate
1	.942	.888	.886	.374

Source: Researcher, (2019)

From the table 4.17 the result shows that construction project performance in public institutions through the project planning is determined by project preparation and project schedule by 88% of R^2. This entails that the hypotheses assumption have been attained hence, permit other statistical analysis.

The result on the Analysis of variance (ANOVA) indicated that project planning on the performance of construction project in Tanzania public institutions is statistically significant predicated $F = 438.773$, $p < 0.05$ implies that the model fitted the data as presented in Table 4.18

Table 4.17 ANOVA Analysis for Project Planning and Project Performance

Model		Sum of squares	Df	Mean square	F	Sig.
	Reg ression	122.774	2	61.389	438.773	.000
	Residual	15.530	111	.140		
	Total	138.308	113			

Source: Research, (2019)

Table 4.18 Regression Analysis for Project Planning and Project Performance

Model	Hypotheses	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. error			
constant)		.005	.117		.043	.966
Project preparation	*H1a*	.101	.040	.097	2.492	.014
Project schedule	*H1b*	.040	.040	.884	22.819	.000

Source: Researcher, (2019)

4.4.2 Relationship Management and Construction Project Performance

The effect of relationship management was measured by trust and communication. The Cronbach's Alpha of the study variables were 0.820 and 0.888 respectively as indicated in Table 4.8. The associated relationship between the studies variables on the construction project performance were analyzed through linear regression. Prior multiple regression analysis, the modal summary included to describe the overall contribution of the independent predicator to the dependent variable in order to verify the performance and proceedings of other analysis. The results presented in Table 4.20.

Table 4.19 Model Summary for Relationship Management and Project Performance

Model	R	S Square	Adjusted R Square	Std. Error of the Estimate
1	.949	.901	.900	.351

Source: Researcher, (2019)

Table 4.20 above shows the contribution of relationship management on construction project performance. The value of R^2 is 90% which implies that trust and

communication are direct liked to construction project performance in Tanzania public institutions.

The result on Variance Analysis indicated that relationship management on construction project in Tanzania public institutions is statistically significant predicated $F = 506.888$, $p < 0.05$ indicates that the model fitted the data as presented in Table 4.21

Table 4.20 ANOVA Analysis for Relationship management and Project Performance

Model		Sum of squares	Df	Mean square	F	Sig.
	Regression	124.659	2	62.329	506.888	.000
Residual		13.649	111	.123		
Total		138.308	113			

Source: Researcher, (2019)

Table 4.21 Regression Analysis for Relationship Management

Model	Hypotheses	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error			
(Constant)		.071	.121		.587	.558
Trust	*H2a*	.914	.031	.925	29.616	.000
Communication	*H2b*	.081	.034	.075	2.386	.019

Source: Researcher, (2019)

4.4.3 Institutional Factors and Construction Project Performance

The effect of institutional factor was presented by project supervision, technical competency and political interference as sub variables within institutional factors on construction project performance. Cronbach's Alpha of all variables was above 0.7 as discussed early in chapter three. The hypotheses under this objective were formulated based on the assumption that there is a significant relationship between political interference *(H3a),* project supervision *(H3b),* and technical competency *(H3c)* on construction project performance. The result on the model summary presented in Table 4.23

Table 4.22 Model Summary for Institutional factors and Project Performance

Model	R	S Square	Adjusted R Square	Std. Error of the Estimate
1	.946	.895	.893	.360

Source: Researcher, (2019)

Table 4.23 indicates the contribution of institutional factors on construction project performance. The value of R^2 is 89% which implies that political interference, project supervision and technical competency are direct associated to the construction project performance in Tanzania public institutions.

Analysis of Variance was comprised to determine the validation the further statistical analysis. The result indicated that institutional factors on construction project in Tanzania public institutions are statistically significant predicated $F = 311.335$, $p < 0.05$ indicates that the model fitted the data as presented in Table 4.24 below.

Table 4.23 ANOVA Analysis for Institutional Factors and Project Performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
Regression	Reg	121.108	3	40.369	311.335	.000
Residential		14.133	109	130		
Total		135.241	112			

Source: Researcher, (2019)

Table 4.24 Regression Analysis for Institutional Factors and Project Performance

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error			
(Constant)	.093	.177		.524	.601
Political interference	.107	.046	.078	2.347	.021
Project supervision	.964	.035	.918	27.683	.000
Technical competency	.106	.039	.084	2.710	.008

Source: Researcher, (2019)

4.5 Correlation Analysis

The correlation analysis as discussed early in chapter three were also performed in order to describe the relationship between variables based on strength and diction of studied variables as defined by Pallant (2010) that used to measure the associated relationships between independent variables and dependent variable and it is determined by Pearson's correlation coefficient r value ranging from 1 to -1 where negative sign indicates direction only which positive sign indicates the strength of relationships . The analysis performed to all the study objective as follows;

4.5.1 Effect of Project Planning on Construction project

Bivariate correlation technique was analyzed to determine the strength of relationship and variable with highest influence among all independent variables to the dependent variable. The results presented in Table 4.26

Table 4.25 Correlation between the Effect of Project Planning and Project Performance

		Construction project performance	Project preparation	Project schedule
Construction project performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	114		
Project preparation	Pearson Correlation	.601**	1	
	Sig. (2-tailed)	.000		
	N	114	114	
Project schedule	Pearson Correlation	.939**	.571**	1
	Sig. (2-tailed)	.000	.000	
	N	114	114	114

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

Source: Researcher, (2019)

Form Table 4.26 the results show that the independent variable with the highest correlation among other is project schedule with Pearson's Correlation of 0.939** on construction project performance. This implies that project schedule influence perfect the dependent variable with a strong and positive relationship.

4.5.2 Relationship Management and Construction Project

Under the relationship management the researcher wants to describe the strength and direction of the relationship between construction projects performance and relationship management attributes (trust and communication). The results presented in table 4.27

Table 4.26 Correlation between Relationship Management and Project Performance

		Construction project performance	Trust	Communication
Construction project performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	114		
Trust	Pearson Correlation	.947**	1	
	Sig. (2-tailed)	.000		
	N	114	114	
Communication	Pearson Correlation	.393**	.342**	1
	Sig. (2-tailed)	.000	.000	
	N	114	114	114

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

Source: Researcher, (2019)

Table 4.27 presents the value of correlation among all study variable under relationship management on the performance of construction projects. The result indicates that trust have the highest correlation to construction project performance. This entails the fact that trust influences best the dependent variable (construction projects).

4.5.3 Institutional Factors and Construction Projects Performance

A bivariate correlation analysis under the institutional factors on construction project performance were also presented as indicated in Table 4.28

Table 4.27 Correlation between Institutional Factors and Project Performance

		Construction project performance	Political interference	Project supervision	Technical competency
Construction project performance	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	114			
Political interference	Pearson Correlation	.349**	1		
	Sig. (2-tailed)	.000			
	N	114	114	1	
Project supervision	Pearson Correlation	.941**	.297		
	Sig. (2-tailed)	.000	.001	114	
	N	114	114		
Technical competency	Pearson Correlation	.811**	.870**	.473	1
	Sig. (2-tailed)	.023	.016	.068	
	N	114	114	114	114

**. Correlation is significant at the 0.01level (2-tailed).
*.Correlation is significant at the 0.05 level (2-tailed).
Source: Researcher, (2019)

The result from Table 4.28 presents the correlation values of all study variable as predictors and dependent variable. The result provides that project supervision constituents highest influence than other variables in the data with a Pearson's correlation coefficient of .941**. This implies that construction project performance in Tanzania public institutions pertaining to institutional factors is strongly determined by effective project supervision. Furthermore, other two variable (technical competency an political interference) also presents positive and perfect strong relationship on construction project performance with a Pearson's correlation coefficient of .811** and .349** respectively. This indicates that all the studied variables under institutional factors have a perfect relationship on construction project performance in public institutions.

4.6 Challenges facing construction project in public institutions

The respondents were asked to indicate their level of agreement or disagreement on the challenges facing construction projects in public institutions. The result indicates that 63% of the respondents agreed that lack of technical staffs is the main challenges facing construction projects in public institutions. Moreover, poor planning and poor

knowledge are also challenges in implementing construction projects. Table 4.29 presents the challenges facing construction projects in public institutions.

Table 4.28 Challenges facing construction projects in public institutions

Response	Poor knowledge	Lack of technical staffs	Corruption/bribery	Ineffective Planning
Strongly disagree	9(7.5%)	3(2.6%)	8(7.0%)	0
Disagree	11(9.6%)	5(4.4%)	22(19.3%)	7(6.1%)
Neutral	19(16.7%)	14(12.3%)	39(34.2%)	10(12.7%)
Agree	53(46.5%)	63(55.3%)	32(28.1%)	51(44.7%)
Strongly agree	22(19.3%)	29(25.4%)	13(11.4%)	9(7.5%)

Source: Researcher, (2019)

Non timely completion of projects and inadequate of fund were also identified as the most serious challenges in the implementation of construction projects in public institutions when the respondents in both District Councils (MDC & BDC) asked to identify other challenges that hinder the success of construction projects in public institutions. This challenges were also identified by the researcher when reviwed project implementation reports of both District Councils as presented in Table 4.29

Table 4.29 Construction project challenges

PE	Nature of project executed	Procurement method used	Planned time	Executed time
Butiama District Council	Construction of staff house, Maternity, X-ray laboratory and mortuary block	Force account method	3 months	More than 10 months
	Renovation of OPD block, wad and laundry at Kiagata health centre	Force account method	3 months	More than 9 months
	Construction of classrooms and dormitories at Bumangi secondary school	Force account method	3 months	More than 4 months
	Construction and renovation of Butiama district hospital	Force account method	2 months	More than 9 months
Musoma District Council	Construction of four class room, two dormitories & pit latrine at Kasoma secondary school	Force account method	3 months	More than 9 moths
	Construction & renovation of Mugango Health centre	Force account method	3 months	More than 9 moths
	Construction of piped water scheme project at makojo and Chitare village	Tendering method	1 year	More than 5 years
	Construction of piped water scheme project at Suguti, Chirorwe and Wanyere village	Tendering method	12 months	More than 19 months

Source: URT, (2019)

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

The chapter presents a detailed discussion of the study findings based on the study objectives and hypotheses as presented in chapter one and three through connecting with study variables and findings gathered and presented in chapter four and theoretical part as discussed in chapter two of this study.

5.2 Project Planning and Performance of Construction Projects

The project planning was measured through project preparation and project schedule as the study variables. The study findings show that project preparation and project schedule as a measure of project planning on construction project performance. All the variables and hypotheses found positive and statistically significant. Also correlation analysis performed to determine the strength and direction of relationships among study variables.

5.2.1 Project preparation and Performance of Construction Projects

The study hypothesized that there is a significant relationship between project preparation and performance of construction projects. The findings shows that there is a positive relationship on project performance as the result in chapter four indicates a positive regression coefficients (β) of .097 at .014 level of significant when the researcher performed multiple regression. Also the study findings shows a Pearson's Correlation coefficients of .601** which implies that there is a perfect and positive relationship on construction project performance. This implies that the construction project performance in Tanzania public institutions is determined by proper project preparation. The study findings support the study of Murith, Makoka, & Otieno (2017) that project planning is a critical aspect for the performance of construction projects.

Furthermore, the ploject planning is viewed as the heart of project life cycle that means it plays key role to the performance of construction projects and it provides a

basis for performance measurements in construction projects (Amarri & Boussabine, 2017). Majority of the respondents (57%) agreed that a well project preparation influences the performance of construction projects in public institutions.

However, many public institutions failed to achieve to achieve their expectations in construction projects due to poor preparation of projects and lack of competent and qualified personnel in construction project implementation (URT, 2019). Many procuring entities bring much attention in the process of selecting contractors. Project preparation is a critical aspect and it requires more attention because if not prepared well may result to cost overruns, poor quality and non-attainment of the expectations which results to poor performance of the whole project.

Also the Transactional Cost Theory is relevant to the study as emphasizes on proper management of both internal cost and external costs. Early identification of costs in construction projects helps the managers and other stakeholders to monitor those costs and to identify risks associated with those costs hence improvements of organization performance. Generally, in construction projects, costs such as designing costs, the cost of preparing bidding documents, estimating cost, drawing up a contract, cost of implementing construction projects are inevitable (Huimin, David, & Zhuofu, 2013). A proper preparation of projects may help to improve the performance. VfM in construction projects can be achieved when buying organization minimizes transactional costs (Mchopa 2015: Mkunga & Karanja, 2017).

5.2.2 Project schedule and Performance of Construction Projects

The study hypothesized that there is a significant relationship between project schedule and performance of construction projects. The study findings shows that there is a positive and significant relationships between project schedule and project performance with a contribution on Beta value of (β = .884) at .000 and a perfect positive and strong relationship with a Pearson's correlation coefficients of .939** as indicated in Table 4.21. This implies that construction project performance is determined by project schedule. The study findings are in line with the study done by

Kusakci et al., (2017) and Ainasseri (2015) that proper and good scheduling of projects facilitates the performance and achievements of VfM.

The study findings also reflects the study done by Alshami (2017) that flexibility of the project schedule depending on the situations have effect on the performance of construction projects. Also Ainasseri (2015) suggested that project shedule must be reviewed regurally depending on the nature and circumstances as the case may be. The majority of the respondents (52%) agreed that their organizations considred project flexibility depending on the situation.

However, in most of public institutions construction projects did not performed to the required time, many of them it takes a long time to commplete. For instance a project which was estimated to be completed within three months takes more than ten months (URT, 2019). The relaily is that the market is not stable it tends to vary time to time so this may result to increse price of msterials as the result increse the contrct price for non core reeasons. In order fo the public institutions to achieve VfM in construction projects clear planned schedule, and collaborative relationships between projects partcipants required (Lei, Huimin, Peng, & Chengyi 2016).

5.3 Relationship Management and Performance of Construction Projects

The effect of relationship management was measured through trust and communication as the independent study variables on dependent variable (construction project performance). Multiple regression and correlation analysis as presented in Table 4.17 and 4.22 respectively shows the results of relationship management and the performance of construction projects in Tanzania public institutions.

5.3.1 Trust and Performance of Construction Projects

The study hypotheses that there is a significant relationship between trust and performance of construction projects. The study findings shows that there is a positive and significant relationship on construction project performance with a contribution of Beta value of (β = .925) at .000 level of significant and a perfect positive strong relationship with a Pearson's correlation coefficients of .947** as

presented in Table 4.22. This implies that construction project performance in public institutions influenced by trust. The study findings are in line with the study done by Loice (2015) on the effect of buyer supplier relationships on procurement performance, the study also found a positive and significant relationships between trust and procurement performance.

The view also match with Strahorn et al., (2017) that trust play a significant contribition to influence project performance. This is because trust act as a foundation of any building that means poor foundation designing may results to the collapse of building. The issue of trust is important to all field for better performance of which construction project is among (Bathale, 2017). Also trust in construction projects should be viewed with the professional eyes (PPRA, 2018).

Despite the facts that trust found positive and highly significant on the performance of construction projects. However, many projects failed to success due to poor relationship management with their contractors which sometimes result delay of payment to the contractor's contrary with terms and condition which resulted to poor quality of works (Basheka & Byaruhanga, 2017).

The study findings were also connected with the Relational Contract Theory with the assumption that all contract which is based on relational governance. The relational governance characterized by norms such as communication, trust, respect, and values. The practice of this norm in construction projects may facilitate highly on the success of construction projects rather than contractual governance (Diathesopoulos, 2010). Additionally, the majority of the respondents 54% agreed that there is a high level of mutual trust with contractors in construction projects.

5.3.2 Communication and Performance of Construction Projects

The study hypotheses that there is a significant relationship between communication and performance of construction projects. The study findings shows that there is a significant and positive relationship between communication and construction projects with a positive regression coefficients (β) of .075 at .019 level of significant and a perfect relationship with a Pearson's of 393** as presented in Table 4.22. This

implies that the performance of construction projects in public institutions influenced by communication. The findings connected to the study done by (Amarri & Boussabine, 2017), that effective communication among the parties in the contract is important it can affect the contract if not arranged well.

5.4 Institutional Factors and Performance of Construction Projects

The institutional factor was measured through political interference, project supervision and technical competency as the independent variables on construction project performance. The study variables analyzed through multiple regression analysis and correlation analysis and the results presented in chapter four of this study, all the study variables found a positive and significant relationship on construction performance.

5.4.1 Political interference and Performance of Construction Projects

The study hypotheses that there is a significant relationship between political interference and performance of construction projects. The study findings revealed that there is a positive and significant relationship between political interference and construction projects with a positive regression coefficients (β) of .078 at .021 level of significant and a Pearson's correlation coefficients of .349** as presented in chapter four. The findings implied that the performance of construction projects in Tanzania public institutions is affected by political influence.

The study findings support the study done by Nyaonge (2018) on the determinants of VfM in procurement of works among Local government authorities in Tanzania which identified political interference as one of the factor affect the achievements of VfM in procurement contract. The study provided that political interference influences the decision of contract award by political leaders which affect procurement performance and it is contrary with the legal requirements.

The practice affects the performance of public entities as results to awarding government tender to the incompetent tenderer. As the tender awarded on friendship and corruption or any other unethical standards, this has been caused

underperformance of many projects in public institutions. Sometimes most of the projects such as roads and buildings collapsed while still new.

Furthermore, the literature provides that social systems such as political, economic, technological and other social systems activities tends to impact the performance of construction projects as already argued by Nditi (2015) that many public institutions failed to achieve their expectation in most of projects due to interference of political activities in procurement. In most of the lower government level (wards and villages) this practice is dominated where councilors interfere projects which lead the officials to fail to do it freely.

5.4.2 Project supervision and Performance of Construction Projects

The study hypotheses that there is a significant relationship between project supervision and performance of construction projects. The study findings revealed positive and statistically significant on performance of construction project by .000 level of significant with a positive regression coefficients of (β = .918) and a Pearson correlation coefficients of .941** as presented in chapter four. This implies that construction project performance is influenced by project supervision.

The study findings support the study done by Morakinyo et al..(2017) that the effective project supervision in construction project is a key influencial to the performance and requires a special attension in order to facilitate the achievements of client objectives. Additionally, other practisioners advanced view that project supervision determines the project performance level (Ogundipe et al., 2018).

Majority of the respondents strongly agreed that quality supervision influence projects performance. This also was supported by Alukyode et al., (2015) that in order to ensure quality project supervision in construction projects, the project supervisors should posses a good knowledge of project management, interpersonal skills and prctical experience of construction project management. Clear and quality project supervision encourages team working hence achievements of organizational goal.

However, many projects failed to achieve the targeted goal due to poor supervision as majority of the respondents (65%) agreed that many projects lacks quality and clear supervision. Moreover, Ambili & Chinchu (2017) argued that inadequate supervision leads to rework, late delivery, unethical practices and quality problems in general.

5.4.3 Technical competency and Performance of Construction Projects

The study hypotheses that there is a significant relationship between technical competency and performance of construction projects. The study findings indicated that technical competency are positive and statistically significance at .006 level of significant with a positive coefficients (β) of .084 and a Pearson's correlation coefficients of .811** which is positive and strong relationships on construction projects. The study support those of Khamaksorn (2016) that contractors competency is asignificance for the performance of construction projects and many projects failed to achieve VfM due to challenges associate with technical competency.

Furthermore, scholars have provided that technical competency to both side contractors and client are important for better performance and the achievements of VfM. Availability of individuals with the necessary skills and knowledge in the implementation of construction projects may improves the performance (Mayer, Bruning, & Nyhuis, 2015).

5.5 Challenges facing construction project in public institutions

The study findings revealed that 63% of the respondents agreed that lack of technical staffs is the main challenges facing construction projects in public institutions. Moreover, ineffective planning and poor knowledge are also challenges in implementing construction projects. This confirms research on causes of government project failure in developing countries (Domoah et al., 2015), which indicates that ineffective planning and fund inadequate are the major challenges facing construction projects in public sector

CHAPTER SIX

SUMMARY, CONCLUSSION AND POLICY IMPLICATIONS

6.1 Introduction

The chapter presents the summary of the study findings, conclusion and recommendations based on the research objectives, hypotheses of the study in connection with the literature review and the study findings. The chapter entails the following;

6.2 Summary of the Study findings

The overall objective of the study was to assess the factors influencing construction projects in Tanzania public institutions. Specifically the study assessed the effect of project planning on construction projects, the effect of relationship management on construction projects, the effect of institutional factors on construction projects and the challenges affection construction projects in Tanzania public institutions.

The researcher employed explanatory research design with the sample size of 114 respondents from two public entities which are Butiama District Council and Musoma District Council. The study comprised different sections from both entity selected randomly and purposively in order to obtain the information related to construction projects. Questionnaire and documentary review were used in data collection for this study, the collected data were analyzed both quantitatively and qualitatively.

The study findings revealed that most of the respondents in both studied areas (Butiama and Musoma District Councils) agreed that project preparation and project schedule are the most critical aspects in construction project performance as it viewed as the heart of a project life cycle ant it provide a basis for project performance and achievements of VfM. The study revealed that proper and good scheduling of project facilitates the achievements of VfM in public institutions and must be reviewed regularly depending on the nature and circumstances as the case may be.

Also it was revealed that trust and communication in construction projects play a key role as both reveled positive and significant to construction projects. Trust in construction project is like a foundation of a building that means poor foundation designing result to the collapse of buildings. From this perspective many respondents agreed that several projects failed to succeed due to poor relationship management with contractors of which sometimes caused by delay of payment to the contractors/suppliers contrary with the terms and condition.

Furthermore, the study revealed a significant and positive relationship between the institutional factors, political interference and technical competency to construction projects in public institutions. The effective supervision of projects and technical competency is a key influential to the performance of public construction projects and it requires a special attention to facilitate the achievements of VfM. On the other hand political interference may impact the performance of construction projects if intervene procurement process for instance influencing the decision of tender award.

Finally, performance of construction projects affected by several factors which results to the non-achievements of VfM in public institutions. The study revealed that majority of the respondents agreed that lack of technical stuffs are the main challenges facing construction projects in public institutions as it has cost implications in project preparation, project scheduling and project implementation. Also project delay were also seems to be the major challenges in construction projects, where most the projects in both studied councils the execution of various projects exceed the completion date more than 7 months contrary to the contract.

6.3 Conclusion

The reality to the study outcomes is that construction project performance in Tanzania public institutions is influenced by project preparation, proper project scheduling, trust, communication, political interference, project supervision and technical competency because the study clearly confirmed that all the study hypothesis are positive and significant to the construction project performance as the dependent variable. Despite the fact that all the above variables verified a positive

and significant relationship to the construction projects performance, there are several challenges that affect the performance of construction projects in public institutions, some of the challenges are late payment to the contractors, lack of technical staffs in construction projects, inadequate funds and delay in project completion. Therefore, the above mentioned challenges need to address as limit the development of our national.

6.4 Recommendations

Since the construction projects in public institutions is determined by project planning, relationship management and the institutional factors, the following recommendations should be taken into consideration in order to save the public funds and improve life standards of individuals as this projects have cost implication on the development and growth of individuals as well as national development. The study recommendations were categorized into the following aspects;

6.4.1 Policy implication

As the study revealed that most of the projects failed to achieve the expectation due to the lack of funds, lack technical stuffs, and delay of payments to the contractors. The reality is that depending on the nature of project, most of the projects need a huge capital amount from organization/government and as much such the need for good project management practices to deliver the VfM. Therefore the government needs to ensure that project funds are available before commencement of the projects.

Also the government should make sure that the public institutions equipped with adequate, skilled, competency and knowledgeable practitioners in order for the public institutions to achieve VfM in construction projects. Apart from that training is importatant to enable the employees to fit and comply with the established standards

6.4.2 Managerial

Since, project preparation and project schedule were significantly associated with project performance in all two district councils (Butiama & Musoma) other public institttions should make sure that they perepare their project and perform it in accordance to the project schedule. This may help the institutions to overcome unnecessary variations, and delay which tends to affect the performance of construction projects in public institutuons.

Also the management of the public institutions should recognize the importance of trust and communication among the parties involved in the contract. This is because trust and communication plays a greater role on the performance of construction projects as the study revealed a postive and significant relatuionship to construction project performance. Furthermore, project supervision is a paramount to the success of construction projects, technical competency is also required in the implemetation of contruction projects.

6.5 Area for further Research

Further study on the same topic should be undertaken to investigate the factors affecting the implementation of construction projects specifically, those projects under force account method as most of the projects implemented under this method were characterized with several challenges including delay and performed below the standards.

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APPENDICES I

QUESTIONNAIRE

Assessing the determination of factors influencing construction projects performance in Tanzania publi institutions

Dear Respondents

I'm Buzana Kazare undertaking this research as a partial fulfilment to the requirements for the award of Master degree of Science in Procurement and Supply Chain Management of Mzumbe University. The questionnaire has been designed to collect information on the factors influencing construction projects in Tanzania public institution. The information gathered will be used purely for academic purpose only. I request your support by responding to the questions bellow;

PART I: GENERAL BACKGROUND INFORMATION (100)

The question asked in this section used for classification only. Please tick [√] the most appropriate altenatives (s) or fill in the blanks;

(101) What is your gender?
- ☐ Male
- ☐ Female

(102) Which of the following categories best describe your age?
- ☐ Below 30 years
- ☐ 31 - 40 years
- ☐ 41- 50 years
- ☐ Above 50 years

(103) What is your highest education level?
- ☐ Secondary/High school
- ☐ Certificate/Diploma
- ☐ Bachelor degree/Advanced diploma
- ☐ Master degree
- ☐ Other specify……

(104) How long have you working with the organization?
- ☐ Below 5 years
- ☐ 6 - 10 years
- ☐ 11 - 15 years
- ☐ 16 - 20 years
- ☐ Above 25 years

(105) What is your current position?
- ☐ Managing director
- ☐ Head of department
- ☐ Procurement officer
- ☐ Human resource officer
- ☐ Engineer
- ☐ Accountant
- ☐ Auditor
- ☐ Other specify……..

(106) Who describes the quality standard of projects
- ☐ Contractor
- ☐ PMU
- ☐ Municipal Engineer
- ☐ Consultants
- ☐ No standard established
- ☐ Other specify……

(107) In what capacity have you been involved in construction projects?
- ☐ Project manager
- ☐ Project team member
- ☐ Member of evaluation committee
- ☐ Consultsnts
- ☐ Other specify……..

PART II: PROJECT PLANNING (200)

In this part, the question asked refrect the aspect of project planning on construction performance. Please put a tick mark [√] to inditake your level of agreement or disagreement which best describe your opinion.

201	**Project preparation**	**Stronly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
201a	Proper project preparation influence performance in construction projects.					
201b	The extent of proper project preparation is high in our organization					
201c	There is enough competent personnel in our organization for project preparation					
201d	Construction projets success depends on project preparation					
201e	Lack of proper project preparation affect project performance					
202	**Project schedule**					
202a	Proper project schedule avoid delays in construction projects					
202b	Clear project schedule improves construction performance					
202c	Timely completion of construction project is a priority in our organization					
202d	Project schedule reviewed reguraly in our organization					
202e	Delay of payment affect project schedule					

PART III: RELATIONSHIP MANAGEMENT (300)

In this part, the question asked refrect the aspect of relationship management in construction projects. Please put a tick mark [√] to inditake your level of agreement or disagreement which best describe your opinion.

301	**Trust**	**Stronly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
301 a	There is a high level of trust with contractors in construction projects					
301 b	There is high degree of mutual trust in project performance					
301 c	There is a high level of mutual understanding with our contractors					
301 d	There is a mutual trust in sharing information					
301 e	There is a high level of trust in defining roles of team members in performing construction projects					
302	**Communication**					
302 a	Our project targets are clearly communicated					
302 b	We are always kept well informed about what is going on in the project					
302 c	Frequent communication in construction projects improves performance					
302 d	Clear communication leads to timely completion of construction projects					
302 e	Project team members have access to project information					

PART IV: INSTITUTIONAL FACTORS (400)

In this part, the question asked refrect the aspect of institutional factors. Please put a tick mark [√] to inditake your level of agreement or disagreement which best describe your opinion.

401	**Political intervation**	**Stronly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
401 a	Political intervation affect construction project performance					
401 b	Political leaders interfered project activities operation					
401 c	Politics are not required in construction projects					
401 d	Politics in procurement activities affect achievements of value for money					
402	**Project supervision**					
402 a	There is high level of project supervision in construction projects					
402 b	The organization had ability to respond quickly to changes in construction projects					
402 c	Project supervision is neccesary to ensure performance					

402 d	Many projects lacks quality supervision					
402 e	Poor site management supervision affect the perrformance of construction projects					
403	**Technical competency**					
403 a	Skills is important for success of costruction projects					
403 b	Highly technical competency is required for success projects					
403 c	Lack of competency among the practisioners affect construction project performance					
403 d	Supervisors' competence have impact on the performance of construction projects					
403 e	All individuals involved in construction project are technical competency enough					

PART VI: CHALLENGES FACING CONSTRUCTION PERFORMANCE (500)

In this part, the challenges facing construction project in public institution are listed. Please put a tick mark [√] to inditake your level of agreement or disagreement which best describe your opinion.

500	**Challenges to construction projects**	**Stronly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
501	Poor knowledge					
502	Fund inadequate					
503	Lack of technical staffs					
504	Corruption/bribery					
505	Poor planning					

State other challenges affecting construction project performance in your organization

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PART VI: CONSTRUCTION PROJECT PERFORMANCE (900)

In this part, the question asked refrect the aspect of construction projects performance. Please put a tick mark [√] to inditake your level of agreement or disagreement which best describe your opinion.

901	**Timely completion**	**Stronly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
901 a	Timely completion of construction projects has increased					
901 b	Timely payment to contractors has been increased					
901 c	Clear communication has influenced timely project completion					
901 d	The rate of completion of construction projects has increased					
901 e	Clear supervision influenced timely completion					
902	**Quality of projects**					
902 a	All time construction projects has been of great quality					
902 b	The quality of construction projects has increasingly significantly					
902 c	Timely payment has improved project performance					
902 d	Clear site supervision has increased project quality					
902 e	The ability to handle differences in construction projects has increased					
903	**Cost**					
903 a	The amount of money planned for construction projects has increased					
903 b	Varition has minimized in construction projects					
903 c	Mutual trust has reduced unnecessary cost					
903 d	Clear supervision has reduced unnecessary cost					

Thank you for your response