

**THE ROLE OF PROJECT CYCLE MANAGEMENT ON  
PROJECT SUCCESS**

By

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**A Dissertation to be submitted in a Partial Fulfilment of the Requirements for  
Degree Award of Masters of Science in Project Planning and Management of  
Mzumbe University**

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## **CERTIFICATION**

We, the undersigned certify that we have read and hereby recommend for acceptance by Mzumbe University. A dissertation entitled “The role of project cycle management on project success,” in partial fulfilment of the requirements for the award of the degree of Master of Science in Project Planning and Management (MSC.PPM) of Mzumbe University

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May Jehovah bless and exalt you all.

## **DEDICATION**

This dissertation report is dedicated to my lovely and my gorgeous Massawe's family.

## **LIST OF ABBREVIATIONS AND ACRONYMS**

BCR	.....	Benefit-Cost Ratio
CPM	.....	Critical Path Method
CSF	.....	Critical Success Factors
DFID	.....	Department for International Development
EU	.....	European Union
FAO	.....	Food and Agriculture Organization
GDP	.....	Gross Domestic Product
IEG	.....	Independent Evaluation Group
IFC	.....	International Finance Corporation
IPMA	.....	International Project Management Association available
IPPs	.....	Independent Power Projects
IRR	.....	Internal Rate of Return
IT	.....	Information Technologies
LF	.....	Logic Framework
MoF	.....	Ministry of Finance
NGOs	.....	Non-Government Organizations
NPV	.....	Net Present Value
P.I.P	.....	Project Management Profile
PCM	.....	Project Cycle Management
PERT	.....	Project Evaluation and Review Technique
PLC	.....	Project Life Cycle
PMI	.....	Project Management Institute
SG	.....	Standard Gauge
SMC	.....	Singida Municipal Council
SP	.....	Strategic Projects
SPSS	.....	The Statistical Package for the Social Sciences
UK	.....	United Kingdoms
ULGSP	.....	Urban Local Government Strengthening Projects

## **ABSTRACT**

Given the importance of projects in an economy and the prevailing trend towards poor performance, the author purposely in the course of this paper studied the role of project cycle management methodology on project success. The study aimed to achieve three objectives, the extent of adoption, the effects of the method and the limitations of the project success.

The study was a cross-sectional design covering six regions of Dar es salaam, Arusha, Dodoma, Morogoro, Singida and Shinyanga. The study applied, the descriptive analysis, the binary logistic regression and relative impact index factor (RII) models to analyse the data.

Results from the study of the surveyed 117 project Managers, show that project cycle management methodology was adopted by 72.7% of the surveyed managers. However, the strength of association between methodology and project success revealed to have little to moderate association. Results have also demonstrated that projects with a long duration were associated with chance of failure comparatively to projects with fewer years of implementation.

Furthermore, Stakeholder analysis was found to influence project success.. Also, the lack of thorough problem analysis appeared to affect project success. Further, the study has shown that objective analysis had a statistically significant effect project success. On other hand strategy analysis seemed to be at odd with findings from previous studies

The results also show that the application of monitoring indicators helped to capture key parameters of the projects to make certain that the implementation is heading in the right direction. Besides, the ability of the project manager to manage risks as part of their daily practices reduce costs and at the same time, increase the level of satisfaction of the project stakeholders. Finally, the financial analysis of the project was observed to have a positive and significant influential on project success.

Regarding implementation barriers, the results revealed that the identified barriers were all significant. Nevertheless, the variations inside the indices in these barriers were arithmetical, in many cases were small –to legitimize any claims other than their relative impact rankings. Based on RII ranking scores, the lack of sufficiently knowledgeable project team has been identified as a major barrier for project success, which influenced the non-application of other tools such as financial analysis and the use of monitoring tools.

The study findings have provided useful insights on the attribute of project cycle methodology which influence project success. In this regard, it is imperative that project managers grasp this methodology and apply it according to contribute to the success of the projects. The application of the methodology will also help project managers to overcome operational errors and to take counteractive measures in time. There is also a need to provide training to project managers who lack specialised skills in project planning and management. Education institutions could take a leading role in this regard.

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## **CHAPTER ONE**

### **PROBLEM SETTING**

#### **1.1. Introduction**

The study examines the role of project cycle management on project success. The methodology of project cycle management plays a significant role in project success and forms an integral part of project management (Luu et al., 2009).

Accordingly, the Government of Tanzania has invested huge sums of money from both local and foreign in the form of equity, grants, loans, and aid in public projects. Projects contribute to the national socio-economic development enormously by supplying sizeable employment opportunities at skilled and no skilled levels (Ahadzie, et. al. 2013). According to Ministry of Finance (MoF, 2016), development projects in Tanzania including those in the agricultural sector provide approximately 66.9 per cent of the employment, account for approximately 23 per cent of the GDP, 30 per cent of the exports, and 65 percent of the inputs to the industrial sector. The development projects in the construction sector contributed 12.7 percent to GDP. Presently, the national development agenda is to make Tanzania the middle-income economy by the year 2020/21. These initiatives include development projects such as the construction of a new central railway line to a standard gauge, the revival of Mchuchuma and Liganga projects. Generally, projects provide facilities and infrastructures which are necessary for enabling development sectors of the economy to flourish (Ofori, 2011; Jekale, 2014).

Despite the importance of development projects to the economy, their performance and sustainability remain uncertain. Many projects are reported to have failed to achieve their objectives (Nadra, 2014). Successful project performance remains generally below 50% (Chauvet et al., 2010). In a study on why projects fail in Africa, Idoko (2016) reports that numerous projects encounter considerable costs and time overruns. As a result, the intended objectives and benefits are not attained. Some of the projects are even completely terminated and deserted before completion.

The World Bank (2010) evaluation on project implementations specifically in developing nations reveals that there are many failures than successes. The rate of project failure had been over 50 percent in Africa until 2000 (Chauvet et al., 2010). The International Finance Corporation also indicates that projects in Africa have been performing below fifty percent of their potential to succeed (Banihashemi et al., 2017). Elsewhere, the Independent Evaluation Group (IEG) indicates that 39 per cent of the World Bank projects had been unsuccessful by 2010 (World Bank, 2014).

In eight countries of sub-Saharan Africa, including Tanzania, approximately 20 projects of the Independent Power Projects (IPPs) remained in the planning stage (Gratwik and Eberhard, 2000). Similarly, Christensen et. al., (2013) point out that local government projects in Tanzania have not been carried out regularly because of the delay or postponement, insufficient funds, non-existence of counterpart financiers or stakeholders' incapacity of soliciting funds, and insufficient local implementation capability.

In a study on project management failure in Ghana, Avotis (2013) revealed that failures could be averted if attention is paid on factors of project management. Dennis (2014) on construction, agriculture, and banking reports that if the essential success factors, which are embedded in projects are given enough attention and addressed, the chances of project success are likely to be improved. Besides these studies, there is no evidence of a study on project failure that is linked to non-application or adoption of the methodology of project cycle management.

Project cycle management (PCM) is the methodology that makes use of the Logical Framework (LF) in conjunction with a different financial and economic evaluation to carry out efficiently the planning, monitoring, control, and evaluation with a view of helping the project to succeed (Uds, 2010). Generally, tools and techniques for project management have a role to play in helping projects to be successful, though not necessarily guarantee the success (Mingus, 2017). The main crux of the matter lies in the special and continual attention needed to be given to the methodology to ensure the successes of the projects.

## **1.2. Statement of Problem**

It is justifiable that substantial investment funds have been expended in the projects for poverty alleviation and steering development in Tanzania. However, many of these projects have demonstrated a significant rate of failure in meeting their targets (Anbari, 2013, pp. 17-18). This implies that projects funds are being used inefficiently and unproductively, ultimately leads to development stagnation as a result the welfare of the society is affected.

As is the case with other countries in Africa, the project failure rate in Tanzania appears to have exceeded 50 per cent, often due over budgeting (cost overruns), construction delays, and red tape, which are common (Associated Press, 2013). Many projects in the health and education sectors have been performing poorly to the disappointment of stakeholders' (Easterly, 2006; Gates, 2014). Other projects, for example, the water projects in the local government, have been unsuccessful not only in terms of the project management (cost, time, quality) but also in terms of development impact (Ika & Saint-Macary, 2012). Given the trend of project failure, one may say that project performance is not all impressive in Tanzania.

Nadra (2014) studied the *Jatropha* biofuel projects in Tanzania; the outcomes reveal that the gap between the planning and the implementation of agricultural development project not only resulted from the lack of ability of planners to sanction standard adjustments and sustainable improvement but also from the adoptive project design. A similar trend is reported for sugar cane project in Bagamoyo, which was suspended after realising that the land was being grabbed without the consent of local communities (ActionAid, 2015).

Despite these studies, there is no evidence of project failure attributable to project cycle management principles. There is no research, particularly in Tanzania, which evaluated the role of the project cycle management in project implementation. In this regard, the role of project cycle management calls for greater attention in the management of projects. Therefore, the current study was proposed to fill this knowledge gap in this research area.

### **1.3. The objectives of the Study**

#### **1.3.1. General Objective**

The general objective of the study was to examine the role of project cycle management in project success

#### **1.3.2. Specific objectives**

Specifically, the study intended to

- i. Examine the current level of adoption of project cycle management methodology;
- ii. Examine the influence of project cycle management on project success; and
- iii. Identify significant barriers to project success.

### **1.4. Research Questions**

- i. What is the current level of adoption of the methodology project cycle management?
- ii. What is the influence of project cycle management on project success?
- iii. What are the barriers to project success?

### **1.5. Scope of this study**

The study targeted project managers of the projects which were implemented in the urban areas of Dar es Salaam, Arusha, and Dodoma City. Others include Morogoro, Singida, and Shinyanga Municipality in Tanzania. These regions were selected because of national projects that are currently implemented in these regions. These projects are facing many challenges which require outstanding project management practices. This noticed on assessment reports based on minimum access conditions and performance indicators, as measured by an independent third party annual assessment in compliance with the government of Tanzania statutory and administrative requirements. Examples of these projects include urban local government strengthening projects (ULGSP), Strategic City Projects (SCP), EQUIP projects for schools, and Agro-industry projects.

## **1.6. The Significance of this study**

The findings of this study would create awareness of the role of project cycle management in both the public and private sectors. This would help managers overcome the challenges of project failures, which would, in turn, increase the trust of projects funding agencies and boost stakeholders' confidence in future projects.

This study also would add insights to the existing literature in the field of project management in Tanzania and other developing countries. The study findings would also help other researchers who are interested in the subject area to do further investigation on the realities regarding project management. Furthermore, this study is important and beneficial to national development since it reveals factors influencing project success. This information will improve project managers ability in planning and management of projects in the country.

## **1.7. Organization of the Dissertation**

The study report is organized into six chapters as follows: Chapter one focuses on the background information statement of the problem, study objectives, and research questions. Others include scope and significance of the study Chapter two reviews the relevant literature including theoretical and empirical literature, the conceptual framework and explanation and measurements of the study variables. Chapter three describes the methodology followed in the study and this includes research design, data collection methods, and the estimated model. Chapter four presents the study findings and analysis; chapter five discusses the findings. Lastly, chapter six concludes the study and provides recommendations, policies implications, describes study limitations, and areas for further research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1. Introduction**

This chapter begins with the definition of study terms followed by a theoretical and empirical review on project success, conceptual framework and lastly explanations and measurements of study variables.

#### **2.2. Delineation of Study - Terms**

##### ***Project***

Project is defined as a transient endeavour, which is carried out to create a unique product or service. Transient implies that the project has a precise endpoint, and the products or services are termed as unique when they differ in some distinguishing way from other products or services (PMI, 2008). The World Bank (2013) defines a project as an undertaking, which transforms inputs into, outputs which are desired by a group of people or individual within a given period.

##### ***Project Cycle Management (PCM)***

This is a methodology for projects planning, which is carried out in a sequence with the agreed strategies (Uds, 2010). This leads to a definite action that focuses on achieving the set objectives of the project. These include the designing, implementation, and evaluation with a view to improving the strategies and further actions. PMI (2017) defines Project cycle management as an approach of projects management with specific stages that outline particular actions and tactics to be carried out within these stages i.e. planning and review techniques.

##### ***Logical Framework (LF):***

Logical Framework refers to a methodology of planning, managing, and evaluating programs and projects, using certain instruments with a view of enhancing participation, transparency and improving the possibilities towards the attainment of the project objectives (PMBOK Guide, 2017). The Logical Framework follows a hierarchical results-oriented planning structure, and methodology, which focuses on all components of the project on the achievement of the project's purpose (uds, 2010)

### 2.3. Theoretical Review on Project Success

The theoretical base shows that project success is guided by innumerable theories. Amongst these, include scrum concept, a theory of project, a theory of project cycle management, and Last Planner Principle (Koskela et al., 2002a). In the current study, a theory of project cycle management is used because it incorporates different contextual variables that also count for project success but are not in other theories.

As an example, a theory of project focuses on the transformation of inputs into the outputs. However, the transformation element in ensuring success is lacking. This and the other cited theories are regarded as "narrow" theories (i.e., linear), and this is "implicit" (i.e., the linearity is hardly acknowledged) (Koskela and Howell 2002b). A theory of PCM begins with the assumption highlighted by both Turner (1993) and Koskela & Howell (2002), that project activities are related by sequential dependencies as a system in the traditional project network diagram. PCM inherit theoretically powerful concepts, such as observables, which, in the project management context are quantities such as the cost and schedule.

*“A theory states Project Cycle Management as the methodology for planning, monitoring, control, and evaluation of project dependencies in order to manage project successful (PCM, 2018). Essentially, the project cycle management is a framework rather than a tool, which uses a technique of Logical Framework as a means of designing, monitoring, and evaluating a project (Couillard et al., 2018). The framework is a 4 x 4 matrix, whose rows represent the vertical logic and the columns denote the horizontal logic.*

**Table 1: Summary of the Logical Framework**

<i>Narrative Summary</i>	<i>Objectively Verifiable Indicators (OVI)</i>	<i>Means of Verification (MOV)</i>	<i>Important Assumptions / Risks</i>
<b>GOAL</b>	<i>Measures of Goal Achievement</i>	<i>Sources of Information and Methods Used</i>	<i>Assumptions / Risks Affecting Purpose-Goal Link identified</i>
<b>PURPOSE</b>	<i>End of Project Status</i>	<i>Sources of Information and Methods Used</i>	<i>Assumptions/ Risks Affecting Output-Purpose Link identified</i>
<b>OUTPUTS (Results)</b>	<i>Magnitudes of Outputs Planned Completion Date</i>	<i>Sources of Information and Methods Used</i>	<i>Assumptions/ Risks Affecting Inputs-Outputs Link identified</i>
<b>INPUTS (Activities)</b>	<i>Nature/Level of Resources Necessary Cost Starting Date</i>	<i>Sources of Information and Methods Used</i>	<i>Initial Assumptions/ Risks About the Project identified</i>

Source: Andrew M. 2005, Vol II, N<sup>o</sup> 2, pg 42

**THE VERTICAL LOGIC:** *(summarizes 'means-end' logic of the proposed project)*

In these rows, the narrative summary describes activities or interventions (top-down). These rows allow the identification of “inputs (i.e. staff, materials, equipment, expertise, loans, professional offerings, and the like)” that result to a set of “outputs,” which must accomplish a “purpose” which is imperative in attaining the “goals” of a project.

**THE HORIZONTAL LOGIC:** *(Identifies Indicators and the Means of Verification)*

These columns, which start from the middle two columns of the matrix, describe the ways wherein one may measure what *could* happen in addition to what *actually* happened.

The “Objectively verifiable indicators (OVI)” are the means by which one can affirm whether a given activity actually led to an output. The OVI impose the requirements of a monitoring and evaluation at all stages of the project life cycle, from identification to ex-post evaluation. A good OVI must be SMART (Vides, 2015).

The “Means of verification” column describes the precise technique by which this verification can be measured. Objectively verifiable indicators and Means of verification are working across.

“Assumptions” are part of the Vertical Logic; these are the factors that will (or must) take place in order for the narrative summary to run its course and achieve its aim. Only if these assumptions are met will the next level of objectives be achieved (bottom-up).

Apart from the Logical Framework, Project Cycle management uses other tools called financial and economic analysis. These tools are used to produce standardized financial and economic information on projects and on the behaviour of key stakeholders, as a basis of making operational decisions.

Financial analysis entails an assessment of costs: the operating and investment expenditure (outlays and, possibly, non-monetary flows) and benefits: the revenues (receipts and, possibly, non-monetary flows) emanating from the activity, based on the computation of Net Present Value (NPV), Internal Rate of Return (IRR), Benefit-Cost Ratio (BCR), Payback period and other methods.

The economic analysis assesses projects from the society point of view in entirety (the national economy). The analysis assesses the consequences of the project at the level of the national economy, examines the viability of the project in the international economic environment and other consequences of the project in society.

Generally, the methodology of Project Cycle Management:

- Involves the active key stakeholders to promote local ownership;
- Involves a Logical Framework technique (plus other tools) to facilitate the assessment of key stakeholders, on problems, objectives, and strategies;
- Integrates key criteria for quality assessment in each stage of the project life cycle;
- Involves the production of the good-quality key document(s) in each phase (with commonly understood concepts and definitions), to support well-informed decision-making and upholds the concept of project quality.

Scholars (e.g. Dlungwana and Rwelamila, 2014), emphasize that project cycle management enhances project performance by being consistent with the policy objectives of the organization that initiated the project. Project Cycle Management allows projects to remain relevant to the strategies, which have been agreed upon, and the desires of stakeholders and customers. Project cycle management also ensures that the project itself is viable. Through cycle control, projects are protected from losing valuable resources by deciding on the way in which project objectives can be achieved, whether the projects are worthwhile before their implementation, and whether the benefits of the projects are sustainable.

## **2.4. Empirical Literature Review**

Many studies on factors influencing project success undertaking have been carried worldwide, a few of these studies are as discussed below.

Ilorah (2010) in South Africa, investigated factors that influence project overall performance. Using the social capital concept, the author assesses the demanding situations facing NEPAD projects. The author recommends ways of dealing with these factors and concludes that a project succeeds because of the proper awareness of the management system among the managers and by rewarding the right actions and the unlimited communication as well as good leadership, budget, and institutions.

Similarly, Abdul-Rahman et al. (2006) investigated the connection of the project manager's experience on the project's success or failure. Numerous factors influence project manager potential in leading the project and therefore, influence project performance. The study findings indicate that a project manager's previous experience and the dimensions of the formerly managed tasks influence the project's performance. Conversely, the incorrect choice of project managers and uncooperative top management are the main causes of failure.

In Tanzania, Nadra (2014) studied how knowledge, policy planning and project Implementation led to success or failure of "the Jatropha projects which were carried out in Tanzania from 2004 to 2014." The study used Ikujiro Nonaka's theories of knowledge, the Japanese idea of Ba (physical and mental vicinity), and the Tanzanian perception of Ujamaa (own family hood safety). The author indicates that the projects failed because of the stakeholders' dissent, disinterest, and disenchantment rooted in the project design.

Crawford (2016) worked on public projects in Sub-Sahara Africa and revealed that the rational model is a device of efficiency and a deliberate and rational means of attaining known goals. By running a natural logarithm regression on valuable indicators, Crawford revealed that bureaucratic authorities, structures, standards, and complicated approval techniques have commonly been risky to project success in developing nations.

An alternative view was presented by Shenhar et al. (2002) who studied 127 projects in Israel and recorded 360 managerial variables. The authors presented crucial factors for project success, and which are dependent on contextual influences such as clean goals /objectives, give up-consumer dedication, adequate funds/resources, realistic schedule, and having clear boundaries (scope).

In another study, Ofori (2011) investigated project manager competency in project success, in Ghana. The author confirmed that Ghanaian managers have varying tiers of project integration, human resource, communication, satisfactory, risk, and scope management capabilities. Confirming the importance of project management expertise in handling projects, the author advocated that project management competencies should be enhanced systematically and deliberately for better project outputs and consequences.

Researches by Garavan and Carbery (2015) in Cairo, classify success factors and identify the effects of the factors on project performance through survey and multivariable analysis. The authors, rather than studying individual elements, identified the groups, to which the elements belong and then determined the combined effects of those elements to project success or failure. Critical success factors were grouped into four areas. The first area is the external environment (i.e. competition, subcontractors, political, economic, and social). The second, the skills and the traits of the project manager and the team. The third is an organization (i.e. the top management support, the undertaking organizational structure). The fourth is the project (i.e. size and the value, the uniqueness of the project activities vs. standard activities, density of the project network, project lifecycle and the urgency of the project results).

In Bostwana and South Africa, Segawa et al. (2015) examined the curricula of the graduate program in project management across the Southern Africa Development Community. They observed that one of seven programs which are considered most effective is to be good enough in management topics; and that the “soft issues” are lagging far behind. Respectively, also view the dearth of the best education for the improvement of the position of project managers as crucial for project success.

Recently, Joseph, Erasmus, and Marnewick (2017) studied The Idle state of Information and Communication Technology (ICT) Project Management in South Africa. The authors showed that there was much attention to product success than to project management success. Furthermore, soft skills seemed to have mattered more than did technical capabilities in attaining project success.

Elsewhere, Pinto and Slevin (1988) used a fifty-object tool referred to as the Project Implementation Profile (P.I.P) to determine managerial insights about project success features. The study identified ten critical success factors influencing project success namely, project mission, top management support, project schedule/plan, client consultation, personnel, technical obligations, customer recognition, monitoring and feedback, communication and troubleshooting.

Similarly, Schultz et al. (2012) studied critical success factors in project management and classified essential critical factors into strategic and tactical. These two groups of factors have an effect on project overall performance at different stages of implementation. Strategic elements consist of factors together with 'task challenge', 'top control guide' and 'project scheduling', while tactical elements relate to 'customer session' and 'personnel choices and knowledge'.

The previous research by Hyväri (2013) in Ghana, adopted an exploratory method and a survey technique on project management practices of Ghanaian businesses. The author evaluated the essential success elements in project management and identified factors which influence the overall project performance either positively or negatively. These include political, financial, social, and technical factors, in addition to factors associated with nature. The author considered top management support, clean business enterprise/process description, and undertaking enterprise structure as essential organizational elements. The author concludes that the Project Managers with longer work experience have a more potent commitment with the quit-consumer, the ability of project coordination and effective leadership, powerful tracking and the ability to advise the project team individuals, and trust on those individuals and their abilities.

Kerzner (2013) summarizes success factors from multi-companies of the most important production organizations in the USA. The study applied the cross-sectional design and factor analysis model to collect and analyse primary data. In the Kerzner's list, the following are regarded as critical success factors a) objectives; (b) project administration; (c) third parties; (d) relations with clients; (e) human parties; (f) contracting; (g) legal agreements; (h) politics; (i) efficiency; (j) conflicts and profit.

In another study, Müller and Jugdev (2012) studied different measurements of project success, identified many critical success factors relevant to overall performance. These include project team and management capabilities relevant to a large, and complex project. This study suggested that project success standards should be defined as completion of project within the budgeted cost, in the allocated time, on the right technical overall performance and with the reputation of the client.

Likewise, Nguyen et al. (2014) addressed project success factors in large construction projects in Vietnam," including engineering, construction, and Architectural management. Amongst 20 success factors researched, five were recognized as critical success factors (CSFs): having a competent project manager; enough funding to take the project to the end; multidisciplinary project team; dedication to the project; and availability of resources. In reality, most of the CSFs are human-related elements. This implies that humans play a decisive role in the success or failure of a project. This is hardly surprising as humans are mandated with generating, handling, running, and utilizing the project resources.

Avots (2000) study on why projects failed in California recommended that successful project management call for planning with a dedication of finishing the task. Project management also entails a careful appointment of a professional project manager; spending time to define the mission accurately; planning efficiently the activities in the project, and ensuring accurate and good enough information flows. Others include converting activities to accommodate common modifications on dynamic, accommodating personnel' private goals with performance and rewards; and making a fresh start whilst recognizing mistakes in the implementation.

In specific, scholars (Golini, Corti, and Landoni (2017)) studied the efficiency of project execution and evaluation with Logical Framework and Project Cycle Management based on international development (ID) projects. International methodology i.e. PMI, IPMA, etc. were found generally not used at the same time tools and methodologies (i.e. PCM and the LF) established for governmental agencies to manage ID projects were extensively adopted by NGOs.

Likewise, Shafic et al. (2015) in Uganda examined empirically the relationship between risk management, knowledge management and organizational rationality in the successful implementation of donor-funded projects. The study involved project managers of donor-funded projects both managed within and outside government systems using a questionnaire. The results suggested that organizations that embraced risk management, knowledge and the rationality succeed in project implementation.

Emils (2013) studied public sector project management efficiency problems, a case of Latvia. The findings show that the problem situation is not analysed in sufficient detail instead generally known statements are used and not sustained by facts. Further, results show project management in public sectors don't use a SMART method for objective analysis instead the application of many traditional methods were observed which assume objectives of the projects. Similarly, lack of deep strategy and situation analysis also witnessed as among problems in managing public projects. The final analysis indicates public sector project maturity level is low and should be improved. A typical mistake has been the lack of a structured approach for decision making, project approval, and project execution.

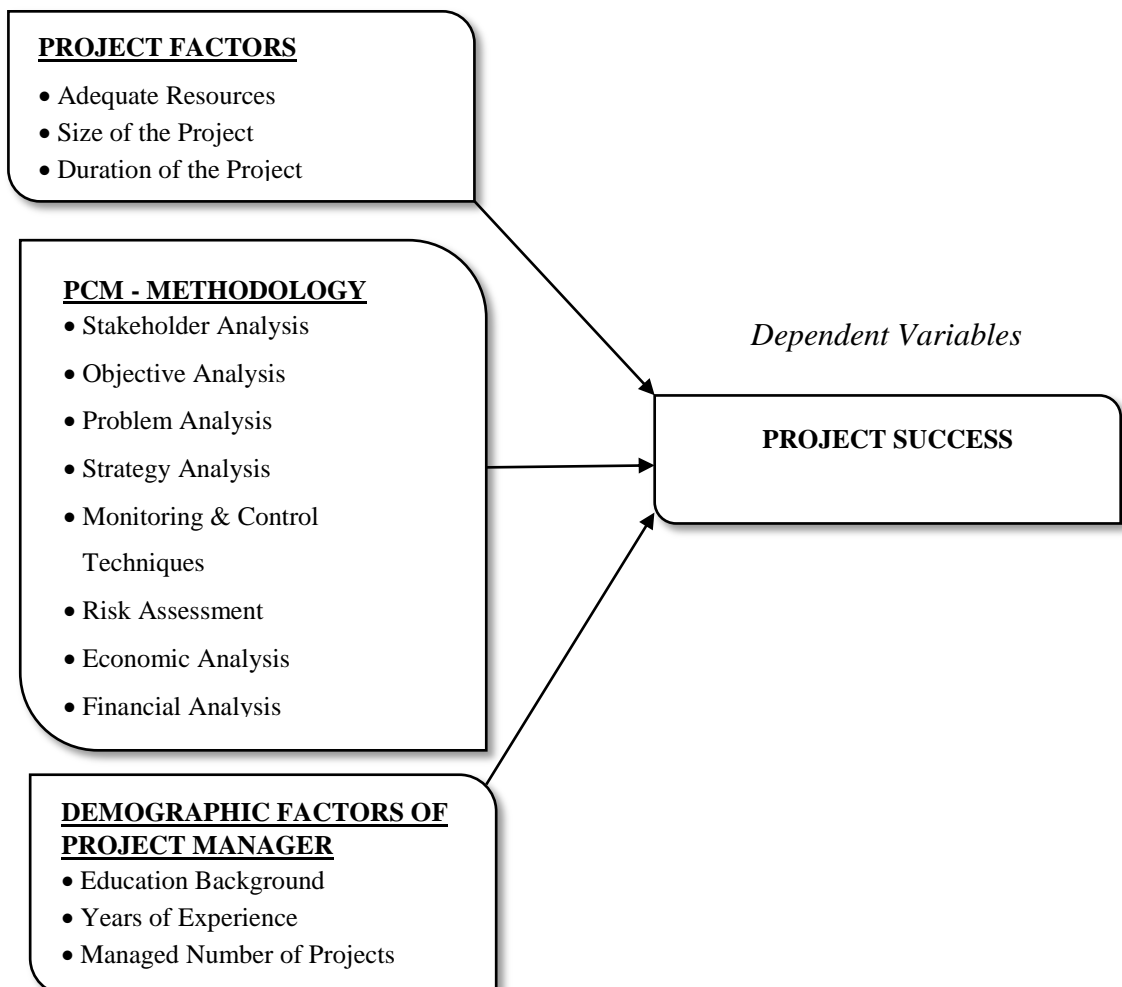
In another study by Richard (2010) focused on improving project management practices in the Ghanaian economy. Through multivariate and other analysis found that ineffective indicators, monitoring, control, and evaluation were factors which negatively correlated and significantly affected customer satisfaction for the banking sector projects. Additionally, the author suggested the concept of Net Present Value (NPV) to be used to develop ongoing monitoring tools for the assessment.

## 2.5. Conceptual Framework

Building on the literature, the most relevant variables to this study are summarized in the following conceptual framework. We have seen that project success is influenced by demographic characteristics of the project manager (Education, Experience, and number of projects). The project factors (Adequate Resources, size of the project and duration of the project), and the project cycle management factors namely “techniques and tools” (Monitoring and Control Techniques, Risk Assessment, and Analysis for Stakeholder, Problem, Objective, Strategy, Economic as well as Financial). However, it is important to state that both theoretical and empirical studies have generated lists of explanatory variables in the conceptual framework below.

### *Conceptual Framework*

*Independent Variables:*



## **Figure 1: Conceptual Framework of factors influencing project success**

### **2.6. Study Variables**

#### **2.6.1. Dependent variables: Project Success**

Studies on project performance show that project success is measured with the myriads of factors. Amongst these include the “triple constraints” dimension of time, quality and cost (Schiefløe & Vikland, 2016). The triple constraints dimension expresses the performance measurements of the project implementation and describes the manner in which the project addresses its resource constraints. Dimension is based on whether or not the project was completed in time, within the budget limits and the stated quality.

In some instances, project success is measured as the functional improvements and systems for the delivery. A study by Johnson and Bröms (2011) for example, confirmed that most projects are conceived with the concept of an enterprise in mind (strategic), and usually focussing on better consequences and organizational performance—extra earnings, additional growth, and improved market position. Recently, the issue of quality in project planning and handing-over have been similarly identified as important (Smith, Mossman and Emmit, 2018). In addition, project product and its utilization, staff growth and development, the customer, benefits to the delivery organization, senior management, and the environment are the aspects which have been taken into consideration (Gelinias et al.,2014).

Projects are often complex, expensive, unique, and high-risk undertakings which are required to be completed in a specific date (time), involves money (cost), deliver values (quality) and some expected outcomes (Shenhar et al.,2013). Shenhar contends that a project usually has a starting and a closing date; composed of specific purposes or goals; entails the collection of complex activities; denoting that plans can deviate if not managed properly (scope and quality) and all tasks need to be completed within the stipulated budget and time.

It is sufficient to say that the framework proposed by Shenhar *et al.*(2013) is adopted for this study. A project is considered successful when its time has not exceeded its

due date, its expenses have not overrun the budget, and outcomes have met the stakeholders (i.e. company's) pre-decided performance standards.

### **2.6.2. Independent variables**

Critical success factors (CSFs) are a common description of what influence project success. Müller and Jugdev (2012) define CSFs as project factors which, when managed, increase the possibilities of project success. Among these include the project mission, which is “clearly defined goals on the primary stages of a project” (Bakker et al., 2009). Voetsch et al., (2004) show that the mission gives the overall course, including the way of allocating duties and activities that influence success.

Studies (see, for example, Nwachukwu (2012) show further that the availability and effective aggregate of human and non-human sources also contribute to the success of the project. However, as Hobbs and Besner, (2017) observed, in many situations, personnel for the project team, are selected, with much less-than-full regard of the necessary competencies. Normally top management controls the project manager's access to sources. Success is also influenced by organization structure, the projects within matrix organization call for more negotiation abilities in acquiring the necessary sources or allocation and organization with natural bureaucracy calls for positional power to resolve issues (Hyväri 2013).

Project success can be additionally influenced by stakeholders' involvement, risk, and uncertainty factors. If these are not well addressed, they turn into obstacles to the powerful operation and management of project scheduling and plan (Alias et al., 2014). In the examination of key reasons in costs overruns in two projects cases, Gharaibeh (2013) revealed that indistinct project strategies (with uncertainty), primarily errors in problem evaluation and misunderstanding of the objectives are considered as the main factors.

Demographic factors also influence project success. Knowledge of project managers is required in-intensity expertise of well-known project management methodologies (Hellriegel et al., 2014). The project size, the number of the projects and the duration are other influential variables (White and Fortune, 2012). Project size is related to the organizational maturity in terms of capabilities and the duration based on the size of

the project. Many large size projects, those exceeding more than 100 activities are often reported to have been exceeding their cut-off dates (Besner and Hobbs, 2016a).

## 2.7. Explanations and measurements of Study Variables

**Table 2: Explanations and measurements of Variables**

Variables	Explanations	Measurements
Experience	How long (years) the Project manager has been in project management?	Continuous, Transformed into ln
Education	What is the Education level of the Project Manager and area of study?	Ordinal, 1= Certificate 2= Diploma 3= Degree 4= Masters 5= PhD
Size of the Project	What is the size of the managed project?	Categorical, Less than 500M being 1 500M - <1B being 2 1 B - < 20 B being 3 20 B+ being 4
Number of Projects	How many projects were managed by a Project Manager?	continuous Transformed into ln
Adequate Resources	Were resources sufficient and available (Funds, Equipment's, and competent Personnel) to accomplish project goals?	The binary scale of 0 and 1, 0 being "No " 1 being "Yes "
Monitoring & Control	Were indicators for monitoring and control applied for measuring and correcting of activities to ensure that actions and events conform to established plans?	The binary scale of 0 and 1, 0 being "No " 1 being "Yes "
Stakeholder Analysis:	Were all relevant stakeholders identified and involved in implementation?	The binary scale of 0 and 1, 0 being "No " 1 being "Yes "
Problem Analysis:	Were the key problems and their root	The binary scale of 0 and 1,

<b>Variables</b>	<b>Explanations</b>	<b>Measurements</b>
	causes to be intervened and solved by the project identified?	0 being "No " 1 being "Yes "
Objective Analysis:	Was the objective analysis conducted to describe the positive situation the beneficiary will experience at the end	The binary scale of 0 and 1, 0 being "No " 1 being "Yes "
Strategy Analysis:	Was strategy analysis conducted to Select the most appropriate strategy to reach the foreseen objectives?	The binary scale of 0 and 1, 0 being "No " 1 being "Yes "
Risk Assessment	Were the risks and their impacts on project success identified, assessed and managed?	The binary scale of 0 and 1, 0 being "No " 1 being "Yes "
Financial Analysis	Were financial tools (NPV, IRR, BCR, Payback period, etc.) used to measure project worthiness?	The binary scale of 0 and 1, 0 being "No " 1 being "Yes "
Economic Analysis	Was the impact of the project on society (economy analysis) as a whole examined?	The binary scale of 0 and 1, 0 being "No " 1 being "Yes "
Project Performances	Was the project completed in the specified timeframe, within the stipulated budget and with the totality of features and characteristics which bear on its ability to satisfy a stated or implied need.	The binary scale of 0 and 1,

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1. Introduction**

This chapter describes the research overall methodology and approach employed in this study, data collections methods, sources of data and data analysis.

#### **3.2. Description of the Study Area**

##### **3.2.1. The Study Area**

The study covered six regions in Tanzania; Dar es Salaam, Morogoro, Dodoma, Singida, Shinyanga, and Arusha. These regions were selected because major national projects are currently implemented in these regions. These projects include urban local government strengthening projects (ULGSP), Strategic City Projects (SCP), EQUIP projects for schools, and Agroindustry projects. The size of these projects is so considerable (i.e. ULGSP enveloped \$ 255 Million) that the failure of even a single project can have a huge implication on either the donor organizations or the Governments. Project underperformance including failure to complete a project within the agreed time, budget, or in accordance with the regulatory or environmental requirements will have major consequences on an organization's reputation and their overall revenue performance (EY, 2014).

##### **3.2.2. The Study Location**

The study was in Municipalities of these regions. Dar es Salaam is located at East on a natural harbour on the eastern coast of East Africa. Morogoro is a town in the eastern part of Tanzania, and about 200 kilometres west of Dar es Salaam. Dodoma (the country's capital city) and Singida are strategically located and well connected with major cities and towns in the country. They are located in the central plateau of central zone Tanzania. Shinyanga is in northern Tanzania, southeast of Mwanza, the nearest large city northwest of Dodoma. Arusha is a city in the north-eastern part of Tanzania and the capital of the Arusha Region.

### **3.2.3. Study Population**

The study population comprised Project Managers from different projects under different authorities or organizations. These organizations were in the Public and Private sectors

### **3.3. Research Design**

A cross-sectional design was particularly suitable for this study. It is because all the data for the study sample were obtained at a single point in time. As Brink (2016) contents, the method is generally quick, easy, and cheap to perform as it relies on the existing differences rather than changes following intervention (no loss to follow-up because participants are surveyed only once). Burns and Grove (2013) observe further that non-experimental research phenomena are studied in their natural environment without any manipulation of the variables. Moreover, using a cross-sectional design, it was possible to record signals of many risk factors and to assess more than one outcome.

In another context, a cross-sectional design has multiple advantages and is purely descriptive and used to assess a particular phenomenon in a defined population (Sedgwick, 2014). In Analytical cases, Sedgwick (2014) also observes, cross-sectional surveys may also be used to investigate the association between predictor variables and measuring outcome simultaneously.

### **3.4. Unit of Analysis**

Employed Project Managers formed the unit of inquiry because they were assumed to know more about project management and more about the project results since they are in the appropriate positions in the project to make such evaluations. In other authorities or organizations where projects were managed by senior members, project directors and senior executives were considered as Project Managers in this study.

### **3.5. Sample Size**

The study involved 120 Project Managers as a sample size. This sample size is consistent with Hair *et al.*'s (2013) observation that sample sizes should be 100 or greater for non-experimental study, especially because the respondents are managers in their respective organizations. Similarly, Gowen *et al.*, (2006) observe that managers and their self-reported evaluations are likely to be consistent with their observations since they are in a better position in the project to make such evaluations with full information of the project. In this respect, a sample size of 100 or greater is considerably above average foundation for study validity and reliability.

### **3.6. Sampling Method**

The study used two sampling methods, randomly sampling and purposive sampling methods. Project managers were randomly selected from different organizations. The project managers know more about project management and more about the project results as they are designated on the appropriate position in the project management in the organization. At the same time, projects were purposively selected. The characteristics of the project were studied for precise information gathering. Purposive sampling was employed because projects vary according to dimensions, which are the base for management methodology selections; such as size and the level of technological uncertainty involved in the project (Milosevic, 2014; Martinelli et al. 2009).

### **3.7. Sources and Types of Data**

Data for this study were obtained from primary sources. This type of data was vital because the information was fairly gathered with updated knowledge of the existing situation from relevant project managers. Questionnaire responses in primary data were easily coded and used to make unprejudiced recommendations' and appropriate conclusions (Bredillet et al., 2015). Recent observations by the Myers and Briggs Foundation (2015) elucidate that the methodology of project management is skyrocketing in developing nations such as Tanzania. Therefore, studying primary data gives the current trend of knowledge, perspectives, and the application of this methodology in different organizations.

### **3.8. Data Collection**

Questionnaires (Appendix I) were used to solicit information from Project Managers. This method was considered cost-effective and time-efficient, which covered a wide size of respondents within a short period with less cost (Rowley, 2014). The design of questionnaires comprised mixed-data questions; numeric and open-ended questions. As Rowley (2014) explained; surveys on mixed-data collection allow non-subjective opinions from the respondents and enhances examination and data interpretation

### **3.9. Data Analysis**

Statistical Package for the Social Sciences (SPSS), and Excel software was used as tools for organizing the data, data cleaning, correcting input errors, clarifying significant discrepancies of data sets. The analysis of data began with the analysis of the statistical attributes - univariate analysis.

In particular, for the first objective, the descriptive analysis was used to describe the level of adoption (the applications) of project cycle management. Chi-Square inferential statistical analysis was performed to determine how independent variables were associated with the dependent variable. Similarly, Relative Impact Index Factor (RII) Model was used to measure and rank the opinions of participants on the barriers to project success.

This study also employed logistic regression analysis to model the relationship between independent and dependent factors. Independent factors include demographic factors (education and experience of project manager as well as number of projects s/he managed), others are project factors such as adequate resources, size of the project, duration of the project, as well as project cycle methodology tools which include monitoring and control techniques, risk assessment, and analysis for stakeholder, problem, objective, strategy, economic as well as financial) . The dependent variable is project success. Before the analysis, other tests were performed for validity and reliability. Such tests were Normality tests, Multicollinearity tests, the model specification error, and the goodness of fit test. Finally, Binary logistic

regression was performed to evaluate the influence of variables of project cycle management on project performance.

### 3.10. Model Specifications

#### 3.10.1. Binary Logistic Model

There are numbers of approaches to model dichotomous structured variables, which include logistic regression, probity, and discriminant analysis. With the given nature of this study, logistic regression analysis was preferred in determining the extent to which the predictors' impacts project overall performance (success). In principle, the logistic and probity arrive at the same results and conclusions (Tundui et al., 2012). While there are not any theoretical reasons for preferring one approach to the opposite, Logistic regression based totally on asymptotic maximum probability inference, its flexibility and robustly to the violation of the normality assumptions, made it become the most desired technique. According to Tundui et al (2012 citing Fabowale et al.(1995), the discriminant analysis can be used to model dichotomous established variables. The analysis is only used with continuous predictors, not like the Logistic, which lets in the prediction of a based variable from a set of predictors that can be continuous, dichotomous, and discrete or an aggregate of any of those.

$Y$  was a study dependent variable (Project Success), whereas a variable of Project success takes a value of (1) if all tasks completed within budget, time and stated quality or otherwise the project were considered to have failed (0).

The goal is to obtain  $\beta_i$ , a regression coefficient,  $i = 1, 2... r$ . For independent variables;  $\chi_1$ =Education Level,  $\chi_2$ =Years of Experience,  $\chi_3$ =Number of Projects,  $\chi_4$ =The value of the project,  $\chi_5$ =Duration of the Project,  $\chi_6$ =Stakeholder Analysis,  $\chi_7$ =Problem Analysis,  $\chi_8$ =Objective Analysis,  $\chi_9$ =Strategic Analysis,  $\chi_{10}$ =Monitoring indicators,  $\chi_{11}$ =Risks Analysis,  $\chi_{12}$ =Resource Availability and  $\chi_{13}$ =Financial Analysis

The logistic function is: 
$$\text{Logit}(y=1|\chi) = p = \frac{e^{\beta_0 + \beta_1\chi_1 + \beta_2\chi_2 + \dots + \beta_r\chi_r}}{1 + e^{\beta_0 + \beta_1\chi_1 + \beta_2\chi_2 + \dots + \beta_r\chi_r}}$$

Where  $p$  is the probability of a successful project and  $e = 2.71828$  is the system natural logarithms base. The value of the coefficient  $\beta$  determines the direction of the relationship between  $X$  and the logit of  $Y$ . For a sample of size  $n$ , for  $i = 1... n$ , denote

$y_i$  to be the observed variables if a project is succeeded or failed, and  $\chi_i = (1, \chi_{i,1}, \dots, \chi_{i,r})$  to be the corresponding  $r$  explanatory variables.

### 3.10.2. Relative Impact Index Factor (RII) Model:

RII is a suitable model for analysing data based on ordinal scale information. Since information collected thru ordinal scales cannot be assumed the same, the use of RII is more accurate in creating a median index (Holt, 2014).

The use of both descriptive and multivariate statistical tests, which includes analysis of variance (ANOVA) and correlation, was not thought to be appropriate because variables (factors) through these analyses usually tend to be skewed on their mean values (Hair 2013). As a result, the relative impact index (RII) from (Hwang et al. 2013; Holt 2014) was adopted to rank the effect of the limitations though the respondents primarily based on the occurrences of those factors in their ordinary work of project management.

The RII has been extensively adopted for reading Likert-scale records, which were used to measure critiques of contributors on certain standards or variables in similar studies (Tam et al., 2011; Holt, 2014 & Harris, 2013). Consequently, the model was adopted in this study to provide a ranking estimate about categorical variables among the RII scores to the study context of this research.

The respondent assertions were collected for this research employed a transformation of five-point Likert scale evaluations into arithmetical indices taking after Holt (2014) equation below:

$$RII = \left[ \frac{\sum w/A * n}{\sum w} \right]$$

$$\text{Where } \sum w \text{ (in this study)} = (5 * n_5 + 4 * n_4 + 3 * n_3 + 2 * n_2 + n_1).$$

For a 5-point scale, RII range =  $[1 - (1/A_{\max}) = 0.14 \text{ to } 1]$ , where RII = relative importance index,  $w$  = individual weight given to each statement by the respondent, which, in this study, ranges from  $A_{\min} = 1.0$  to  $A_{\max} = 5.0$ , where 1 represents “Very insignificant” and 5 represents “Very significant.” The letter  $A$  in Equation

represents the highest-ranking point used (5), and  $n$  = the total sum of respondents selecting a particular response.

### **3.11. Ethical Considerations**

The ethics in the research were observed to ensure that no one is harmed or is subject to sufferings from adverse consequences in this study (Cooper and Schindler, 2015). The following are the ethical standards strictly followed in the course of this study.

Before the data collection phase, a formal application for ethics approval was confirmed in accordance with Mzumbe University's ethical code of practice in research. Consent from the applicants was sought from the beginning of the survey for their willingness to participate in the research. As Saunders et al., (2012) proffer, the failure of making the research individuals privy to the purpose or nature of the research adopted will lead to the execution of unethical studies.

Privacy to all of the respondents, confidentiality, and integrity of sensitive information in the research was observed at all times in the course of and after the research. The researcher paid attention to biases and questions or statements, which are sensitive and likely to cause embarrassment to research respondents. Lastly, the remark of contemporary laws and requirements to the field of the survey were taken into account.

### **3.12. Research Validity and Reliability**

Validity and reliability are the research standards, which are normally for assessing the quality of studies (Newman, 2016). A variety of measures were made to make sure that the first-rate of this study including normality of data was satisfied, Hosmer-Lemeshow goodness-of-fit was checked and indicated that data had been properly matched the model  $p=0.546$ , which means that questions were provided and framed for what was intended to be measured. The model's predictive capacity Pseudo  $R^2$  was quoted to be 85.2%. The model was well specified, and the Variance Inflation Factor (VIF) concluded that there were no multicollinearity symptoms because there was no value less than one or more than 10. In addition, the pattern

size and source delivered a stronger basis for reliability as Hair et al. (2013) proffer that, the reliable source of information leads to the reliable results to the problem statement and the research questions.

## CHAPTER FOUR

### PRESENTATION OF FINDINGS

#### 4.1. Introduction

In this chapter, we present descriptive results, focusing on sample characteristics. The chapter also covers the effects of inferential facts; econometrics and empirical analysis. The final section of the chapter provides the ranking analysis of the barriers of the project success.

#### 4.2. Descriptive Analysis of the surveyed data

The sample size of the study survey was 120 project managers. To attain the targeted sample size, the researcher furnished the extra questionnaires to update any contingencies that could have occurred from the respondents and affects the sample size. As a result, one hundred thirty questionnaires were distributed. Out of the total dispensed questionnaires, 117 respondents who were regarded as valid respondents gave general legitimate respondents' rate of 90 percent. As the data set was examined, data of four respondents were discarded during the data cleaning process as being notably incomplete. Six project managers declined to participate, and three Managers did not reply. The breakdown of responses is shown in Table 3.

**Table 3: Total and Valid Respondents**

Type	Response	Percentage
Valid Response	117	90.0
Discarded	4	3.1
Declined	6	4.6
No Response	3	2.3
<b>Total</b>	<b>130</b>	<b>100</b>

#### 4.2.1. Demographic and project profiles information

The characteristics of the respondents interviewed were important in the adoption of the methodology of project cycle management and the success of the projects. All 117 valid respondents' project managers provided information regarding their sex status. It was observed that the number of male respondent project managers were higher than female. Out of the total respondents, 88.9 percent were males project managers, and 11.1 percent were female project managers.

Another characteristic analysed was an academic qualification, which had a mean of 5.14 and std. deviation of 1.066. The findings show that 74.4 percent of project managers hold Bachelor's degrees or higher and, 25.6 percent had Diplomas and certificates. Further analysis has shown that only 23.1 percent of the project managers obtained professional project management training. Figure 2 below shows the demographic characteristics of the respondents.

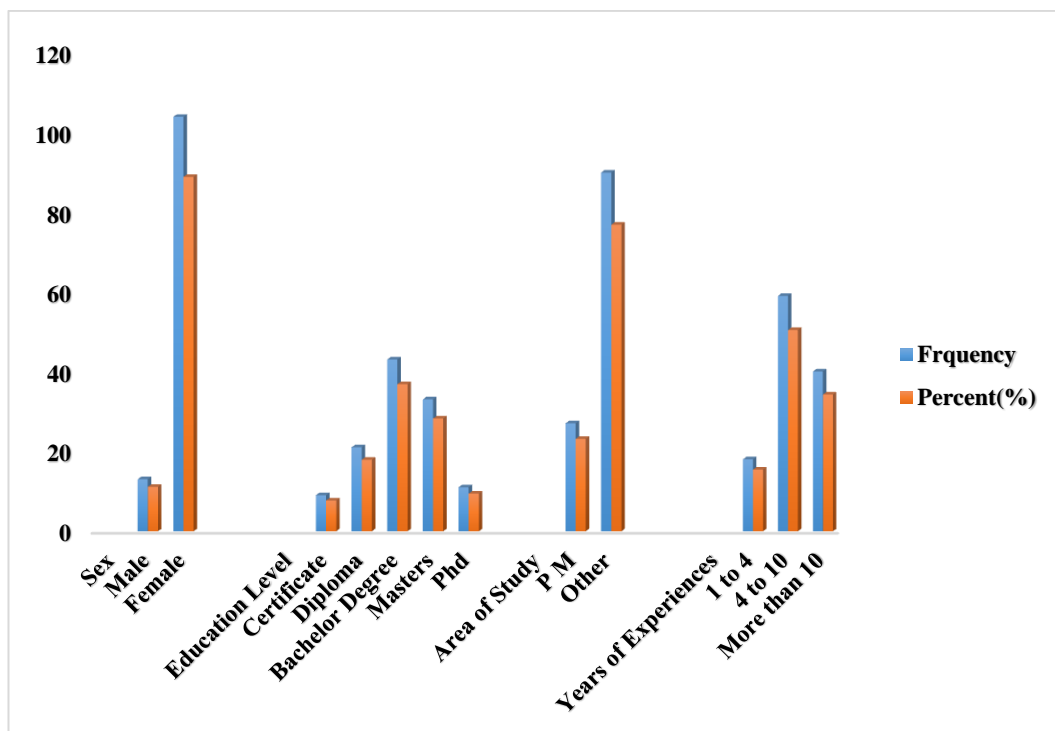


Figure 2: Demographic characteristics of the respondents (n =117)

Moreover, about 15.4percent of the managers had 1 to 3 years of project management experience, while the majority (84.6%) had been in project management for at least 4 years. Occupying a managerial position was found to base on longevity in service “I have been here for long” and not necessarily skills and knowledge, especially for public service officials. Again, the number of projects was important information since it implied activity criticality and resource dependencies from one project to another can result in a shortage of resources to complete the project. The findings indicated that the majority (93.2%) of the project managers had managed at most ten projects and a few (6.8%) project managers managed more than ten projects. Among the managed projects, 15.4percent had a value of less than Tsh. 500 Million. In this respect, many projects had values ranging from Tsh.500 Million and above with a mean of 2.63 and a standard deviation of 1.072.

In another context, the majority (69.2%) of the projects had a duration of between 1 and 5 years. The results show further that 28.2percent of projects had a duration of up to 1 year, and 2.6 percent had a duration of over 6 years. These results are in agreement with the results in a study by Abeyasinghe et al., (2014) who observed that a project should have a shorter duration due to resource constraints and uncertainties.

Project managers were also asked if resources were adequately available, 50.4 percent agreed, and 49.6 percent disagreed with the statement that resources were available. Time usually considered as the resource that deserves monitoring. Hence, project team members had to avoid a “wait and see” attitude. Table 4 presents a summary of the results regarding the project profile information presented as the distribution of frequencies and percentage.

**Table 4: Project profile information (n =117)**

Variable	Frequency	Percent (%)
Number of projects		
1-5 Projects	75	64.1
6-10 Projects	34	29.1
More than 10 Projects	8	6.8
The value of the project		
Less than 500M	18	15.4
500M - >1B	42	35.9
1B – >20B	22	18.8
20B +	35	29.9
Duration of the project		
Less than 1 year	33	28.2
1-5 years	81	69.2
Above 6 years	3	2.6
Resources availability		
No	58	49.6
Yes	59	50.4
Stakeholders understood clearly mission		
No	8	6.8
Yes	109	93.2

#### **4.2.2. The level of adoption of project cycle management methodology**

Project managers were asked to indicate whether their organizations allowed the integration of methodology. By beginning with stakeholder analysis, the findings show that 70.9percent agreed while 29.1percent of the project managers disagreed with the conduction of the stakeholder analysis (Table 5). Stakeholder analysis refers to the identifications, integration or involvement of key groups of people or institutions in project implementation. This is limited to knowledge about the analysis and professionalization of the project managers. The result stresses the need for on-job training of project managers in their organizations to efficiently carry out this analysis.

The respondents were also asked to indicate whether analysis for problem, objective, and strategy was carried out. The findings indicate that these tools were adopted at different levels, which means that the project managers decided to use them case by case. Problem analysis was adopted by the only 49.6 percent which is below average, indicating the problem situation might not be analysed in sufficient detail. Consequently, account for lack of focus on the main issue during project implementation. Similarly, an objective tool used by 61.5 percent of projects to identify necessary solutions and links between these solutions, on the other hand, about 38.5percent project managers denied opting the use of this tool. Additionally, about 58.1 percent of the project managers adopted or performed strategic analyses (Table 5). The findings are in line with the findings from the study by Wateridge (2012), that PCM tools can be adopted independently in a different context.

In the other context, 86.3 percent of the project managers used monitoring indicators, and 13.7 percent disagreed while 63.2 percent of the project managers performed a risk analysis, and 36.8 percent reported to have had no risk plan. Overall, the results indicate that on average 72.7 percent of these tools were adopted. These tools are typically used within the logical framework at the beginning. In other words, the logical framework was considered a key technique for the projects.

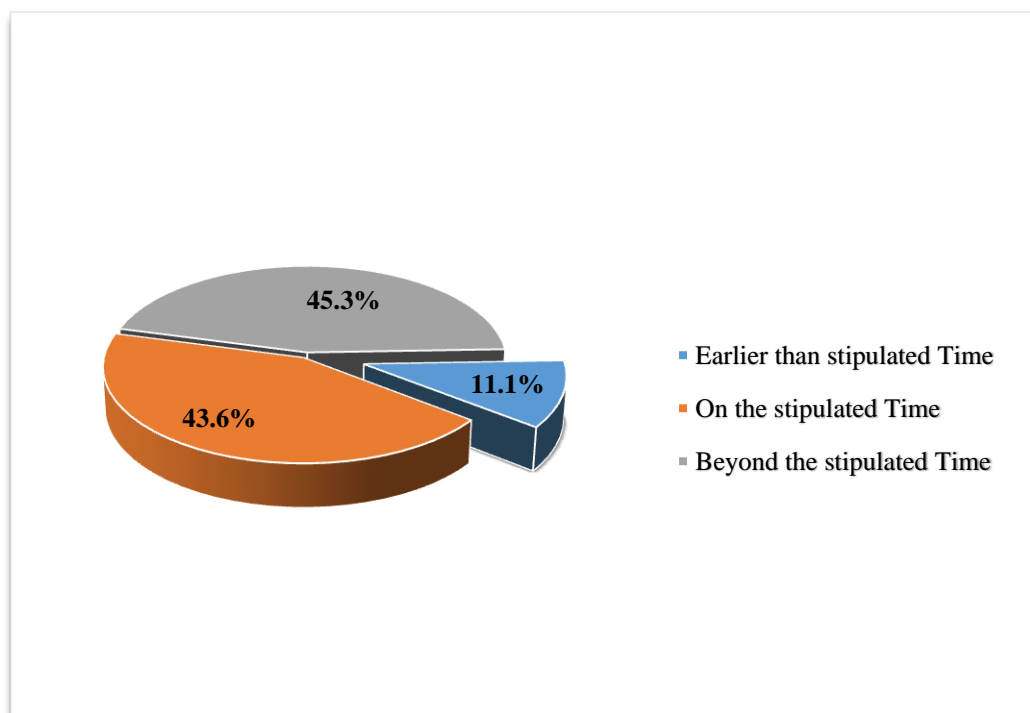
Financial and economic analyses are the other tools for project cycle methodology. When respondents were asked whether these tools were used or applied during the project design, their results presented in Table 5 show that 69.2 percent of the project managers performed financial analysis and only 30.8 percent of them did not perform. An interesting observation is that all valid respondents among project managers reported having been conducting an economic analysis on their projects. These results were based on the notion that projects generally aim at increasing the production of goods and services. Projects such as hospitals, roads, water system works, schools, dams, houses, industries, and the like are the physical establishments on which development endeavours and progressive living standards are built up. This is the view of most project managers regarding the economic analysis of the projects. Table 5 shows a summary of the results.

**Table 5: The level of the adoption of the Project Cycle Methodology (n =117)**

<b>Variable</b>	<b>Frequency</b>	<b>Percent (%)</b>
Relevant Stakeholders identified		
No	34	29.1
Yes	83	70.9
Problem analysis was done		
No	59	50.4
Yes	58	49.6
Objective Analysis was done		
No	45	38.5
Yes	72	61.5
Strategies Analysis was done		
No	49	41.9
Yes	68	58.1
Monitoring Indicators applied		
No	16	13.7
Yes	101	86.3
Risks analysis was done		
No	43	36.8
Yes	74	63.2
Financial Analysis was done		
No	36	30.8
Yes	81	69.2
Economic Analysis was done		
Yes	100	100

### 4.2.3. Project's completion time

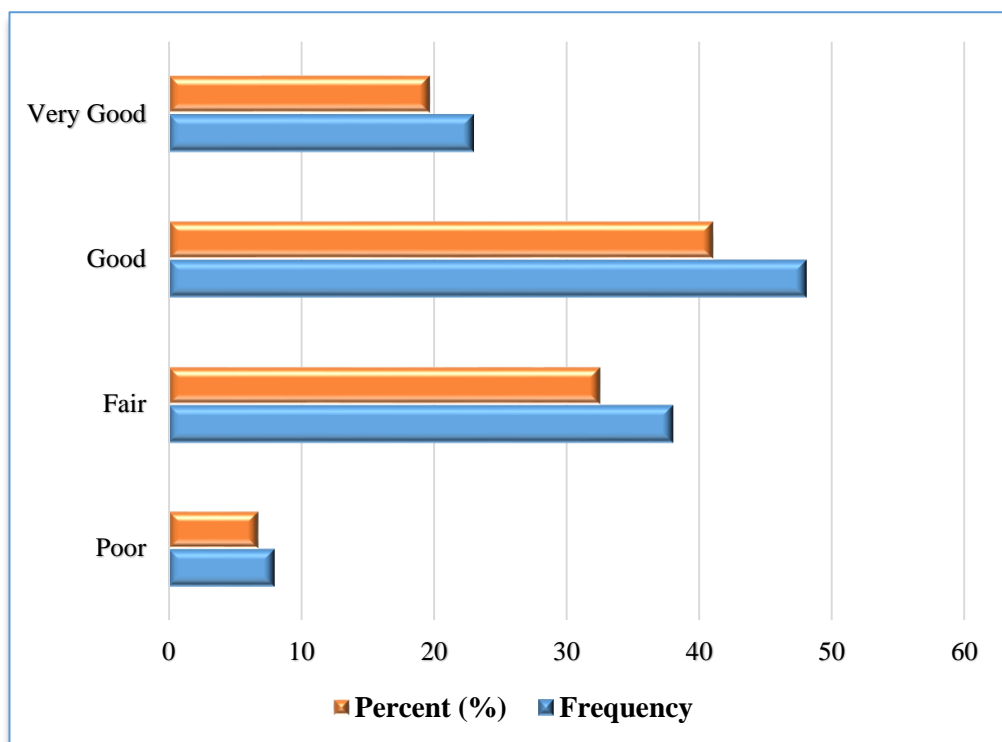
The completion time of the projects was found to have a mean of 2.34 and standard deviation of .672. About 11.1 percent of the project managers reported that their projects achieved all project management goals/objectives earlier than the stipulated time. The findings also show that 43.6 percent of the project managers reported that their projects achieved project management objectives in time. Therefore, about 45.3% of the project managers reported that their projects achieved the project management objectives over the stipulated time. Another similar study in Tanzania done by Ernest & Young (EY,2014) found that 73% of the mega projects experienced schedule overruns and 64% had cost overruns. On average, actual costs were 59 percent higher than the original estimates. Figure 3 shows the percentage distribution of the project's completion time, as reported by project managers.



**Figure 3: The completion time of the projects**

#### 4.2.4. Quality of Project's after completion

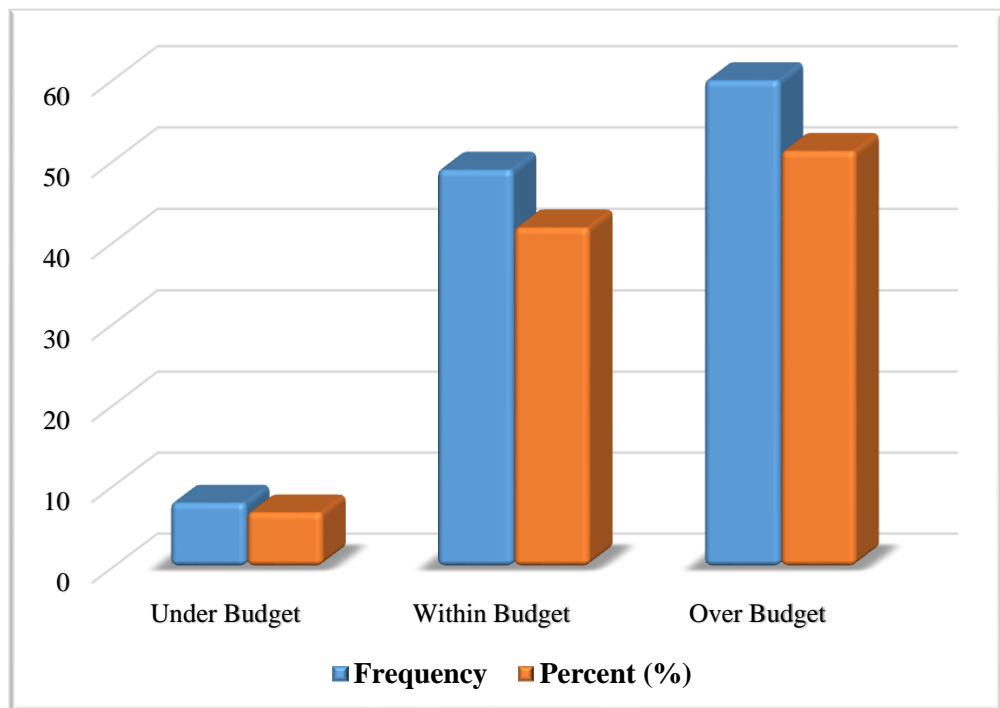
The project quality is the stakeholders' pre-determined performance criterial, values or standards. The mean value of the project quality obtained was 3.74, higher than 2.34 obtained for the time performance and 2.44 for the cost performance with a standard deviation of .855. This implies that stakeholder satisfaction is perceived independently from time and costs. Poor satisfaction recorded a percent value of 6.8. Fair-quality recorded a percent value of 32.5, and Good quality of the projects are perceived to have achieved the most overall success recorded a computed percent value of 41 and the very good quality "better than required" recorded a computed percent value of 19.7. Figure 4 illustrates the study findings.



**Figure 4: The completion quality of the projects**

#### 4.2.5. The cost/budget of the projects

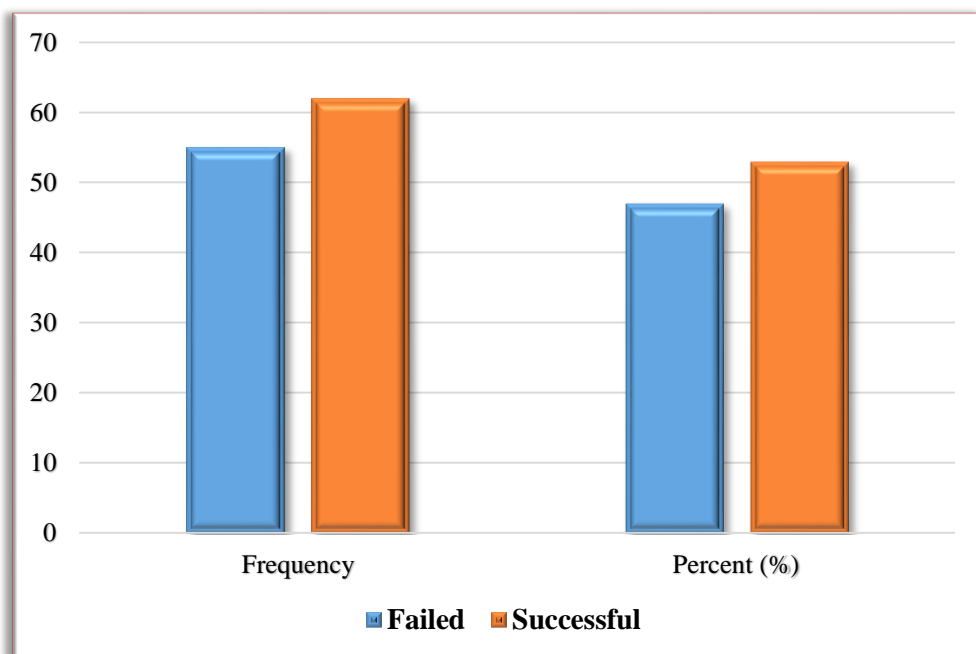
The results have established that the completion cost/budget of the projects had a mean of 2.44 and a standard deviation of .622. The findings show that the majority (41.9%) of the project managers reported that their projects were completed within the planned cost or budget. Only 6.8 percent reported that their projects were completed below the stipulated cost/budget of the project. This finding can be associated with the earlier performance of completed projects. In addition, 51.3 percent was reported scorings percentage value of the projects that exceeded the budget. These findings concur with results by Ernest & Young (EY, 2014) study who arrived at the similar conclusion that 64 percent of projects studied in Tanzania experienced cost overruns with the average of 59 percent higher than the original estimates. Figure 5 presents the study findings.



**Figure 5: The completion costs/budget of the projects**

#### 4.2.6. Project Success

The analysis demonstrates that 62 project managers, which constitute 53 percent of the surveyed projects, were in agreement with the definition of project success. This refers to the completion of or achievement of the project targets in time, within stipulated cost, and within customer benefit, which comes in forms such as impact, satisfaction, and loyalty, which are important elements in determining the success of a project. The project success was found to be slightly improved to 53% success as opposed to the findings of Chauvet *et al.* (, 2010), who revealed that World Bank projects in Africa failed by over 50 percent until 2000. These findings indicating a sign of an improvement, which is opposite to the assertion by Associated Press, (2013) that projects failure rate in Tanzania seems to be over 50 percent, they are often characterized by lateness, they are over-budgeted (cost overruns), and involve construction delays and red tape. Figure 6 presents the distribution of frequencies and percentages for successful and failed projects.



**Figure 6: The project's success results**

### 4.3. Inferential Statistics Analysis (Bivariate Analysis)

The chi-square tests were performed to examine the association between demographic factors and project success. Table 6 presents a summary of the results showing a significant association between years of experiences and the project success ( $p < .001$ ). Accordingly, project managers with more than 10 years of experiences reported high percent (51.4%) of projects success unlike those with 1 to 3 years of experiences who reported high percent (16.4%) of projects failures. The strength association is represented by Cramer's coefficient (.402), which indicates a moderate association.

The results show further that the number of projects the project manager has managed is significantly associated with the project success ( $p < 0.05$ ). This implies that managers are likely to encounter obstacles, especially in activity criticality and reliance on resources (Söderlund, 2014). The strength of this association is represented by Cramer's coefficient (.275), which indicates a low association. Education level revealed insignificant evidence of an association with project success ( $p > 0.05$ ). This is possible because the success of the projects is associated with the experience. As previously indicated, 76.9 percent of the project managers do not have any acknowledged of the project management profession.

**Table 6: Association summary between the demographic factors and project success**

Variable	Project Performance		Total (n= 117)%	Chi-square value	Cramer's V	P- value
	Failed (n = 55)%	Successful (n = 62)%				
Education Level						
Certificate	12.7	3.2	7.7	7.94	.261	0.094
Diploma	18.2	17.7	17.9			
Bachelor Degree	27.3	45.2	36.8			
Masters	34.5	22.6	28.2			
PhD	7.3	11.3	9.4			
Years of experience						
1-3 Years	16.4	14.5	15.4	18.95	.402	0.000
4-10 Years	69.1	33.9	50.4			
More than 10 Years	14.5	51.6	34.2			
Number of projects						
1-5 Projects	54.5	72.6	64.1	8.848	.275	0.012
6-10 Projects	41.8	17.7	29.1			
More than 10 Projects	3.6	9.7	6.8			

Similarly, the chi-square tests were performed to examine whether there is an association between project factors and project success. The empirical results show that resources availability and the value of the project had a significant association with project success. Both were significant at ( $P < 0.1$ ) with a low strength of association of (.162) and (.241) respectively. The significance implies that resources are critical. Thus, resource-constrained scheduling should accept the priority of fixed resource availability. On the other hand, the value of the projects to indicate low association is somewhat counterintuitive normally expected to relate to the greater success of the projects, but there was no such relationship. This is interesting because larger value projects are those that are more likely to be under high pressures from stakeholders for good project management including compliance with the budget. The p-value for the duration of the project is larger, considerably higher than the level usually regarded as sufficient to conclude that there is a relationship. The strength of associations is fairly small, as indicated by the Cramer's coefficient (.069). This is in agreement with Watson et al., (2017) who revealed that the project must be accomplished in a fixed timeline, using predefined and fixed level of resources. Table 7 presents a summary of these results.

**Table 7: Summary of an association between the project profile variables and the project success**

Variable	Project Performance		Total (n= 117)%	Chi-square value	Cramer's V	P- value
	Failed (n = 55)%	Successful (n = 62)%				
Resources						
Availability						
No	58.1	41.9	47.0	3.077	.162	.079
Yes	41.8	58.1	53.0			
The value of the projects						
Less than 500M	23.6	8.1	15.4	6.800	.241	0.079
500M - >1B	27.3	43.5	35.9			
1B – >20B	18.2	19.4	18.8			
20B +	30.9	29.0	29.9			
Duration of the projects						
Less than 1 year	29.1	27.4	28.2	0.552ns	.069	0.759
1-5 years	67.3	71.0	69.2			
Above 6 years	3.6	1.6	2.6			

Further analysis for chi-square tests was conducted to examine the association between the tools of the project cycle methodology and project success. All factors were found to be significantly associated with project success ( $p < .05$ ). Therefore, this finding confirms the suggestion of Cleland *et al.*, (2012) of considering the methodology of project cycle management in project implementations.

The results show that in all successful projects, the relevant stakeholders were identified and involved during the project implementation. The results also show that stakeholders analysis had a significant association at ( $P < 0.001$ ) with the project success. The strength of the association is moderate as indicated by the Cramer's coefficient  $v$  (.340). For problem analysis, objective and strategy, there is moderate strength of association with the project success as indicated by the Cramer's coefficient (.283), (.382) and (.207) correspondingly. The results also indicate that over 62.9 percent of the successful projects performed these analyses. The  $p$  values of these analyses are considerably lower ( $< .05$ ), than the usual level regarded as sufficient to conclude that there is a significant association.

Regarding indicators, a chi-square test was conducted to examine whether there is an association between monitoring indicators and project success. The results revealed a significant association at ( $p < .01$ ) (see Table 8) with 95.2 percent of successful projects monitoring indicators were applied. The strength of this association is represented by Cramer's coefficient (.273), which indicates a low association. Furthermore, the respondents were asked to indicate whether a risk analysis was carried out before project implementation. The results show that 86.3 percent of successful projects had their risk plan, and this was shown to be moderately associated with project success at ( $P < 0.001$ ) significant. The financial and economic analyses are important preventive actions that could help managers achieve their financial objectives. The financial analysis showed a significant association with project success at ( $P < 0.001$ ) with 90.3 percent of successful projects using the analysis. An interesting observation is that all the respondent project managers reported having conducted economic analysis. This might have resulted from the fact that most projects have economic implications either directly or indirectly.

**Table 8: Summary of Association between Project cycle methodology tools and project success**

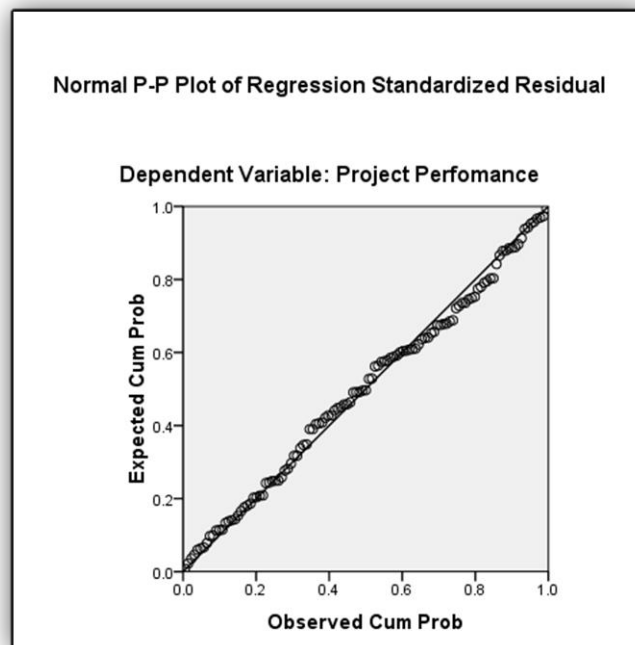
Variable	Project Performance		Total (n= 117)	Chi-square value	Cramer's V	P- value
	Failed (n = 55)%	Successful (n = 62)%				
Relevant Stakeholders identified and involved						
No	45.5	14.5	29.1	13.533	.340	0.000
Yes	54.5	85.5	70.9			
Problem tree analysis was done						
No	65.5	37.1	50.4	9.376	.283	0.002
Yes	34.5	62.9	49.6			
The objective analysis was done						
No	58.2	21	38.5	17.053	.382	0.000
Yes	41.8	79	61.5			
Strategies analysis was done						
No	52.7	32.3	41.9	5.017	.207	0.025
Yes	47.3	67.7	58.1			
Monitoring Indicators applied						
No	23.6	4.8	13.7	8.724	.273	0.003
Yes	76.4	95.2	86.3			
Risks analysis done						
No	56.4	19.4	36.7	17.173	.383	0.000
Yes	43.6	80.6	86.3			
Financial Analysis was done						
No	54.5	9.7	30.8	27.544	.485	0.000
Yes	45.5	90.3	69.2			
Economic analysis was done						
No	0.0	0.0	0.0	-	-	-
Yes	100.0	100.0%	100.0%			

#### 4.4. An econometric analysis for factors influencing project success

There are myriad of regressing ways for checking the validity and reliability of the data, model specification, the goodness of fit, and model error. In this study, Normality test, Multicollinearity test, and model fit test were performed before the analysis. This is to ensure that independent variables and the specified model do not provide redundant information and to check for errors in the model and to see whether the model fit the surveyed data.

The normality test is the criterion procedure for the regression analysis to find out normal or abnormal data. The main purpose of this procedure was to ensure that data in the model are normally distributed. Normality test was conducted through a probability plot, as shown in Figure 7.

**Figure 7: The Normal Probability Plot Test for Regression**



Built on normal chart probability in the above plot, if the points did not follow the diagonal line, it could be mean that the residual value is abnormally distributed. Conversely, the chart shows that the existing points follow the diagonal line indicating that the residual value is normally distributed, therefore, the procedure for regression analysis criterion has been satisfied with this test.

The Variance Inflation component (VIF) was used to check for the Multicollinearity of the independent variables. Mathematically,  $VIF_j = 1/(1-R_j^2)$  where  $R_j^2$  is the coefficient of determination of the model which incorporates all unbiased variables besides the  $j^{th}$  variable. The results for the multicollinearity check indicate that no variable had VIF much less than 1 or more than 10 (Table 9). It is concluded that there are no multicollinearity signs. Usually, any variable with a VIF less than 1 (<1) or more than 10 (>10) indicates that multicollinearity may be influencing the estimates of the regression coefficients. Similarly, multicollinearity test was carried out to avoid the habits in the decision-making method regarding the partial effect of independent variables at the dependent variables. Within the absence of multicollinearity, variables served as a warranty that the estimates of coefficients no longer suffered the problem of multicollinearity.

**Table 9: Results of Multicollinearity Test for Logit Model**

<b>Model</b>	<b>Unstandardized Coefficients</b>			<b>Collinearity Statistics</b>
	<b>B</b>	<b>T</b>	<b>Sig.</b>	<b>VIF</b>
(Constant)	.297	.973	.333	
Sex	-.075	-.677	.500	1.117
Education Level	-.036	-.611	.542	3.621
Years of Experience	.199	3.128	.002	1.712
Number of Projects	-.120	-1.532	.129	2.166
The value of the project(TSH)	-.218	-4.047	.000	3.029
Stakeholder Analysis	.204	2.361	.020	1.419
Problem Analysis	.009	.111	.911	1.379
Objective Analysis	.487	4.411	.000	2.657
Strategies Analysis	-.026	-.296	.768	1.741
Monitoring Indicators	.114	.818	.415	2.105
Risks Analysis	.206	2.267	.025	1.773
Resources Availability	-.100	-1.304	.195	1.353
Financial Analysis	.372	3.183	.002	2.678

Table 10 Hosmer-Leme shows goodness-of-fit which was tested to obtain the summary measure of the test statistic for the validation sample. Hosmer-Leme goodness-of-fit suggests the model is a good fit to the data as  $p=0.546$  the value of  $p$  is greater than ( $>.05$ ), then it is considered to be above average foundation for validity and reliability (Harrell, 2001) otherwise the model does not fit the data.

**Table 10: Hosmer and Leme show Test**

Step	Chi-square	Df	Sig.
1	6.914	8	.546

The binary logit model was run to examine the factors influencing project success, as reported in Table 11. The results have shown that the variables included in the model explained 85.2 percent of the variation in the outcome (quoting the Nagelkerke pseudo- $R^2$ ) (Table 11). This also suggests that there may be other factors that influenced the project success, however, these were not encompassed in the model. The omnibus tests of model coefficients show the chi-square of 118.957 with a  $p$ -value of .000, which means that the model is statistically significant.

**Table 11: The omnibus tests of model coefficients**

Step	-2 Log likelihood	Cox & Snell $R^2$	Nagelkerke $R^2$	Chi-Square	Sig
1	42.820	.638	.852	118.957	.000

Now, by referring to the prediction equation of the study (indicated below, expressed in terms of the variables used in the study, Table 12), the estimates tell about the relationship between the project success factors and the project success, where the project success variable is on the logit scale.

$$\text{Logit} \left( \frac{p}{1+p} \right) = \beta_0 + \beta_1\chi_1 + \beta_2\chi_2 + \dots + \beta_\gamma\chi_\gamma$$

Where  $p$  is the probability of a successful project,

**Table 12: Results of a binary logistic model of factors influencing project success**

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
<b>Education Level</b>			<b>3.659</b>	<b>4</b>	<b>.454</b>	
Certificate (Ref)	-	-	-	-	-	-
Diploma	4.508	4.091	1.214	1	.271	90.719
Bachelors	8.796	5.625	2.446	1	.118	6.608E3
Masters	13.444	7.701	3.048	1	.081	6.900E5
Doctorate	11.524	7.243	2.531	1	.112	1.011E5
<b>Years of Experience</b>			<b>5.217</b>	<b>2</b>	<b>.074</b>	
1 to 3 years (Ref)	-	-	-	-	-	-
4 to 10 years	3.755	2.263	2.753	1	.097	.023
More than 10 years	8.759	4.523	3.751	1	.053	6.367E3
<b>Number of Projects</b>			<b>4.348</b>	<b>2</b>	<b>.114</b>	
Between 1-5 Projects (Ref)	-	-	-	-	-	-
6-10 Projects	-6.784	3.285	4.266	1	.039	.001
Above 10 Projects	-5.738	3.070	3.493	1	.062	.003
<b>The value of the project(TSH)</b>			<b>5.793</b>	<b>3</b>	<b>.122</b>	
Less than 500Million (Ref)	-	-	-	-	-	-
500Million - <1Billion	-8.270	4.286	3.723	1	.054	.000
1Billion – <20Billion	-13.437	6.837	3.863	1	.049	.000
20Billion +	-25.544	10.827	5.567	1	.018	.000
<b>Duration of the Project</b>			<b>3.290</b>	<b>2</b>	<b>.193</b>	
Less than 1 year (Ref)	-	-	-	-	-	-
1-5 years	-6.166	3.402	3.286	1	.070	.002
Above 6 years	-.899	32.972	.001	1	.978	.407
Stakeholder Analysis (1)	1.562	1.185	1.738	1	.187	4.769
Problem Analysis (1)	.903	1.362	.440	1	.507	2.467
Objective Analysis (1)	6.940	2.911	5.683	1	.017	1.033E3
Strategic Analysis(1)	1.453	1.789	.660	1	.417	.234
Monitoring Indicators (1)	3.092	2.352	1.728	1	.189	22.019
Risks Analysis (1)	6.273	2.892	4.703	1	.030	529.984
Resources Availability (1)	.709	1.660	.183	1	.669	2.032
Financial Analysis (1)	7.923	3.637	4.744	1	.029	2.759E3
<b>Constant</b>	-4.424	3.734	1.404	1	.236	.012

Likelihood ratio test = 42.820, Cox & Snell R<sup>2</sup> = .638, Nagelkerke R<sup>2</sup> = .852

Test	X <sup>2</sup>	Df	P
Overall model evaluation			
Model	118.957	22	.000
Goodness-of-fit test			
Hosmer & Lemeshow	6.914	8	.546

The coefficient of the logit model given the change in the mean of the probability distribution of the dependent variable was associated with a change in one of the explanatory variables. These estimates tell the amount of increase (or decrease, as the sign of the coefficient is negative) in the predicted log odds of project success, keeping all other predictors constant. These coefficients are in log-odds units, so odds ratios (labelled “Exp (B)”) used for interpretations in this study. The wald statistics and sig in Table 12 indicate that, out of thirteen (13) predictors operationalized in the model, only seven turned out to have a statistically significant impact on project success at level ( $P < 0.05$ ) and ( $P < 0.1$ ).

Looking first at the results for education level, there was an insignificant overall effect (Wald=3.659, df = 4,  $p > .05$ ). The b coefficients for all education level were positive indicating that increasing influence was associated with increased odds of achieving project success. The odds ratio results have shown that managers with at least diploma level were more likely to influence project success positively by at least a factor of 90.719 higher than the reference category certificate level (Table 12). However, the majority 76.9 percent are without an appropriate profession for project management. Lack of this variable might be the reason for being statistically insignificant from the sampled project managers. Similar findings were those reported by Cleland and Ireland, (2012), which show that in addition to the general knowledge of management, successful management of project demands knowledge of project management and working knowledge of application areas.

Years of experience was recorded statistically significant at (wald = 5.217, df = 4,  $p < 0.1$ ) with a positive sign coefficient for all of its categories. The odds ratio tells experienced managers with more than ten years of experience were 6.367E3 times likely to influence the project success positively higher than the reference category of 1 to 3 years of experience. Conversely, Managers with 4 to 10 years of experience is .977 less likely to influence project success comparatively to the reference category of 1 to 3 years of managers experiences. As noticed, the majority (84.6%) of the respondents had been in project management for at least 4 years. Therefore, this somehow provides a solid base for understanding better usage and implementation of project management techniques and tools.

On the other hand, results show that the huge number of projects managed by a manager was associated with a decrease in chances of achieving project success. Project managers who had at least six projects were likely to fail on their project implementation relative to the project managers with one to five projects. The odds ratio indicates that managing six projects or more associated with lower odds in achieving project success. The number of projects implied criticality and useful resource dependencies (Chartered Institute of Building, 2012).

The results also show that the overall effect of the values of the projects are statistically non-significant at .05 level and the b coefficients for all of its categories values are negative. The insignificance indicates that, whether high values or low values of the projects, neither of these alternatives influence the performance of the projects. The results describe a controversy as higher values projects are expected to have a positive influence on project success, possibly as said earlier, larger value projects are also those that are more likely to be subject to strong pressures by stakeholders. Similarly, the longer duration of project of above six years was found with a negative influence on the project performances with an odds ratio value of .407. Implies that, projects with a duration of at least six years were associated with the chance of failure comparatively to projects with five or fewer years of implementation. Other studies (Gould and Joyce, 2013; Jekale, 2014) reported that “from time to time, whilst the project has a longer length, the undertaking team might want to procrastinate the due time for activity and tend to delay a number of those activities”.

Furthermore, Stakeholder analysis recorded an odds ratio of 4.769 with a positive sign coefficient. The results indicate that project managers who performed stakeholder analysis were 4.769 times more likely to influence project success than those who did not. Stakeholder analysis enhances a sense of ownership, particularly local ownership and emphasizes the participation of relevant interest groups and target groups. Usually, without stakeholders’ involvement, people in the project may not be committed to the tasks and may additionally even be hostile to the project and subsequently affect the typical project success

Similarly, Problem analysis is shown to be insignificant with a positive sign coefficient. The odds ratio tells that project managers who performed problem analysis were 2.467 times likely to influence project success higher than project managers who executed the project without the analysis. The insignificant results are possible because methods cannot be correctly applied without proper adoption (Khang and Moe, 2015). According to Drucker (2013), a compelling decision-making strategy ought to go through a few essential steps. Those steps will not “make” the decision – it will continuously be a judgment call – but if the steps are disregarded or erroneously followed, the choice is not likely to be viable neither right. The usage of this analysis normally helps to clarify goals and identify problem areas and risks; to isolates activities and easily monitor outcomes. Thus if a problem situation is not analysed in sufficient detail, the solution, too, can be incomplete ultimately affects project success.

In the same manner that the problem analysis has identified key problems and causal links between different problems, the objectives analysis becomes a tool for identifying the necessary solutions and the links between these solutions. Table 12 has shown that objective analysis is statistically significant at ( $p < .05$ ) with a positive sign coefficient. Further, Project which conducted objective analysis was 1.033E3 times more likely to succeed than the projects which did not. Mind that, each level of the objectives analysis represents a means to achievement at the next level.

Results indicate project which conducted strategy analysis was 0.766 less like to succeed. Findings seem to be at odds with other scholars though and call for further evaluation. Scholars (Chen, Partington, & Qiang, 2018) observed that this analysis is used considerably in many corporations. “There has been no diagnosed profession or industry where the practices won't work”. Usually from the objectives analysis, emerge many potential solutions for problems. Strategy analysis helps the project manager to choose which problems the project will focus upon and address by facilitating attention on a few specific and crucial duties.

The results also show that the application of monitoring indicators was influenced project success positively by a factor 22.019 higher than the projects without indicators (Table 12). Usually, monitoring indicators are intended to capture key parameters of the projects to make certain that implementation is heading in the right direction. As soon as there is a loss of powerful tracking indicators, the project suffers, corrective action and the closing undertaking performance also suffers. On the other hand, Project which conducted risk analysis were 529.984 times more like to succeed than project which did not. A Positive sign coefficient and significance mean that project managers who assess risk and act accordingly will have positive project outcomes. The ability of the project manager to manage such risks as part of their daily practices will reduce costs and at the same time, increase the level of satisfaction of the project stakeholders. The findings are in line with the findings in a study by Cooper et al. (2015), PMI (2017), and Williams (2013) who declared that project risk management influences project success indicators, such as cost, time, scope or quality. The odds ratio indicated that projects with resources were 2.032 times more likely to achieve success higher than the projects without resources. In this respect, appropriate skills are required in projects management, also required are strategies that surpass the technical expertise, which embodies excellent and sound skills of controlling constrained budgets, managing shrinking schedules and unexpected outcomes.

Finally, the financial analysis of the project was observed to have a positive signed coefficient and significant influential on project success ( $p < 0.05$ ). The odds ratios indicate that conducting financial analysis was 2.759E3 times more likely to influence project success relative to the projects executed without the analysis. The financial and economic analysis aimed at determining and quantifying the costs and benefits of development projects in order to facilitate certain decisions, which have to be made throughout the project life cycle. Often, the analysis is limited to computing three criteria: the Internal Rate of Return on the investment (IRR), Net Present Value (NPV), and Benefit-Cost Ratio (BCR). However, a judgment on a project should not be made based on a single criterion. Rather, an overall understanding of the project's impact should be presented to decision-makers.

#### 4.5. Ranking of reported barriers for project success

The relative importance (or impact) index (RII) was applied to measure the level of agreement on the rankings of the examined factors as limitations on project success. The Kendall coefficient of concordance was employed to test the overall assertion between several sets of evaluated variables or factors. In addition, the Kendall coefficient of concordance was applied to show the degree of connection of ordinal judgments made by numerous respondents. It ranges from 0 to 1, where the higher esteem of (W) implies the stronger association among rankings of the respondents, which are done randomly or rated by chance (Siegel and Castellan 2013). The results of the test are indicated in Table 13.

**Table 13: Kendall coefficients of concordance (W) obtained for barriers.**

Reliability test	Barriers (N=117)
Kendall's W	0.784
Chi-Square	1.284E3
Df	14
P-value at the 95% confidence Interval	0.000

The finding showed that there is generally a reasonable level of concordance ( $W=0.784$ , Chi-square= 1.284E3) for barriers. The statistical level of significance indicates that this level of non-concordance on the rankings of limitations occurred randomly ( $p\text{-value} < 0.05$ ). In this regard, it can be concluded that the analyses about rankings, in general, are reliable and solid. The level of significance of each factor measured in agreement with the scale adopted from Kazaz et al. (2018) as shown in Table 14.

**Table 14: The level of Significance according to Kazaz**

Levels	Rank
$0.143 \leq RII \leq 0.286$	Not Significant
$0.286 < RII \leq 0.428$	Somewhat Significant
$0.428 < RII \leq 0.571$	Moderately Significant
$0.571 < RII \leq 0.714$	Significant
$0.714 < RII \leq 0.857$	Very Significant
$0.857 < RII \leq 1.0$	Extremely Significant

The findings indicated that project managers have almost equal perspectives regarding the significance of the barriers to project success (see Table 15). The variations within the indices of those elements can arithmetically justify any claims apart from their relative impact rankings. Low Knowledge of the team was considered as top barriers against project success with a mean of 3.56 and RII of 0.712. Knowledge was reported as a barrier as project managers encountered challenges when doing their work during project design, team formation, implementation, and signing off. Unfitness of Monitoring indicators was ranked number three, with a mean of 3.44 and RII of 0.688. Monitoring indicators are the ones that show the progress and direction of the project. Once there is a lack of effective monitoring indicators, the project suffers, corrective action and the ultimate project performance suffers.

Inadequate resources and managers' experience were reported to be the barriers of the project success and were ranked number four, both having a mean of 3.44 and RII of 0.687. In the real project environment, resources are limited (Jyh-Bin, 2007, p. 25). For this reason, project managers without the experience of considering resources requirements are out of touch with project reality. These findings are supported by the findings in a study by Hartmann and Briskorn (2010) that, it is crucial for a project manager to define required resources within the planning stage for implementation of a project. Project management practitioners have recognized this challenge and consequently, they have put more efforts in developing methods and procedures to clear up the project uncertainty under consideration of resources constraints. The two most recognized procedures are optimization by mathematical programming techniques and heuristic strategies based on the project evaluation and review technique (PERT)/ critical path method (CPM).

Ranked number five is a large size of the project with a mean of 3.31 and RII of 0.661. The duration of many large size projects, those with more than 100 activities, was found to exceed their deadlines. This factor is followed by inappropriate Strategies, which were found to have a mean of 3.28 and RII of 0.656.

The performance of the managers on their tasks is heavily influenced by the project activity uniqueness, and the strategies applied. If a project has many standard activities, it is easier for the project manager to plan, schedule as well as monitor the projects. Otherwise, some of the objects are affected by the density, which is the allocation of the project resources. Ultimately, the project performance criteria would not, in many cases, meet the urgency of a project as from the surveyed project managers, 45.3% of projects were completed over stipulated time.

Deficiency of risk plan was found to have a mean of 3.26 and RII of 0.651. Luu et. al., (2009) reported that, if the risk analysis not done or not taken into consideration, one can largely expect that risks would act as barriers against overall success. Similarly, Rockart (2000) reports that, in the absence of a risk plan, the features of projects which have been identified as necessary to be achieved would be hampered and deviate from excellent results.

Poor problem identification was also found to be a barrier for project success with a mean of 3.03 and RII of 0.605. Most often, “problem” is not clearly defined, or may not be the actual problem. As reported by Shou and Yeo (2016) the lack of appropriate understanding of the problem can result in ‘aggressive’ plans with high levels of vulnerability, which might influences project success negatively. On the other hand, lack of stakeholder involvement was ranked number eight with a mean of 2.89 and RII of 0.577. Usually, without stakeholders’ involvement, people in the project may no longer feel committed to the tasks and may additionally even be against it and subsequently affect the typical project success.

The insufficient objective analysis was ranked number nine, with a mean of 2.88 and RII of 0.576 both. The objectives analysis influencing project success since each level of the objectives analysis represents a means of achievement of the next level. Refer to the condition where the goals of the project have been understood, and which otherwise can result in the vague implementation of the project. Finally, another important reported barrier was the economic analysis with a mean of 2.87 and RII of 0.574. These results are summarised in Table 15.

**Table 15: Ranking perception of barriers for project success (n =117)**

Item	Response*				Very Significant	Relative Impact Index Factor (RII)	Ranking (Mean) **
	Very Insignificant	Insignificant	Neither	Significant			
Huge number of Projects	25(21.4)	31(26.5)	17(14.5)	12(17.9)	23(19.7)	0.576	10(2.88)
Deficiency of Risk analysis	10(8.5)	29(24.8)	27(23.1)	23(19.7)	28(23.9)	0.651	7(3.26)
Inadequate Resources	15(12.8)	20(17.1)	20(17.1)	23(19.7)	39(33.3)	0.687	4(3.44)
Inappropriate Strategies	14(12.0)	24(20.5)	20(17.1)	33(28.2)	26(22.2)	0.656	6(3.28)
Low Knowledge of the team	15( 12.8)	16(13.7 )	17(14.5)	26(22.2)	43(36.8)	0.712	2(3.56)
Lack Stakeholder involvement	29(24.8)	19(16.2)	24(20.5)	26(22.2)	19(16.2)	0.577	9(2.89)
Large Size of the Project	19(16.2)	18(15.4)	21(17.9)	26(22.2)	33(28.2)	0.661	5(3.31)
Managers' Experience	10(8.5)	22(18.8)	21(17.9)	35(29.9)	29(24.8)	0.687	4(3.44)
Meagre Objective Analysis	21(17.9)	30(25.6)	26(22.2)	22(18.8)	18(15.4)	0.576	10(2.88)
Poor Problem identification	27(23.1)	15(12.8)	25(21.4)	28(23.9)	22(18.8)	0.605	8(3.03)
Unfitness of Monitoring indicators	18(15.4)	17(14.5)	16(13.7)	27(23.1)	39(33.3)	0.688	3(3.44)
Economic analysis	30(25.6)	26(22.2)	12(10.3)	27(23.1)	22(18.8)	0.574	11(2.87)
Financial analysis	14(12.0)	19(16.2)	17(14.5)	22(18.8)	45(38.5)	0.711	2(3.56)

\*Figures in brackets are percentages while those out of brackets are frequencies

\*\*Figures in brackets are meanwhile those out of brackets are ranking

## **CHAPTER FIVE**

### **DISCUSSION OF THE FINDINGS**

#### **5.1. Introduction**

This chapter presents the discussion of findings focusing on the attributes of project cycle management that are considered to influence project success leaving possibilities for other investigation.

#### **5.2. The Level of Adoption of Project Cycle Management**

Based on the findings, the project cycle management methodology appeared to be adopted by 72.7 percent on average of the surveyed project managers. This moderate adoption is possibly due to the perception that this is the western method, which is not suitable and cannot be applied for traditional projects (Khang and Moe, 2008). In addition, there was also insufficient knowledge to operationalize the methodology tools and inappropriate professionals of the project managers. The gap between the two can be filled by adding knowledge required for the application of this methodology from where the current level of the practice or adoption to the higher level of adoption. As revealed, only 23.1 percent of the managers had received project management training and others had certificates but have not acquired personal professional development on their project management responsibilities. Such managers were not likely to carry out their duties effectively regarding the projects that they manage.

In a construction project, as observed by Ika et. al. (2012), engineering professionals are accidentally occupying managerial positions in the projects. They are obligated for project management tasks and duties with no formal education background on projects. In the course of this research, it was found that local authorities are the implementing agency for public sector projects. Heads of departments who are project managers are selected based on longevity in service. As previously indicated, 76.1 percent of the project managers do not have any acknowledged of the project management profession and they could neither update their skills nor give way for the more capable of taking over the responsibilities. This was also found in a similar study by Amponsah (2010) who asserted the name given to such people in Ghana local dialect is “*me ba ha akye*” (mba’s) meaning, “I have been here for long”.

The fundamental distinction is that project cycle management offers the management of the projects (which can be temporary and unique) while general management deals with the control of operations (which might be ongoing and repetitive). Previous studies (e.g. Turner and Müller, 2010) indicated that the title “project manager” should be limited to individuals with proper training in addition to the expert certificate. One project manager, in the notes of the questionnaire, noted: “Monitoring indicators are useful because they provide guidelines with warning signs and data of measuring the impact.” In addition, another one noted, “Logical Framework allows sequential project evaluation in a transparent way from clearly problem identification to the final results.”

As project cycle management methodology in general spans a variety of levels of analysis. This suggests that project cycle management needs to be adopted by users in different contexts for the reason that these tools can also be adopted independently. These results are in agreement with the results in a study by Belgian resource company in 2000 (INTRAC: 2014b), and NORAD which adopted with a small amendment the Logical Framework of a four by three matrix by omitting the 'Means of Verification' column. Japan and the European Commission, one at a time developed their versions of Project Cycle Management (PCM) in the Nineteen Nineties (Saeko., 2000).

The study, therefore, concludes that tools of project cycle management methodology were widely adopted by 72.7 percent of the project managers surveyed. The level of adoption clearly points to current devotion. An important factor here is that the researcher suggests project cycle management methodology to be at the core of the project management. It might be crucial to raise stakeholders' consciousness of the project cycle management and to standardize such a method so that an organization can use them in all of their projects. At the same time, flexibility ought to be allowed because these tools may be in addition stepped forward and project managers must be free to adopt them in accordance with their wishes and specificities of every project. As Howes (2018) observes, the project reality is more complex, therefore, a practical activity cannot be placed into a single ideological paradigm.

### **5.3. Influence of Project Cycle Management on Project Success**

The results have proven that the use of tools for project cycle management has a robust association with project success. The strength of association between project cycle management methodology tools and project success had indicated to have varying levels of the association from little to moderate. Further analysis, indicated that use of these tools is significant at ( $p < 0.05$ ) and ( $p < .1$ ) and undoubtedly influencing project success. It also indicated that, the vast majority of PCM tools associated with a higher odds ratio on achieving project success relatively to demographic and project factors as indicated by the odds ratio column in Table 12.

The methodology of the project cycle management based more on a participatory manner of planning throughout an integrated project cycle. By engaging the participation of key stakeholders, projects may be analysed from different points of view, every one offering useful information: it is budget, monetary viability, impact on economic policy targets, and many others. These specific points of view highlight the sort of incentives, risks, and constraints facing project participants in terms of finances and economic system of undertaking project at an organization level.

The study found that there is a lack of how to appraise the problem to fully understand all of its aspects. Few managers (49.6%) applied problem analysis tool. Problem analysis tool uses a problem tree to indicate what are the real problems by means of determining the cause and effect relationship. This helps the project manager indicating which problems are the ones that a project must focus and strive to address. Further, the tree allows in complex problems to be visualized/seen in a diagrammatical layout that is understood by all.

The findings additionally revealed that objective analysis is a significant determinant of project success ( $p < .05$ ). The objective analysis uses an objective tree that helps the project manager to figure out the imperative options or solutions and the links between these solutions. This also influencing project success considering that each stage of the objective tree represents a means to success at the subsequent level.

The strategy analysis approves for consideration problems and objectives the project will focus upon and address. The strategy analysis provides the exclusive ways that a project can tackle and address a problem. The tool emphasizes the need for priorities, and arises from the precept that one project cannot solve all problems.

In successful projects, risk analysis was done at the beginning of the project and risks that arose were handled successfully. Active risk analysis reduces risks but also help in avoiding risks. Further, analysis helps in identifying corrective measures on how a project can get on track again. As per Ding et. Al (2008) risks arises because project stakeholders do not take their responsibilities seriously.

On the other hand, adequate monitoring, control and indicators are important for the quality of the project. Effective monitoring and control help in reducing ambiguity, prevent incidents and provide regular feedback. Indicators measuring the progress of the project, “where the project is” against “where it should be” based on project performance baseline (cost, time, quality).

The findings are in line with the findings in a study by Olson (2008) and Perminova et al., (2007) who revealed that a strand of several tools, which are included in the technique, creates green surroundings for project success. This goes together with the use of the Logical Framework method that supports a number of key checks/analyses, encompass stakeholders, problems, objectives, and strategies. The final cause of these analyses is to decide, as accurately as possible, the expenses, efficiency of useful resource use (specifically the financial and economic return on investments), and the relevance of initiatives to modern policies and structural reforms, and the involvement of key stakeholders to create local ownership.

Moreover, PIM (2017) indicated that the methodology includes key best evaluation standards into each stage of the project cycle, which additionally implicate the production of the exact-great key report(s) in each phase, to guide properly informed decision-making and gives more importance to the concept of project quality. Typically, the methodology of project cycle management treats a number of its incorporated tools as a “shadow” to steer the success of the projects.

Scholars (e.g. Dlungwana and Rwelamila, 2014 and others) have also strongly emphasized that project cycle management technique enhances the fulfilment of the projects with the aid of staying supportive of the coverage targets of the recipient agency. Project cycle management technique consists of the qualifications and availability of personnel, monetary resources for self-control, and other organizational capacities inside the counterpart organization for technology transfer. It also allows projects to stay relevant to the strategies that were agreed upon, on the part of the wishes of stakeholders and/or customers. In addition, it engages the roles of options analysis particularly for projects justification and safety from wasting valuable resources by determining activities that must be carried out and are worthwhile for execution, as well as the sustainability of project benefits.

However, the alternative side of the sword, among the surveyed project managers' failed to maintain their projects within the iron triangle in spite of the adoption of the methodology. Frequently, managers are not compelled to follow a particular project management practice or standard. They will be required to spotlight references and to provide a Logical Framework along with the social cost-benefit analysis whilst submitting assignment proposals and, in a few cases, when reporting their intermediate and final results for a controlling motive. However, also in these cases, the tools used for a short time to comply with the requests and being abandoned later.

In trend, project cycle management must now be converted from a blueprint approach that is virtually used for a controlling motive, to a more participatory and getting to know system technique. In order to transform from the top-down rational (objective) problem-solving approach with an emphasis on quantitative indicators to a more bottom-up, subjective, value explicit approach the use of a few qualitative measurements. As Howes (2018) observes, Project cycle management methodology falls within the modernization paradigm on the account that it makes no express provision for the local ownership. Beneficiary participation required the most important changes in strategies: symbols rather than phrases and graphs, critical incident evaluation for unforeseen occurrences, and culturally familiar idioms, which include storytelling or plays.

#### **5.4. Barriers to Project Success**

The study has explored a set of variables recognized as barriers to a successful project. On the premise of RII rankings, the results uncovered that the identified limitations were all taken into consideration as significant. This may well suggest that each one of the variables need to be taken into account equally.

Lack of sufficiently knowledgeable project team has been identified as one of the most crucial problems influencing project overall performance. The finding is supported by Wateridge (2012) and Atkinson (2015) whose work revealed that project improves with the improvement of continually know-how acquisition; integration of new strategies, sharing, and practice within the project, that lessen cost; enhance high quality, well-timed delivery, and stakeholder delight. However, confronting deficit of skills and knowledge apparent in project management, this study envisions the embedding of training and education in the course of tertiary institutions. An investment in on job training for public officers in project management is an investment that will fortify economy and societies. Thus attention should be on education and training that focus public officials, non-public enterprise and college students in tertiary institutions without which Tanzania will flounder in its attempt to become a middle-income country. Additionally, the willingness of accepting new methodology is a crucial part of the change in project management. White and Fortune (2014) conclude that project managers ought to bear in mind that the successful adoption of project management methodologies (i.e. PCM) can assist in resolving the potential obstacles and shortcomings of present other conventional methods.

According to surveyed project managers mostly for unsuccessful projects confessed that during the terminal evaluation they discovered poorly stated and application of monitoring indicators together with the deficit of appropriate indicators made the project team be more of “reactive” than “proactive” during the project implementation. The risk, which associated with conditions such as this, is emotive; the team finally ends up monitoring the projects haphazardly. The project budget is affected, and so is the management of the project itself.

Resources constraint was found to be the usual problem. For that reason, project managers ought to have adequate ability to criticise project plans in terms of the criticality of resources and dependencies of activities. In other words, they must ensure that the right resources are directed to the right activities to help limit the consequences of useful resources. On the other hand, there are many public officers occupying managerial positions without the appropriate capabilities. The challenge in our culture is that years of experience are deemed as a necessary proxy for project success (El-Sabaa, 2001). Habitually, old officers seldom want to learn. They get used to the vintage methods of doing matters, which often affect projects.

Many project manager (85.5%) of successful projects were found to have embraced the analysis of the stakeholders. Similarly to other scholars (Halpin and Riggs 2013; Chitkara 2002; Weaver 2016) argue that sufficient involvement of stakeholders helps to improve decision making. The other most essential matters are the topicality of the problems, their accurate designation relative to the size of the undertaking. Study shows lack of deep problem analysis in sampled managers. Few managers elaborated their project proposals based on local municipal policy planning and development programs contrary to tree analysis of the problem.

The project objectives describe what project will accomplish and/or the business value the project will achieve. It was found in the selected sample that some project did not use appropriate objectives analysis methods. From the sampled managers 58.2 percent of failed projects define their project objectives in a general way by avoiding the use of the objective tree. The project strategies are the course of actions providing a general direction of how the organizational efforts can be used to perform project goals. It is possible that all aspects which are required for the project to be accomplished may no longer be sufficiently recognized. The insufficient definition is often a result of a flawed strategic analysis which was found no longer carried out properly. Thus, a number of works left unaccomplished which count for project failure. Finally, 56.4percent of the failed projects, Managers did not perform, risk analysis According to Luu et al. (2009) failure to identify and evaluate the risks are likely to be detrimental to the performance of the project in the long run. Thus, the failed projects associated with the lack of risk analysis.

## **CHAPTER SIX**

### **SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS**

#### **6.1. Summary**

This study investigated the role of methodology of project cycle management on project success through surveying 117 project managers. In spite of the economic and social importance of this subject matter, a few contributions within the literature have formally addressed the matter. In this study, numerous results emerged from the analyses. First, the adoption of the method of project cycle management was at 72.7 percent only, with a little to moderate strength of association. This study recommends for significant training and standardization, and further improvement of this technique. Considering the constraints highlighted in the literature (e.g. Couillard et al., 2018), there is a need for upgrading this methodology, this could be an avenue to be pursued further by similar studies.

Normally, project cycle management methodology has a number of tools for performing different analyses which include stakeholders' analysis, problem analysis, objective analysis, strategy analysis, risk analysis, monitoring indicators, financial analysis tool, economic analysis tool, etc. Further analysis has shown that, all of these to have a positive impact on project success. In addition, some of these tools were observed to be statistically significant and associated with increasing odds in achieving project success which definitely influencing the project success. The results also indicated that these tools could be applied in distinct contexts. This implies that education in enhancing the requisite knowledge and formalization of the methodology within the organization is very important. Therefore, it suffices to say that the methodology of project cycle management influences perceived project success.

This study also identified a number of limitations to project success. Based on RII scores, the results revealed that the identified limitations were all significant. The variations inside the indices in these limitations are arithmetical, in many cases, were small to legitimize any claims other than their relative impact rankings.

## **6.2. Conclusion**

The overall results suggest that the adoption and application of project management methodologies particularly project cycle management must be taken as a critical component of enhancing project success. Moreover, the overall performance of projects may be improved if project managers take into consideration the influence of the various factors. The adoption of the approach will also help to overcome the shortcomings of the present practices in project implementation. In conclusion, the study shows the necessity for greater inclusion of project cycle management tools, in project planning and management.

## **6.3. Recommendation**

The complex nature and the uniqueness of many projects require project managers to adopt project management techniques. This might assist them to overcome operational blunders and carry out the remedial practices. In other words, project managers must realize that effective use of project cycle management methodology can help in settling the obstructions and deficiencies which are inherent in current conventional procedures (White and Fortune, 2014). It is also imperative that project managers grasp the methodology and how its application can contribute to the success of the projects.

## **6.4. Policies Implication**

The study shows that project managers tend to have the general knowledge of management, while successful management of project demands additional knowledge of project management methods. The important concern to policymakers is the need to advance the use of project management methodologies that cannot be handled through general knowledge of the management. In this sense, project managers have to be trained to become professional. Careful attention also calls for reform of the manner and attitude of how project managers are selected thus, instead of basing on longevity in service there is a need for more specific project management focus on necessarily skills and knowledge.

### **6.5. Limitation of the study**

Findings to be reflective to an entire nation, the study should have sampled managers from organizations across the country. However, geographical limitations did not permit this and hence, the sampling of 117 project managers was based on organizations in six regions in Tanzania. In this sense, the findings of this study are indicative rather than conclusive.

### **6.6. Area of Further Research**

It is difficult to generalize the findings presented in this study unless further research in project management methods particularly project cycle management is performed in other regions. Areas studied and reported in this study not sufficient to support the claim to generalizability therefore, further research should be conducted to gain deeper insights to improve the generalizability of the study.

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**APPENDICES**  
**APPENDIX I: SURVEY INSTRUMENT**

SECTION 1: DEMOGRAPHICS AND PROJECT PROFILES INFORMATION

**a.** What is your gender? (*Please circle the number*)

1. Female
2. Male

**b.** What is your highest level of academic achievement? (*Please circle the number*)

- |                                 |                                 |               |
|---------------------------------|---------------------------------|---------------|
| 1. Junior Sec. Sch. ('O' Level) | 2. Senior Sec. Sch. ('A' Level) |               |
| 3. Certificate                  | 4. Diploma                      | 5. Bachelors  |
| 6. Masters                      | 7. Doctorate                    | Area of study |
| .....                           |                                 |               |

**c.** How many years of professional experience do you have? (*Please circle the number*)

1. 1 to 3 years
2. 4 to 10
3. More than 10 years

**d.** What was the average number of projects that you dealt with? (*Please circle the number*)

1. Between 1-5 Projects
2. 6-10 Projects
3. Above 10 Projects

**e.** What was the value (in Tanzania Shillings) of the project you have been involved? (*Please circle the number*)

1. Less than 500Million
2. 500Million - <1Billion
3. 1Billion – <20Billion
4. 20Billion +

**f.** What was the duration of the Project ( (*Please circle the number*)

1. Less than 1 year
2. 1-5 years
3. Above 6 years

## SECTION 2: PROJECT MANAGEMENT CRITICAL SUCCESS FACTORS

- a.** Does organizational set-up integrate Project Cycle Management approach with day to day business of an organization? *(Please circle the number)*
- 0. No
  - 1. Yes
- b.** Were all relevant stakeholders identified and involved in implementation?
- 0. No
  - 1. Yes
- c.** Were stakeholders (i.e. project team, beneficiaries', etc.) clearly understood about the mission and general direction? *(Please circle the number)*
- 0. No
  - 1. Yes
- d.** Were Problems properly identified, their causes, and their consequences through analysis of the problem tree? *(Please circle the number)*
- 0. No
  - 1. Yes
- e.** Was the project log frame used to describe with the project situation (objective) the beneficiary will experience at the end of a project? *(Please circle the number)*
- 0. No
  - 1. Yes
- f.** Was the project log frame used to identify the most appropriate strategies to reach the foreseen objectives? *(Please circle the number)*
- 0. No
  - 1. Yes
- g.** Were indicators for monitoring and control applied to ensure that actions and events conform to established plans? *(Please circle the number)*
- 0. No
  - 1. Yes

**h.** All constraints and risks identified in the risk plan in advance of the execution of the Project? (*Please circle the number*)

0. No

1. Yes

**i.** Were resources adequately available for project implementation? (*I.e. adequate funds, competent personnel's, availability of the required technology*)

0. No

1. Yes

**j.** Were financial tools (NPV, IRR, BCR, Payback period, etc.) used to measure project worthiness in advance of the execution of the Project? (*Please circle the number*)

0. No

1. Yes

**k.** Was the impact of the project on society (the economy analysis) as a whole examined? (*circle the number*)

0. No

1. Yes

### SECTION 3: BARRIERS FOR PROJECT SUCCESS

How does the intensity of these factors appear in your project as the barrier?

<b>Tools</b>	<b><i>Very Insignificant</i></b>	<b><i>Insignificant</i></b>	<b><i>Neither</i></b>	<b><i>Significant</i></b>	<b><i>Very Significant</i></b>
Huge number of Projects	( )	( )	( )	( )	( )
Deficiency of Risk plan	( )	( )	( )	( )	( )
Inadequate Resources	( )	( )	( )	( )	( )
Inappropriate Strategies	( )	( )	( )	( )	( )
Low Knowledge of the team	( )	( )	( )	( )	( )
Lack Stakeholder involvement	( )	( )	( )	( )	( )
Large Size of the Project	( )	( )	( )	( )	( )
Managers' Experience	( )	( )	( )	( )	( )
Meager Objective Analysis	( )	( )	( )	( )	( )
Poor Problem identification	( )	( )	( )	( )	( )
Financial Analysis	( )	( )	( )	( )	( )
Unfitness of Monitoring indicators	( )	( )	( )	( )	( )

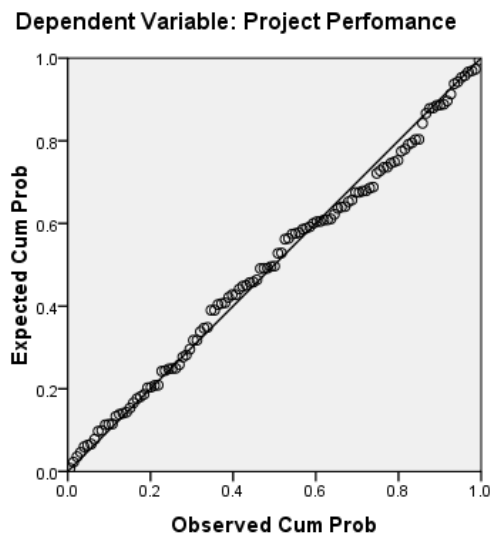
Economic Analysis	( )	( )	( )	( )	( )
-------------------	-----	-----	-----	-----	-----

**SECTION 4: PROJECT PERFORMANCES**

- a. What was the completion Time of the project goals? (*please circle the number*)
  1. Completed “Earlier” than stipulated Time
  2. Completed in the stipulated Time “On-time”
  3. Completed beyond the stipulated time “Overtime”
  
- b. How well have the evaluated projects performed in terms of Quality? (Relevance, effectiveness, efficiency, impact, and sustainability) (*please circle the number*)
  1. “Very Poor”
  2. “Poor”
  3. “Fair”
  4. “Good”
  5. “Very Good”
  
- c. How do you rate the project cost on project accomplishment? (*circle the number*)
  1. “Under Budget”,
  2. “Within Budget”,
  3. “Over Budget”,

## APPENDIX II: ANALYSIS RESULTS

Normal P-P Plot of Regression Standardized Residual



Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.292	.306		.954	.342		
	Sex	-.048	.107	-.030	-.447	.656	.868	1.152
	Education Level	.013	.059	.028	.223	.824	.251	3.981
	Years of Experience	.213	.060	.289	3.514	.001	.582	1.719
	Number of Projects	-.166	.076	-.206	-2.189	.031	.446	2.242
	The value of the project(TSH)	-.199	.051	-.425	-3.863	.000	.326	3.071
	Duration of the Project	-.101	.073	-.099	-1.382	.170	.759	1.317
	Stakeholder Analysis	.120	.085	.109	1.413	.161	.655	1.526
	Problem Analysis	-.031	.075	-.031	-.414	.680	.703	1.423
	Objective Analysis	.444	.106	.433	4.203	.000	.371	2.698
	Strategies Analysis	-.019	.084	-.019	-.230	.819	.570	1.754
	Monitoring Indicators	.017	.136	.012	.127	.899	.452	2.213
	Risks Analysis	.203	.089	.196	2.267	.026	.528	1.895
	Resources Availability	-.130	.076	-.130	-1.714	.090	.683	1.464
	Financial Analysis	.205	.123	.190	1.671	.098	.306	3.272

**Coefficients<sup>a</sup>**

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	Financial Analysis	.205	.123	.190	1.671	.098	.306	3.272

a. Dependent Variable: Project Performance

**Omnibus Tests of Model Coefficients**

		Chi-square	df	Sig.
Step 1	Step	118.957	22	.000
	Block	118.957	22	.000
	Model	118.957	22	.000

**Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	42.820 <sup>a</sup>	.638	.852

a. Estimation terminated at iteration number 10 because parameter estimates changed by less than .001.

**Hosmer and Lemeshow Test**

Step	Chi-square	df	Sig.
1	6.914	8	.546

#### Test Statistics

N	117
Kendall's W <sup>a</sup>	.784
Chi-Square	1.284E3
df	14
Asymp. Sig.	.000

a. Kendall's Coefficient of  
Concordance

#### Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup> S1a(1)	-4.060	2.566	2.503	1	.114	.017
S1b			3.659	4	.454	
S1b(1)	4.508	4.091	1.214	1	.271	90.719
S1b(2)	8.796	5.625	2.446	1	.118	6.608E3
S1b(3)	13.444	7.701	3.048	1	.081	6.900E5
S1b(4)	11.524	7.243	2.531	1	.112	1.011E5
S1c			5.217	2	.074	
S1c(1)	3.755	2.263	2.753	1	.097	.023
S1c(2)	8.759	4.523	3.751	1	.053	6.367E3
S1d			4.348	2	.114	
S1d(1)	-6.784	3.285	4.266	1	.039	.001
S1d(2)	-5.738	3.070	3.493	1	.062	.003
S1e			5.793	3	.122	
S1e(1)	-8.270	4.286	3.723	1	.054	.000
S1e(2)	-13.437	6.837	3.863	1	.049	.000
S1e(3)	-25.544	10.827	5.567	1	.018	.000
S1f			3.290	2	.193	

S1f(1)	-6.166	3.402	3.286	1	.070	.002
S1f(2)	-.899	32.972	.001	1	.978	.407
S2b(1)	1.562	1.185	1.738	1	.187	4.769
S2d(1)	.903	1.362	.440	1	.507	2.467
S2e(1)	6.940	2.911	5.683	1	.017	1.033E3
S2f(1)	1.453	1.789	.660	1	.417	.234
S2g(1)	3.092	2.352	1.728	1	.189	22.019
S2h(1)	6.273	2.892	4.703	1	.030	529.984
S2i(1)	.709	1.660	.183	1	.669	2.032
S2j(1)	7.923	3.637	4.744	1	.029	2.759E3
Constant	-4.424	3.734	1.404	1	.236	.012

a. Variable(s) entered on step 1: S1a, S1b, S1c, S1d, S1e, S1f, S2b, S2d, S2e, S2f, S2g, S2h, S2i, S2j.

### APPENDIX III: ORIGINALITY REPORT