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ABSTRACT

In developing countries, national and regional governments, local and international NGOs and other concerned organizations invest large sums of money every year for the implementation of public projects However, in Kenya, public projects are characterized with low or poor completion and do not meet their objectives if they fail after a short time. In order to make the investment in public projects more effective, failure rates of these systems should be reduced. It has been observed that failure by communities and other stakeholders to take up ownership of public projects have plunged these projects into immense financial huddles threatening their completion and consequently to seize operations. Community issues such as perceived lack of ownership, lack of education on public projects, poor management systems and limited demand are related to low completion rates of public projects. Completion of public projects is the major problem as they are not successful and fall out of use at an alarming rate. The study examined the influence of project life cycle management on completion of public projects in Kenya. The study adopted a descriptive research approach which involved target population of 131 projects and a census survey design was used to collect primary data. The data was analyzed by quantitative methods with the help of Statistical Package for Social Sciences (SPSS) version 22. It is notable that there exists a strong positive relationship between the independent variables and dependent variable as shown by R value (0.898). Additionally, project planning, execution and closure phases in project life cycle management are positively correlated. The study recommends that during the project initiation phase there is need to carry out problem identification, funding and costing to increase the completion of public projects. In addition, there study recommends that during the project planning phase, there is need to have resource plan, stakeholder plan. The study established that time, cost and quality management influence completion of public projects. Finally, the study established to a great extent that the communication reporting through documentation of project activities, release of projects resources and decision making on planning, promotion and training of the project beneficiaries. A comparative study should be carried out to compare whether the findings also apply for projects in other organizations in order to validate whether the findings can be generalized in Kenya. Additionally, the study did not tie the drivers as the only determinants of project life cycle management. Thus, there is need to undertake further research to examine other factors which could influence completion of public projects in Kenya.

Key Words: *Project Initiation, Project Planning, Project Execution, Project Closure, Public Projects*

Background of the Study

This chapter presents an introduction to the study, background of the study, statement of the problem and objectives of the study. The issue of completion relating to public development projects started to become important to government, donors and development theorists from the 1980s (Scoones, 2007).The importance of the notion of completion can be seen from the way completion is used as one of five yardsticks in evaluating development interventions (Brown, 2008). Public projects, especially those financed by international development aid and governments play a vital role in the socio-economic development of developing countries (Khang& Moe, 2008). Khang and Moe (2008) noted that the success of the financed projects determines the socio-economic progress in the recipient countries.

Public projects have clearly become a central activity in most developed and developing countries and governments are rapidly increasing their investment resources in such projects. Moreover many studies indicate that most of the public projects do not meet time and budget goals, or fail to satisfy customer and company expectation and they are not sustainable (Olembo, 2014). Therefore, project life cycle management of public projects plays an important role and practice for such projects. Project life cycle management practice is seriously considered in planning, organizing and implementation of public projects because such projects are dynamic (Nyamasege, 2015).

The IFAD (2007) defines completion of public projects as ensuring that the institutions or stakeholders supported through projects and the benefits realized are maintained and continue after the end of the project. Many public projects are often offered on a temporary basis and have finite timeframes. Yet, the impacts of these projects are intended to be lasting. As a result, a challenge for public project is to achieve long-term completion. Historically, many public projects have failed to achieve their intended goals (Bishop, 2001). Multiple factors contribute to this phenomenon. One key factor is the manner in which projects are planned and executed. It is critical to the success of a project that various elements of completion be considered throughout each stage of the project process. This is particularly true where outside involvement is discontinued after project closure, as is the case for much public projects.

The primary challenge of public project management is to achieve all the project goals and objectives while honoring the preconceived project constraints (Phillips, 2003). Typical constraints are scope, time, and budget. The secondary challenge is to optimize the allocation and integration of inputs necessary to meet pre-defined objectives. Thus, project manager must understand and adopted good project life cycle management approach. Critical to these informal project life cycle management approaches are an appropriate methodology and an understanding of the project life cycle phases (Labuschagne&Bent, 2005). Therefore, the right methodology chosen in PLC is important. PLC is the concept whereby project is divided into several stages which are planning, analysis, design, implementation and maintenance as basic. It has subsequently been proposed that the theoretical system life cycle phases should be applied to a project (Labuschagne&Bent, 2005).

The way in which public projects are planned and carried out follows a sequence known as the project cycle. The cycle starts with an assessment that may lead to the design, implementation, review and evaluation of an intervention. Interventions are identified in the context of an agreed strategy. The project cycle provides a structure in which stakeholders are consulted and relevant data are gathered so that informed decisions can be made at key stages in the life of the project. There are several approaches that can be taken to managing project activities such as agile, interactive, and incremental and phases

approaches. As a person who lead the project, project manager have a responsibility to choose best method in managing project. Moreover, careful consideration needs to be given to clarify surrounding project objectives, goals, and importantly, the roles and responsibilities of all participants and stakeholders to ensure the public projects are sustainable (Labuschagne&Bent, 2005).

Globally, billions of shillings have been spent in communities to enhance the living situation of the people. However, one of the most critical obstacles is the extent to which the public projects are able to persist despite the exit of sponsors while the beneficiaries reap dividends; appreciate their participation and ownership role in the project. Apparently, it is completion that makes the difference between success and failure of public projects. Various factors such as technical, financial, institutional, economic, and social factors contribute to the failure to sustain the public projects if not considered well in the project life cycle management (Oino, 2015)

Project success has traditionally been measured by the extent to which it meets customer specifications and timely completion within budget. Little attention has been focused on completion of project benefits. The Gartner Group (2000) noted that forty percent of Information Technology projects in America were considered to have failed. The projects considered to have failed were on average suspended after fourteen weeks and at which time approximately $1million had on average been invested.

According to Ababa (2013), development aid to implement public projects to Kenya stood at $1070m in 2015 and has been steadily rising since 2012, supporting several projects all geared towards development. Some of the projects have, however, been successful. However, little evidence is available on the true impact of projects on the lives of the poor in Kenya. One of the most critical obstacles is the extent to which the projects are able to persist despite the exit of sponsors, while the beneficiaries reap dividends, and appreciate their participation and ownership role in the project. Apparently, little evidence indicates that, it is completion that makes the difference between success and failure of public projects (Ingle, 2005).

Statement of the Problem

In developing countries national and regional governments, local and international NGOs and other concerned organizations invest large sums every year for the implementation of public projects (Gebrehiwot, 2006). For example, each year, the World Bank lends between US$15 to US$20 billion for implementation of public projects in more than 100 countries in the world. These projects are conceived and supervised according to a well-documented project cycle (World Bank, 2014). In line with the bank‟s development policy, the Bank helps the respective governments take the lead in preparing and implementing development strategies as per country‟s national priorities. The World Bank has supported Kenya since the financial year 1960/61 with total World Bank commitments to Kenya being about $4.2 billion between 1960 and the year 2013 (World Bank, 2014).However, in Kenya, public projects are characterized with low or poor completion (ADB, 2013).Moreover, projects in Kenya have been poorly rated on completion by the Operations Evaluation Department (OED) of the World Bank as compared to other East African countries. Kenya attained an overall rating of 49 percent on completion of public projects funded during the period 2008 to 2011 as compared to Uganda‟s and Tanzania‟s rating of 59.5 percent and 70.1 percent respectively. Beyond East Africa, Ghana was had a rating of 64.7 percent in the same period (World Bank, 2013). This shows that among the three East African countries rated by OED, Kenya was rated the poorest in pubic project completion.

In order to make the investment in public projects more effective, failure rates of these systems

should be reduced. Williams, (2013) observes that failure rate can only be tamed through effective project life cycle management of these projects by communities and other stakeholders. In fact, Harvey and Reed (2007) report showed that poor management system and limited demand are related to low completion rates of public projects. According to Admassu*et.al*, (2002) an important factor for the completion of projects is the project life cycle management is intrinsic to the project's success. The level of project life cycle management determines whether a project becomes established, how quickly and successfully it consolidates, and how it responds and adapts to meet changing needs (USAID, 2009). It is therefore important that project life cycle management, starts at the planning stage, when decisions are being made about what type of project is required. However, this has not been the case in most public projects in Kenya where only the elite in the community are involved in planning and implementation and running of such projects.

Objectives of the study

The purpose of the study was to establish the influence of project life cycle management on completion of public projects in Kenya. The specific objectives of the study were as follows;

- To find out how project initiation phase influences completion of public projects in Kenya.
- To establish how project planning phase influences completion of public projects in Kenya.
- To determine how project execution phase affects completion of public projects in Kenya.
- To establish how project closure influences completion of public projects in Kenya

LITERATURE REVIEW

This chapter reviews literature derived from the research works of other scholars.

Theoretical Review

This section reviews theories related to the study. These theories include project scheduling theory, theory of constraints, stakeholder theory, and program evaluation theory.

Project Scheduling Theory

Project scheduling involves the scheduling of project activities subject to precedence and/or resource constraints (Herroelen, 2005). Goldratt (1997) argues that project scheduling procedures do not matter because "in each case the impact on the lead time of the projects is very small". Herroelen and Leus (2005) identify and illuminate popular misconceptions about project scheduling in a resource-constrained environment. They argue that the above type of reasoning invites the reader to become trapped in the crucial misconception that looking for the best procedure for resolving resource conflicts does not pay off in practice and has a negligible impact on planned project duration. Public projects may face schedule delays. Callahan *et al.* (2006) define delay in construction claims as “the time during which some part of the construction project has been extended or not executed owing to an unexpected event”. This may result in rescheduling the project which may lead to delays on the project completion date.

In relation to this study, project planning activities with regard to completion of public projects in Kenya has proven to be a difficult accomplishment regardless of organization type or sector implementing these projects (Lewis, 2005).Thus the study set out to explore whether the project planning phase was done according to the set targets for proper and completion of public projects.

Theory of Constraints

Theory of Constraints (TOC) theory serves to show the means of managing a factory production process with an aim of maximizing throughput rate. Maximizing throughput rate would in turn maximize profit, cash flow and return on investment. It help organizations decide what to change, identify a desirable new condition and how to trigger a change in the multi-project environment, theory of constraints is applied as critical chain methodology using the same principle of a capacity constrained resource (Goldratt& Cox, 2002). According to (Sirota, 2006) an organization facing financial hardships, poor performance and chronic conflicts require management. The problem of constrained resource scheduling of multiple projects could be reduced to the problem of scheduling activities using the scarce resources in the case of a single project (Meredith 2006).

(UNEP, 2005) notes that the theory of constraints serves to answer the question of "what to change" by using cause –and- effect modeling. It is a useful tool in project management because of its ability to look at a system specifically and postulates as to how strong it could be. The theory of constraints looks instead of identifying inefficiencies and ineffectiveness, postulating their causes and creating a strategy as a result. The theory of constraints involves what to change, what to change to and how to cause the change. The theory is best applied in project planning (resource scheduling) problems where the project managers are working in various sectors such as construction, manufacturing, software development, marketing, communications and the maintenance industry. Meredith (2006) states that the theory of constraints can be used to attain strong optimism when the capacity is set to equal demand, multitasking to reduce idle time, game playing through simulation by the senior management in completing set targets.

In relation to this study, constraints of financial cost, control and budget should be maintained to ensure the project execution is done on time to avoid cost overruns and rescheduling of the project activities. Proper finance control should be established to ensure maximum utilization of the funds for better Completion of public projectswithin the budget, time and specifications, (Atrill 2006).

Stakeholder Theory

Freeman (2004), identifies and models the groups which are stakeholders of a corporation, and both describes and recommends methods by which management can give due regard to the interests of those groups. Agle*et al* (2008) argue that the theory has multiple distinct aspects that are mutually supportive: descriptive, instrumental, and normative. The descriptive approach is used in research to describe and explain the characteristics and behaviors of firms, including how companies are managed, how the board of directors considers corporate constituencies, the way that managers think about managing, and the nature of the firm itself significantly across firms in the implementation of projects.

The central idea is that an organization's success is dependent on how well it manages the relationships with key groups such as customers, employees, suppliers, communities, financiers, and others that can affect the realization of its purpose (Freeman & Phillips, 2002).Patton (2008) emphases that the stakeholder models entails all people with legitimate interest to participate in an enterprise do so to obtain benefits. Michell et al (2008) state that the exercise of stakeholder power is triggered by conditions that are manifest in the other two attributes of the relationship i.e. legitimacy and urgency. Power gains importance when it is legitimate and exercised through a sense of urgency. Highly important and powerful stakeholders are located where power, legitimacy and urgency intersect (Freeman & Phillips, 2002) The overall purpose of stakeholder theory is to enable the managers to understand stakeholders and strategically manage them (Patton,2008).

The theory emphasizes the significance of the relationship between the stakeholder involvements during project initiation of the public projects and the performance of the projects. The success or failure of the projects is influenced greatly by the participation of various stakeholders which may include the community benefiting from the project and even the project team, (Beach, 2009).

Program Evaluation Theory

Rossi (2004) describes program theory as consisting of the organizational plan which deals with how to garner, configure, and deploy resources, and how to organize program activities so that the intended service system is developed and maintained. The theory is further defined by (Donaldson, 2001) as process through which program components are presumed to affect outcomes and the conditions under which these processes are believed to operate. Program theory guides an evaluation by identifying key program elements and articulating how these elements are expected to relate to each other (Yin, 2004). This will help save program designers and evaluator's time and resources, Donaldson (2001). Theory based evaluations therefore enable the evaluator to tell why and how the programme is working, Weiss, (2004). Monitoring and Evaluation are distinct but complementary. Monitoring tracks and documents resources used throughout the implementation of the project, Passia, (2004) while Evaluation assesses the effectiveness in achieving its goals and in determining the relevance and completion of an ongoing project, McCoy, (2005). According to Passia,(2004) Evaluations are of two types depending on when they take place; formative and summative evaluations. Formative Evaluation is concerned more with efficient use of resources to produce outputs and focuses on strengths, weakness, and challenges of the project and whether the continued project plan will be able to deliver the project objectives or it needs redesigning while Shapiro, (2004) observed that Summative evaluations are carried out at the end of the project and aims at determining how the project progressed, what went right and wrong and capture any lessons learned.

Conceptual Framework

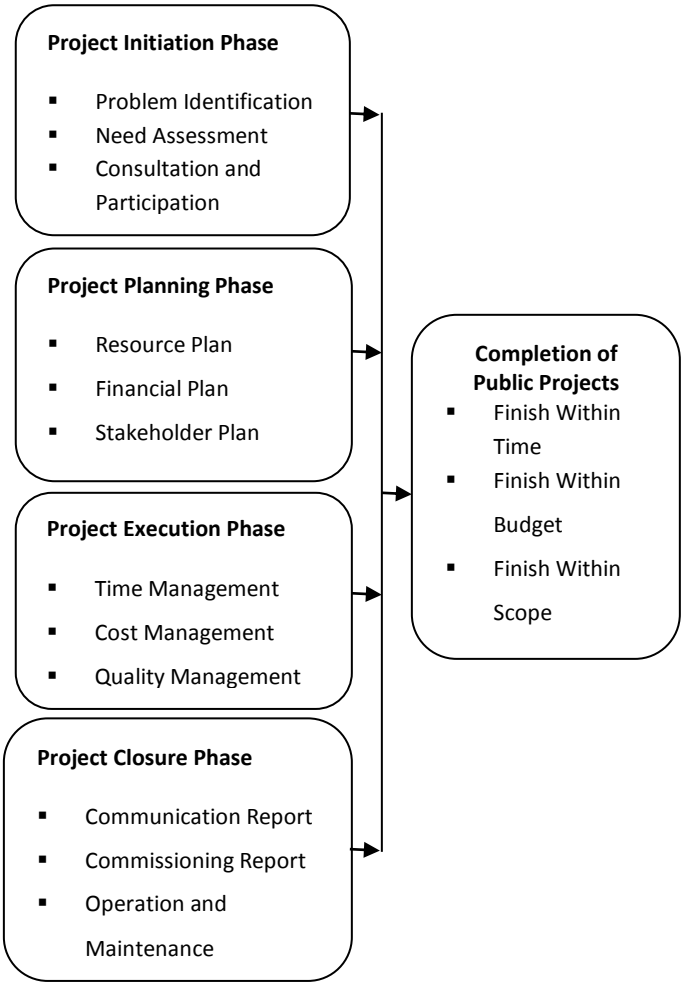

Figure 1: Conceptual Framework Work for the Study

Concept of Public Project

Since time immoral, human civilization have used various types of projects to deliver change or benefit to the society. They include; the projects such as voyages of discovery of Prince Henry the navigator, the great pyramids of Egypt, the ancient roman roads, the grand canal of china, the dykes of Holland and the atomic bombs among others. Since 1950s the development agenda has

been characterized by projects and programs aimed at improving the quality of life of beneficiary communities, be it be physical or qualitative terms. (Chikati, 2009). Projects of antiquity have left their mark on society and contributed top positive changes that benefit society in general and improve living conditions for many people. (Cleland & Ireland, 2007).

A Public project is a planned set of interrelated tasks to be executed over a fixed period and within certain cost and other limitations.(Gray & Larson, 2008). All projects evolve through a similar life cycle sequence during which there should be recognized start and finish points. In addition the project objectives may be defined in a number of ways, e.g. Financial, social and economic, the important point being that the goals are defined and the project is finite. (Field & Keller, 2008). According to the Constituencies Development Fund (Repealed) act 2013, a project means an eligible development as described by the Act. The public projects which are funded by the government are identified and formulated by the community representatives and they should have a lasting and significant social economic impact on the community (GOK, 2013).

Concept of Project Life Cycle Management

Projects follow a predictable pattern or life cycle. A project life cycle consists of several stages during which deliverables are created and end with approval of the deliverables. A project goes through various stages to completion. The project life cycle process may vary along the deliberate and emergent continuum (Mintzberg& Waters, 1985).

The project life cycles goes through below stages. Project definition is done before a project starts. The project manager must make ensure the project goals, objectives; scope, risks, issues, budget, timescale and approach have been defined. This should be communicated to all the stakeholders to get their agreement. Any differences of opinion need to be resolved before work starts. Project initiation follows which is the introduction part of a project management that entails a broad scoped conceptualization and projection of the scope, inputs, outputs, costs and timescales. The initiation stage is imperative in the sense that it gives a direction through which the implementation and planning processes should be pegged on. The project manager should understand the goals of the venture and how they are to be achieved. The manager should identify who the project executors are and how results will be measured. A good initiation process is that which is bound on time and cost. The backbone of a successful project performance is the financial resource. Time presents itself as a control measure of the rate of execution plan, (Sutterfield*, et al*,2006). During the initiation stage, project managers assess the goals, resource inputs and any underlying challenges and produce the projections. The cost should also be estimated and ascertained if the funds offered by the financiers are sufficient enough to carry through the process. Underestimation of the cost of project can result to inadequate funds to run the project.

In the initiation stage, the amount of funds required is quoted. This is based on predictions and may not reflect the actual amount as may be shown on the project budget (Kloppenborg, 2009). The role of the project managers should also be established. There are core aspects that project managers should be accountable of for instance, poor management of resources leading to substandard results. A project manager is the overseer of the venture and the workers are the driving force. The initiation part should also bring out how the project team realizes its goals. Working as a team is encouraged. Group thinking must be emphasized. Job descriptions for every employee must be drawn and handed over to the staff members.

Project planning involves the development of tasks and a schedule to keep a project moving forward. Project planning defines the project activities and end products that will be performed and describes how the activities will be accomplished. The purpose of project panning is to define each task, estimate the time and resources required and provide a framework for management review and control. The project planning activities and goals include: the specific work to be performed and goals that define and bond the project; estimates to be documented for planning, tracking and controlling the project; commitments that are planned, documented and agreed to by affected groups; project alternatives, assumptions and constraints. The planning process involves estimation of the size of the project; the technical scope of the effort; the resources required to complete the project; produce a schedule, identify and assess risks and negotiate commitment. Project implementation is a process of doing tasks and producing results according to preset and approved plan supplemented with additional guidance and expertise. It is what is necessary to compose before performing a project, if there are yet a number of essential recommendations, comments, and additional requirements immediately connected to working process. Implementation is the stage where all the planned activities are put into action. Once the project is running it is important the project manager monitor and control the project. This is achieved by regular reporting of issues, risks, progress and the constant checking of the business case to ensure that expected benefits will be delivered and are still valid. While the project is in the implementation stage, monitoring and controlling is done to ensure it's moving along as planned.

Project Initiation Phase

Although the idea of a project life cycle management varies from one project to the other of course certain life stages determines the detail and number of independent steps in the cycle. However, it is possible to identify a generic set of stages that are present in most project cycles. The initiation phase of the life cycle of public projects play a critical role for planning, execution and determines the end result of the entire project(Mc Conville, 2006).The purpose of the initiation phase is to determine if sufficient demand exists for the project and to begin collecting the necessary background information for project development. Generally, this stage is initiated by a request for intervention, either from within or outside the community. The request is followed by an information gathering period to understand the motivations and expectations behind the demand, in addition to defining an adequate level of improvement (Rebitzer, 2005).

Background information on the social, cultural, and political situation along with environmental and technical constraints to the current system will help assess the extent of need and potential for improvement. Generally, information is collected through a series of site visits, participatory evaluation tools, interviews, observations, and relevant literature reviews during which the opinions of a variety of stakeholders (community leaders, council members, men, women, youth, and development workers) are solicited. At the end of the needs assessment project planners will decide, based on the information gathered, whether or not to proceed with the public projects project (Kloppfer, 2003).

Mwangi, (2005) expressed that development project starts with the identification of a need or the realization that there is a need. Ravallion (2005) perceives that as a process by which the members of a society increase their personal and institutional capacities to mobilize and manage resources to produce sustainable and justify distributed improvements in their quality of life consistently with their own aspirations. They share information and knowledge, and may contribute to the project, so as to enhance the success of the project and hence ultimately their

own interests. The stakeholder involvement encompasses the full spectrum of interaction between stakeholders (governmental, non-governmental, business/private sector, service providers, the public among others) and the decision-making process. The term encompasses both consultation and participation (Hughes, 2008).

Project Planning Phase

Project planning defines the project activities and end products that will be performed and describes how the activities will be accomplished. The purpose of project planning is to define each major task, estimate the time and resources required, and provide a framework for management review and control (Chioma, 2012). This is where the design, action planning, details for the technical design and implementation (action) plan are finalized. Action planning may uncover logistical constraints that affect the feasibility of the selected design.

Project planning is an aspect of project management. Project management, a professional discipline, may be defined as "the overall planning, coordination and control of a project from inception to completion aimed at meeting a Client's requirements in order to produce a functionally and financially viable project that will be completed on time within authorized cost and to the required quality standard" (PEL, 2009). Project planning entails scheduling of the various activities comprising the project activities and how they interrelate. The activities comprise the legal or regulatory requirements, procurement processes that include seeking for development projects and funding institution approvals, activities of the funding institutions leading to credit award and the actual site works. The planning aims at optimizing time, cost and procurement of human capacity for public projects within the legal, regulatory and policy framework existing for each specific project (Paul, 2008).

Financial management plan according to Kombo (2001) is the management of finances of a business or organization in order to achieve financial objectives. Lamberson (2005) observed that FM involves the planning and controlling of current assets and liabilities in a manner that eliminates the risk of inability to meet short-term obligations and avoid excessive investments in those assets. Fund management is a very important component of corporate finance because it directly affects the liquidity, profitability and growth of a business (Atrill, 2006).

The aim of project fund management is to maintain a balance between each of the project fund components, which are inventory, cash receivable and payables, which is a fundamental part of the overall corporate strategy to create value. It is an important source of competitive advantage in project management, Deloof, (2003).This in practice, has become one of the most important issues in organizations with many financial executives struggling to identify the basic project fund drivers and the appropriate level of fund to hold so as to minimize risk, effectively prepare for uncertainty and improve the overall performance of their projects (Lamberson, 2005).

Project Execution Phase

This phase involves implementing the plans created during the project planning phase. While each plan is being executed, a series of management processes are undertaken to monitor and control the deliverables being output by the project (Westland, 2006). Project execution includes both the pre-construction and construction processes. Pre-construction activities involve the procurement of supplies and financing, site preparation, and potentially the manufacture of construction supplies. The construction process itself must remain flexible to adjust for unanticipated circumstances regardless of action plan guidelines. Maintaining communication lines is critical for progress

monitoring and evaluation. Implementation also includes technical training and community education components (Jennifer, 2006).

Execution is the act of carrying out planned activities. The execution of the project plan is simply the act of performing task and activities that result in the production of the project deliverables. Task and activities performed must be completed effectively and efficiently. The project plan serves as a road map and a common frame of reference for all members of the project team (Mc Conville, 2009). The project plan is therefore, the foundation for successful delivery of projects. In a perfect world, plans are executed precisely as written. In reality, no plan is ever performed with such precision. Plans are forward looking documents that cannot anticipate all eventualities. During execution, the project team must continuously monitor its performance in relation to the baseline project plan. By measuring and evaluating the actual execution of project activities against the baseline plan, the project team and stakeholders can gauge the progress of the project (Westland, 2007).

Moving from planning into execution can be a major obstacle in successful project delivery. A project kick off meeting can facilitate the transition from planning activities and tasks to executing them (Jason, 2006). A kick off meeting enhances execution by focusing the team on the project and by defining a starting point for beginning project execution. Additionally, it is a milestone when all resources needed to begin execution are assembled and available to the team.

The kick-off meeting provides an opportunity for communication and establishing the commitment of the team and stakeholders to the success of the project. The focus of the meeting is communications, identification of team members and stakeholders, reviewing the project scope and business objectives, identifying the challenges, and identifying the next step in getting the project underway. At this point, team members and team leads must, at a minimum, have copies of the schedule. The schedule must identify to each person his specific tasks and dates for starting and completing them (Hoard, 2003) .The execution phase is typically the longest phase of the project in terms of duration. It is the phase within which the deliverables are physically constructed and presented to the customer for acceptance. To ensure that the customer's requirements are met, the project manager monitors and controls the activities, resources and expenditure required to build each deliverable (Winsock, 2007).

Project Closure Phase

Project closure involves releasing the final deliverables to the customer, handing over. It also involves project documentation to the business, terminating supplier contracts, releasing project resources and communicating the closure of the project to all stakeholders. The last remaining step is to undertake a post-implementation review to quantify the level of project success and identify any lessons learnt for future projects.Following the acceptance of all project deliverables by the customer, the project will have met its objectives and be ready for closure. Project closure is the last phase in the project life cycle, and must be conducted formally so that the business benefits delivered by the project are fully realized by the customer (Heldmann, 2011).

Project closure, or 'close-out', essentially involves winding up the project. This includes: determining whether all of the project completion criteria have been met; identifying any outstanding project activities, risks or issues; handing over all project deliverables and documentation to the customer; cancelling supplier contracts and releasing project resources to the business; communicating the closure of the project to all stakeholders and interested parties (Knipe *et al,* 2002). A project closure report is documented and submitted to the customer and/or project sponsor for approval. The project manager is responsible

for undertaking each of the activities identified in the project closure report, and the project is closed only when all the activities listed in the project closure report have been completed (Kliem, 2008).

Completion of Public Projects

Some efforts in public projects have lacked a clear focus on learning and results – including understanding what works and why, in what contexts, and how the best impacts can be achieved with resources invested. To remedy this, dozens of evaluations have been carried out and there have been recent efforts to take stock of evidence according to KfW and IEG (2011), including with systematic reviews (Waddington et al, 2010). These low levels of completion of public projects in developing countries have been attributed to causes such as inappropriate system designs, poor implementation and management of water resources, environmental challenges, technical challenges, inappropriate government policies and limited institutional capacity according to Whittington & Kumar (2007). In addition, communities often have considerable difficulty in sustaining operation and maintenance (O&M) of public projects over the useful life (Davis, 2008).In spite of the huge efforts and investments in the public projects, the post construction operation and maintenance (O&M) of public projects is cited as the major challenge. In Kenya, about 25 to 30 per cent of the recently completed public projects will become dysfunctional in the first three years following completion thus affecting their performance that is they will not be sustainable(WB, 2013)..

Empirical Review

According to Zhou et al. (2013), project completion can only be measured by using a composite value. The composite measures of completion have been used in other studies, for example by USAID (1994), Sarriot et al. (2004), Hack et al. (2007), Bell and Morse (2008); and Rowe (2006). In line with the above studies, this study computed a composite value and used it to measure completion. Some of the methods of analysis used by other studies are univariate analysis, (Sarriot et al., 2004), and logit regression model (Purna and Anushree, 2010; Rowe, 2006). Mubila et al. (2000) used probit and ordinary least square methods. This study adopted the logit model to assess the contribution of independent variables towards completion of World Bank funded projects in Kenya. Project completion was measured by checking the continual flow of benefits to the intended users, the extent to which the facilities are operational, existence of evidence of project outcome, institutional support and the project design. In this study, an answer to the affirmative to all the ten questions posed on completion was taken to imply that project was sustainable.

According to the lessons from successful water supply program in Western Canada by Livingstone and McPherson (2003), they suggest that during the project life cycle management, implementation of a project must be properly initiated by taking into account of all the activities such as need assessment, stakeholder involvement for better performance and sustainable community managed water supply project which by creating a demand driven, that the implementing agency provide an enabling environment, and that beneficiaries be legally empowered to assume ownership and responsibility for the completed systems which plays a critical role for planning, execution and determines the end result of the entire project

According to the UN Economic and Social Council Commission on Sustainable Development (2006), in promoting and facilitating sustainable public projects and Management projects, it is paramount to promote initiation phase inclusively and properly by accommodating all stakeholders to enhance social stability and adaptability to environmental change, raise awareness, and to build human and institutional capacity especially

for completion of the projects to meet the desired targets and results.

Various studies have been conducted in relation to project planning as a catalyst on performance of development projects during implementation. Slootman (2007) conducted a study on planning of mega-projects influence of project planning phase on project performance. The purpose of the study was to analyze the impact of the implementation of a detailed execution planning strategy on project performance, in a mega-project environment. The study found out that the effective and properly done planning stage when implemented result to most of the workface planning principles had higher labour productivity, and better predictability.

According to study conducted by MC Conville(2006) on application of life cycle thinking to international Water and sanitation development projects in Mali, West Africa, he indicates that project planning stage influence performance and completion of projects. He further identify that planning stage determines the end result of the projects if done properly. Most of the projects were not successful because the planning stages were overlooked by the implementers thus affecting performance of the projects. Project planners need to be aware of the entire process all the time. The planning stages will need to consider future stages of implementation and operation, and the later life stages will rely on information gathered early in the process. Al-Kharashi and Skitmore (2008) indicate that the main cause of poor performance in Saudi Arabia construction sector for public projects is the lack of qualified and experienced personnel project planning. Morrissey (2008) identify the most important causes of delay in Malaysian construction industry to be improper planning stage which didn't accommodate planning of site management, inadequate contractor experience, inadequate client's finance and payments for completed work, problems with subcontractors, material, labor supply, equipment availability and failure, lack of communication between parties, and mistakes during the construction stage.

Andrew and Griffith (2005) did an empirical study of scheduling practices and project success. The objective of the study was to measure empirically the effect that project scheduling (planning) practices have on plant project success. The study found out that if traditional measures of project planning success are employed (budget, schedule planning adherence), the planning stage issues were the most important determinants of successful projects. Recent evaluations of IFAD programming have highlighted the shortcomings of many of its projects in terms of performance. For example, the Annual Report on Results and Impact (ARRI) of IFAD Operations for 2006 noted that project execution on performance of development projects remains a major challenge for the governments and non-governmental organizations' when implementing their projects. In response to these findings, the IFAD strategic framework for 2007-2010 commits the organizations to enhancing performance, acknowledging that ensuring development projects performance has been a challenging endeavor, not just for IFAD but for all international development agencies.

RESEARCH METHODOLOGY

This chapter outlines the procedures and methodology in line with the research questions of the study. This study used case study research design since the unit of analysis was biased to one area of interest that is Makueni constituency to identify the influence of project life cycle management on completion of public projects. The target population comprised 131 public projects in Makueni Constituency. The target population of the study was all projects in Makueni constituency and completed between 2011 and 2015. Due to the manageable study population, the study adopted a census survey from 131 respondents (project managers). The study used questionnaire as the research

instrument. The study utilized quantitative and qualitative questionnaire that was developed for generating information on key variables of interest from the targeted respondents in this study. A pilot study was undertaken on at least 13 respondents to test the reliability and validity of the questionnaire. The research adopted a content validity which refers to the extent to which a measuring instrument provides adequate coverage of the topic under study. Data collected was analyzed using both quantitative methods with the help of Statistical Package for Social Sciences (SPSS) version 22 and excel.

DATA ANALYSIS, PRESENT

This chapter presents the results of the study, data analysis and discussion. From the data collected, out of the 131 questionnaires administered, 90 questionnaires were fully completed and returned making a response percent of 68.70%. Majority (57%) were male respondents while the rest (43%) were female respondents. The results indicated that the two genders were adequately represented in the study since there is none which was more than the two-thirds. From the findings, majority (45%) indicated that they ranged between 41-50 years, followed by those who indicated that they are 51 and above years at 35% with few (15%) and (5%) and indicating that they were 31-40 years and 20-30 years respectively. The study established that majority (45%) indicated that they had university first degree, followed by those who indicated that they had diploma (35%), certificate holders comprised 3% of the respondents, with a few (15%) indicating that they had a master's degree while 5% had a doctorate qualification. Based on work experience, the findings as indicated that a simple majority (40%) of the respondents had been in management of projects for a period ranging from 1-10 years followed by those who indicated that they had been in management of projects for a period of 10-20 years at 30%, 20%of the respondents indicated that they had less than one year and while only few (10%) indicated that they had been in the management of projects for a period more than 20 years.

Project Initiation Phase

The study sought to establish whether problem identification influence completion of public projects in the study area. The results indicated that problem identification played a significant role during the project initiation phase to enhance completion of public projects in the study area. It also indicated that funding increase the number of equipment for use by the project team for completion of public projects.

Project Planning Phase

The study sought to establish how project resource planning influences completion of public projects in the study area. From the study results, it implied that resource planning influenced completion of public projects. It also indicated that financial planning increased the completion of public projects in the study area. It also indicated that stakeholder planning increased completion of public projects in the study area and that resource planning increased the rate completion of public projects in the study area. The study deduced that financial plan increase implementation of public projects in the study area.

Project Execution Phase

The study sought to find out whether time management influences completion of public projects in the study area. The study concluded that time management influenced completion of public projects. The study further sought to establish whether the cost management increases the completion of public projects. It was discovered that effective cost management increases the completion of public projects. It was also confirmed that quality management increased completion of public projects. It was

also concluded that quality management affected the completion of the projects in the study area.

Project Closure Phase

The study sought to establish whether the various elements of project closure influence completion of public projects. It was discovered that communication report influenced completion of public projects in the study area. It was deduced that commissioning increases the completion of public projects in the study area. It was also discovered that that commissioning increases number of equipment for use by the project team for completion of public projects.

Completion of Public Projects

The study sought to establish projects have been in existence before completion. Generally, the findings indicated a low rate of completion with majority of the projects being in existence before completeion for long. The study further set out to establish the average additional funding given to projects whose budgets were exhausted before their completion. Generally, the finding indicated that a high amount of extra budget is required before completion of a project in the study area. The finding indicated a low rate of completion of projects within their scope for the last five years.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The chapter begins with a summary of the study, followed by conclusions related directly to the specific research questions guiding the objectives of the study, recommendations deduced from conclusion and recommendation for further studies.

Summary of Findings

The study sought to establish the influence of project initiation phase, project planning phase, project execution phase and project closure phase on completion of public projects in Kenya. The empirical literature showed that all the phases of project life cycle management had a positive impact on the overall completion of public projects. Other literature revealed that organizations that were able to manage their costs, execution time, project risks and the project quality were able to not only execute their projects on time, at cost and on schedule but they were also more likely to get repeat and referral to the public.

Project Initiation Phase

From the descriptive statistics, the study established that problem identification influenced completion of public projects in the area. Its encouraged stakeholder's participation during project scope development, conducting of feasibility study, boosted the confidence project initiators or sponsors and facilitated decision making on planning, promotion, training and pilot testing of the technology to be used in the project. The respondents indicated that funding during the initiation phase increases the rate of completion of public projects as it enables adoption and handling of technology by the project team, facilitates implementation effectiveness and influences budgetary allocation for implementation of technology initiatives. The costing increase completion of public projects through decision making, planning, and promotion of the technology to be used, training on the technology to be used and pilot testing of the technology used during implementation of the projects. Further, the study revealed that the variable (Pearson correlation coefficient = .800) and p-value (0.001 < 0.05) statistically, strongly and significantly correlated to completion of public projects at 5% level of significance as it had a positive relationship with the dependent variable. This reveals that project initiation phase in project life cycle management is an important factor that can enhance completion of public projects. This also reveals that the more project initiation phase is well managed the more the completion of public projects. Therefore, from these quantitative results it can be deduced that

the study which sought to establish the influence of project initiation phase on completion of public projects was achieved because it established that project initiation phase influences completion of public projects**.**

Project Planning Phase

From the study results, majority of the respondents indicated that project resource planning influences completion of public projects in the study area. It encourages stakeholders participation during project scope development, facilities conducting of feasibility study, boosts the confidence of project initiators or sponsors and facilitates decision making on planning, promotion, training and pilot testing of the technology. It was found out that financial planning increase the completion of public projects as it enables adoption and handling of technology by the project team, facilitates implementation effectiveness and influences budgetary allocation for implementation of technology. The study established that stakeholder planning increases completion of public projects through facilitation of decision making, helping in planning, enhances conducting of feasibility study and training of the project stakeholders. The study further established that resource planning increases the number of equipment availed for use by the project team for completion of public projects as it enables adoption and handling of technology by the project team facilitates implementation effectiveness and influences budgetary allocation for implementation of the technology. Further, the study revealed that the variable (Pearson correlation coefficient =.771) and p-value (0.002 < 0.05) statistically, strongly and significantly correlated to completion of public projects at 5% level of significance as it had a positive relationship with the dependent variable. This reveals that project planning phase in project life cycle management is an important factor that can enhance completion of public projects. This also reveals that the more project planning phase is well managed the higher the rate of completion of public projects. Therefore, from these quantitative results it can be deduced that the study which sought to establish the influence of project planning phase on completion of public projects was achieved because it established that project planning phase influences completion of public projects**.**

Project Execution Phase

From the descriptive results, the study established that time management influences completion of public projects in the study area. It could encourage stakeholders' participation during scope development, facilitates conducting of feasibility study and enhance decision making on planning, promotion, training and pilot testing of the technology. Cost management increases the completion of public projects since it enables adoption and handling of technology by the project team, facilitates implementation effectiveness and influences budgetary allocation for implementation of the technology to be used in the project. Quality management increase completion of public projects though decision making, planning, promotion of the technology used, training of the technology used and pilot testing of the technology used . In addition, the study revealed that the variable (Pearson correlation coefficient =.765) and p-value (0.004 < 0.05) statistically, strongly and significantly correlated to completion of public projects at 5% level of significance as it had a positive relationship with the dependent variable. This reveals that project execution phase in project life cycle management is an important factor that can enhance completion of public projects. This also reveals that the more project execution phase is efficiently done, the higher the rate of completion of public projects. Therefore, from these quantitative results it can be deduced that the study which sought to establish the influence of project execution phase on completion of public projects was achieved because it established that project execution phase in the project life cycle

management influences completion of public projects.

Project Closure Phase

From the study results, majority of the respondents indicated to a great extent that communication reporting influences completion of public projects in the study area. It facilitated documentation of project activities, enhanced releasing of the projects resources and facilitated decision making on planning, promotion and training of the beneficiaries. Commissioning, operation and maintenance increase the rate of completion of public projects as they Increase the number of years of the project remains operational, encourages ownership of the project and facilitates decision making on planning, promotion, and training of the beneficiaries. Commissioning of projects increases number of equipment available for use by the project team for completion of public projects. In addition, the study revealed that the variable (Pearson correlation coefficient =.701) and p-value (0.005 < 0.05) statistically, strongly and significantly correlated to completion of public projects at 5% level of significance as it had a positive relationship with the dependent variable. This reveals that project closure phase in project life cycle management is an important factor that can enhance completion of public projects. This also reveals that the more project closure phase becomes the more the completion of public projects increases. Therefore, from these quantitative results it can be deduced that the study which sought to establish the influence of project closure phase on completion of public projects was achieved because it established that project closure phase in the project life cycle management influences completion of public projects.

Conclusion of the Study

The study established that problem identification, funding and costing during the initiation phase increase the completion of public projects as it enables adoption and handling of technology by the project team, facilitates implementation effectiveness and influences budgetary allocation for implementation of the technology. It enhances completion of public projects through decision making, planning, promotion of the technology to be used, training of the technology to be used and pilot testing of the technology used during implementation of the projects.

From the study results resource planning, financial planning and stakeholder planning increases the completion of public projects as it enables adoption and handling technology to the project team, facilitates implementation effectiveness and influence budgetary allocation for implementation of the technology. The planning stage increase completion of public projects through decision making, planning, enhances feasibility study and training of the project stakeholders.

The study found out that time, cost and quality management influence completion of public projects in the study area. It could encourage stakeholders' participation during the scope development, facilitate conducting of feasibility study and enhance decision making on planning, promotion, training and pilot testing of the technology. Further, it enables adoption and handling of technology by the project team, facilitates implementation effectiveness and influences budgetary allocation for implementation of the technology. Quality management increases rate of completion of public projects though decision making, planning, promotion of the technology used, training of the technology used and pilot testing of the technology used .

The study established to a great extent that the communication reporting influences completion of public projects as it led to documentation of project activities, releasing of the projects resources and decision making on planning, promotion, training of the beneficiaries. Project

commissioning, operation and maintenance increases completion rate of public projects as they increase the number of years of the project remains in operation, encourages ownership of the project and enhances decision making on planning, promotion training of the beneficiaries.

Recommendations for the Study

The study recommends that project implementations teams should efficiently manage the project initiation phase by carrying out problem identification, funding and costing to increase the completion of public projects as it enables adoption and handling of technology by the project team, facilitates implementation effectiveness and influences budgetary allocation for implementation of the technology. In addition, there study recommends that during the project planning phase, there is need to have a resource plan, financial plan and stakeholder plan in order to increase the completion of public projects as they enable adoption and handling of technology by the project team, facilitates implementation effectiveness and influences budgetary allocation for implementation of the technology. The planning stage increase completion of public projects through decision making, planning, enhances feasibility study and training of the project stakeholders which can lead to completion of public projects.

The study established that time, cost and quality management influences completion of public projects. During the execution phase, these factors can enhance stakeholders' participation during the scope development, facilitate conducting of feasibility study and enhance decision making on planning, promotion, training and pilot testing of the technology. This can facilitate completion of public projects.

Finally, the study established to a great extent that the communication report through the documentation of project activities, releasing of the projects resources and decision making on planning, promotion training of the beneficiaries. The commissioning, operation and maintenance increase completion of public projects as they increase the number of years of the project encourage ownership of the project and decision making on planning, promotion training of the beneficiaries.

Recommendations for Further Studies

A review of literature indicated that there is limited of research on the influence of project life cycle management on completion of public projects in the Kenyan. Thus, the findings of this study serve as a basis for future studies on project life cycle management and completion of public projects. The study has not been widely studied which presents gaps in African and Kenyan contexts. The study has contributed to knowledge by establishing that project life cycle management influence completion of public projects in the Kenyan. Further, this study used qualitative and quantitative techniques. It was also a cross sectional study and hence other studies using longitudinal design could be carried out to establish whether completion of projects cognitions are actualized. Also, an exploratory study would enrich findings because such a study would have a wide range of factors that project life cycle management addressed other than the ones identified in this study. Interaction effects should also be investigated. The interaction effects may be re-examined at a later period because of the constant changes that take place in public projects

This study confined itself to Makueni Constituency in Kenya. A comparative study should be carried out to compare whether the findings also apply for other projects in different organizations in order to validate whether the findings can be generalized to others in Kenya. Additionally, the study did not tie the drivers as the only determinants of project life cycle management. Thus, there is need to undertake another research to examine the other factors which could be of influence completion of public projects in Kenya.

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