



**DETERMINANTS OF COMPLETION OF GOVERNMENT CONSTRUCTION PROJECTS IN KENYA: A CASE OF
NYAMIRA COUNTY**

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ABSTRACT

The government construction projects are key in the economy of any country worldwide. They contribute to around 10% of the global GDP. Completion of a given project along the three critical dimensions of time, cost and quality, requires detailing all the planning requirements. The general objective of this study was to establish the determinants of completion of government construction projects in Kenya. The scope of this study was limited to 162 government projects in Nyamira County. The design of this research was a descriptive survey research. The population for this study was composed of 162 projects in Nyamira County. The study used a structured self-administered questionnaire to collect. A pilot study was conducted to pre-test the validity and reliability of instruments for data collection. The collected data was analyzed using both quantitative and qualitative data analysis methods. Quantitative method involved descriptive analysis. Data from questionnaire was coded using Statistical Package for Social Science (SPSS) version 21. The analysis showed that project initiation phase had the strongest positive influence on completion of government projects. Additionally, project management skills was positively correlated to completion of government projects. The study recommends that there is need to improve the project team competency to enhance efficiency of the procurement process, reduce delayed payments, facilitates faster decision making and enhance transparency levels in management of the projects. The project team cohesion is important for the completion of the government construction projects through effectiveness in communication. The project team commitment is required to enhance completion of the government construction projects within budget. The study recommends for the project management skills to the project team to enhance completion of government projects.

Key Words: Project Team, Management Skills, Government Construction Projects, Nyamira County

INTRODUCTION

The construction industry plays a fundamental role in the development of a nation and helps in meeting one of the society's basic needs of shelter. The industry contributes up to 10% to a country's gross national product. Most third world countries face acute endemic construction problems that over the years has raised both national and international concerns (Auma, 2014). However, a growing number of unfinished government construction projects in such countries seem to overshadow the efforts and thus pose many questions as to what is behind the failure in providing such a highly needed commodity. One may wonder whether such a failure has anything to do with architecture, attitudes and practices of the people or is it just a thing to be pegged on socio-economic platform of the society (Sawhney, Iyer, & Rental, 2012).

The completion of projects in a timely manner is often a critical factor and measure of project success. In recent years, there has been an increasing interest in the use of projects as building blocks in the strategic management of organizations (Weiss & Potts, 2012). The success of any project is highly dependent on its completion time from start to delivery of results. This has a direct bearing on management decisions such as budgets, targets and standards (McLeod, Doolin, MacDonell, 2012). There is available evidence from literature on how to use projects for the management of organizational process to prepare the organization for its competitive future and survival. Today, project management techniques are used as the principal means by which operational and strategic issues are managed in both for-profit and not-for-profit organizations.

In many government construction projects, the quality and delivery of the final product to the government can play a crucial role in improving future funding and long term survival of such projects. Effective service delivery refers to producing work that is of high quality and recognized as efficient (Cole, 2002). The long-term objective of any organization is to produce high quality projects measured against the traditional measures of time, cost and scope (Basu, 2014). Tools and techniques play an important role in project management. However, the factors that directly affect the timely completion of government construction projects are rarely discussed as costs and deliverables often take a lead (Shehu and Akintoye, 2010).

Construction industry has complexity in its nature because it contains a large number of parties such as clients, contractors, consultants, stakeholders, shareholders, regulators and others. Construction projects in the Kenyan urban areas suffer from many problems and complex issues in performance, such as cost, time and safety (Githui, 2012). Client satisfaction is therefore a fundamental issue for construction participants who must constantly seek to improve their performance if they are to survive in the global marketplace. However, client satisfaction has remained an elusive issue for a majority of construction professionals.

Due to the demand for built products from foreign investors and the growing economy, Vietnam's construction industry, experience strong growth. While some of the construction projects are successfully executed, others faced difficulties (Bui & Ling, 2010). Despite the availability of various control techniques and project control software many construction projects still do not achieve their

cost and time objectives (Oluwale & Sun, 2010). A number of studies have been conducted to examine factors impacting on project completion developing countries. (Sawhney et al. 2012) reported that shortage of skills of manpower, poor supervision and poor site management, unsuitable leadership; shortage and breakdown of equipment among others contribute to construction delays in the United Arab Emirates. (Aiyetan, Smallwood, & Shakantu, 2011) examined causes of client dissatisfaction in the South African building industry and found that conflict, poor workmanship and incompetence of contractors to be among the factors which would negatively impact on project performance. It was also established that quality and attitude to service is one of the key factors constraining successful project delivery in South Africa.

The performance of contractors in Zambia is apparently below expectation; it is not uncommon to learn of local projects that have not been completed or significantly delayed. This poor performance of many local contractors has huge implications in terms of their competitiveness (Zulu and Chileshe 2010). In Saudi Arabia, Assaf and Al-Hejji (2009) found that only 30% of construction projects were completed within the scheduled completion dates and that the average time overrun was between 10% and 30%. Odeyinka and Yusif (2010) have shown that seven out of ten projects surveyed in Nigeria suffered delays in their execution.

Miller and Lessard (2011) contends that close to 40% of large engineering projects researched on a worldwide basis experienced serious performance problems (\$985 million average cost). Shanmugapriya and Subramanian (2013) posit that

upto 60 per cent of construction projects in India are overwhelmed by time and cost overruns (Gupta., 2009). (Muya, Kaliba, Sichombo, & Shakantu, 2013). in road construction in Zambia were delayed payments, construction mistakes, labour disputes and strikes. In the United Kingdom, Shehu, & Akintoye, (2010) contends that effective procurement, project implementation ability, government guarantees, and favorable economic conditions are critical success factors (CSFs) for public-private partnership projects. In Bulgaria, Alexandrova and Ivanova (2012) considers competence of project manager, competence of project team, quality of subcontractor services, and top management support as CSFs of project management.

In Kenya, delays in completion of government projects are rampant especially due to endemic corruption and poor reporting structures among the public sector (DFID, 2013). The construction industry contributes up to 5% of the National GDP as reported in the Economic Survey and contributes 10% to employment nationally (Republic of Kenya, 2010a).

Further, the Constitution of Kenya in the Bills of rights gives every citizen the right to enjoy efficient and quality public services (Republic of Kenya, 2010b). The provision of infrastructure consumes about 10% of the National Budget as indicated in the Printed Estimates (Republic of Kenya, 2011). In the last three decades, construction research in Kenya has focused on the entities that constitute the construction industry – particularly the projects, the contractors and human resources- deducing the performance of the industry as a whole from the observations made on its parts.

Muchungu (2012) provides evidence that despite the high quality of training of consultants in the building industry in Kenya and regulation of the industry in major urban areas, construction projects do not always meet Key performance goals. This is manifested by myriad projects that have cost overrun, delayed completion period and poor quality resulting to collapsed buildings in various parts of the country, high maintenance costs, dissatisfied clients and even buildings which are not functional. Traditionally, a construction process is sequential; many actors are involved only in some project phases and focus on their own part of work rather than on the whole project. As the size and complexity of projects have increased, successful implementation throughout the construction process has become an area of concern to project stake holders (Xia, & Chan, 2012). Different projects have to be allocated to the project's actors on the basis of who has the best qualifications for dealing with a specific risk; according to a report that investigates more than 3000 quality problems, the cost for poor quality can amount to 20% of the total cost. Moreover, about 70% of all problems can be identified at the early stages and, therefore, poor quality cost can be decreased by more than 60% (Turner, 2013).

Statement of the Problem

The contribution of the government construction projects to the GDP has stagnated at about 3.8%, its contribution to economic growth due to completion of the established projects (RoK, 2013). In the year 2010, the growth in the government construction projects was 4.5 % while in the previous year 2009; the sector grew by 12.4%. This shows that there was great fall in growth in the government construction projects during the year 2010. The

total value of reported private buildings works completed in the selected main towns went down significantly from Kshs. 37.3 billion in 2009 to Ksh. 21.3 billion in 2010. In the year 2011, the building and construction sector dwindled by 4.3%. It is estimated that about 48% of the building projects in Kenya show poor performance in terms of completion time, cost overruns and client satisfaction (Muchungu, 2012).

Sambasivan and Soon, (2010) states that delay in construction is a global phenomenon affecting not only the government construction projects but the overall economy of countries as well. Faridi and El-Sayegh, (2009) says, delay involves multiple complex issues all of which are invariably of critical importance to the parties to the construction contract. These issues concern entitlement to recover costs of delay or the necessity to prolong the project with the consequential entitlement to recovery costs for adjustments to the contract schedules. Today, many stakeholders in construction are becoming increasingly concerned about the duration of construction projects because of increasing interest rates, inflation, commercial pressures and of course, it's potential to result in disputes and claims leading to arbitration or litigation.

Similarly, Xia, & Chan (2012) identified lack of project management skills as the most important cause of time overruns in Hong Kong construction projects. Hwang, Zhao, & Ng (2013) found that the project team considered stakeholder management by contractor during construction as the top cause of delay in Egyptian building projects. Love, Sing, Wang, Edwards, & Odeyinka, (2013) found that contractors' financial difficulties were the most important cause of construction delay in Nigeria.

Muchungu (2012) found out that Kenya is replete with incomplete, delayed or abandoned government sponsored construction projects which have been commonly referred to as white elephants.

Ondari (2013) considers stakeholder management support, design specifications, contractor's capacity and supervision capacity as influencers of successful completion of roads projects in Kenya. Ondego, & Moturi (2016) concludes that lack of monitoring and evaluation, and poor performance of project team to be determinants of successful delivery of government construction projects in the Ministry of Housing in Nairobi, Kenya. According to Ochieng, & Ruth (2013) the impact of delays is that funds committed on projects do not benefit intended recipients and subsequently results in cost and time overrun. Ondari (2013) contends that financial issues, stakeholder management, project management skills to be factors influencing completion of government funded building projects in Kirinyaga County. This study seeks to examine determinants of completion of government construction projects in Nyamira County namely; influence of project team and project management skills.

Objectives of the Study

The purpose of the study was to establish the determinants of completion of government construction projects in Kenya. The specific objectives of the study included the following;

- To determine how project team influence completion of government construction projects in Kenya
- To establish how project management skills influence completion of government construction projects in Kenya

LITERATURE REVIEW

Theoretical Framework

This section examines relevant theories to the study variables.

Management by Objective Theory

Management by objectives (MBO) was first popularized by Drucer (1954). MBO is based on the thinking that various hierarchies within companies need to be integrated. Drucer argued that all organizations exist for a purpose, and, to achieve that purpose, top management sets goals and objectives that are common to the whole organization. The MBO approach injects an element of dialogue into the process of passing plans and objectives from one organizational level to another. The superior brings specific goals and measures for the subordinate to a meeting with this subordinate, who also brings specific objectives and measures that he or she sees as appropriate or contributing to better accomplishment of the job. Together they develop a group of specific goals, measures of achievement, and time frames in which the subordinate commits himself or herself to the accomplishment of those goals. The subordinate is then held responsible for the accomplishment of the goals. In other words MBO is participative goal setting, choosing course of actions and decision making. Despite the critical importance of project completion timeliness, organization practices today remain inadequate in addressing the persistent problem of project completion tardiness. The completion of government projects in a timely manner is often a critical factor and measure of project success. However, in many cases, delays plague the delivery of government funded projects in many developing countries where such projects

are often implemented. The above theory supports the influence of project team on successful completion of government projects

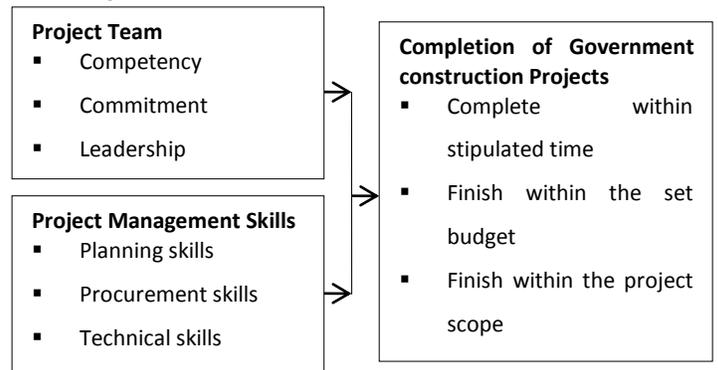
Project Management Competency Theory

The work of McClelland & McBer in the 1980s established the competence theory. The authors defined competency as the underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation. Since then a number of competency frameworks have been developed by different project management institutes. Crawford (as cited in Boyatzis, 1982 & Spencer, 1993), puts a model of competence that integrates knowledge, skills, demonstrable performance, and core personality characteristics, noting the last, personality characteristics, as challenging to develop and assess through training. She argues that two of the most influential project management standards, the PMBOK, address only the knowledge aspect of competence while a third, Australia’s National Competency Standards, draws from knowledge but focuses only on demonstrable performance. Crawford, (2010) study found out that project managers “do not necessarily have the required competence or perform the full activities required to promote and implement the changes that they are leading as part of their projects.

Interest in project management competence stems from the very reasonable and widely held assumption that if people who manage and work on projects are competent, they will perform effectively and that this will lead to successful projects and successful organizations (Beer, 1990; Smith, 1976). Competence is generally accepted, however, as encompassing knowledge, skills, attitudes and behaviors that are causally related to

superior job performance. Crawford (as cited in Boyatzis, 1982 & Spencer, 1993), stated that professional competence in project management is attained by combination of knowledge acquired from training and its subsequent application and other skills developed in the course of work. Previous management studies have investigated the impact of competency on performance. Dainty,(2004) have argued for a competency based performance model for construction project managers where managerial behavior input is appraised and nine performance indicators for PM competency are developed to comprise team building, leadership, decision-making, mutuality and approachability, honesty and integrity, communication, learning, understanding and application, self-efficacy, and maintenance of external relations. In the context of construction project management; it is assumed that if the project manager and the project team have all the required competence (project management skills) for the successful completion of the project.

Conceptual framework



Independent variables **new** **Dependent variable**

Project Team

Andawei (2014) reports on a study finding that motivational factors significantly influence the

performance of workers. McLeod et al. (2012).research also found out that project team commitment is one of the most important factors for project implementation. Darrington, & Howell (2010). emphasized that motivation schemes on construction site workers should not be centred on monetary incentives because it destroys intrinsic motivation, which makes construction site workers be less productive. He proposed that intrinsic motivation should be encouraged so that parallel positioning of incentive structures with motivation can result in successful projects for the client and economic and psychological advantage to the contractor. Ochieng, & Price (2010) pointed that a project manager needs to understand the individual desires of each team member. To achieve a project environment where the majority of the members involved are motivated about the project, project managers have to be sensitive to the needs and wants of the team members.

Soham, & Rajiv (2013) states that the management needs to be involved in the up-front planning efforts and effectiveness of communication, control system, management system and organizational culture. Studying the significant factors that cause delay of construction projects in Malaysia, Alaghbari, Kadir, Salim and Ernawati (2007) three categories for analysis, namely contractor, consultant and owner. As far as causes related to contractor actions are concerned, 'financial problems', 'shortage of materials' and 'poor site management' were ranked among the top three. Owner causes included 'delayed payments', 'slow decision-making' and 'contract scope changes'. The top three consultant causes were 'poor supervision', 'slowness to give instructions' and 'lack of experience'.

Project team training on Project Procurement Management (PPM) is part of the project management process in which products or services are acquired or purchased from outside the existing employee base (which would work on the project) in order to complete the task or project (Jarkas, & Bitar, 2011). There are essentially two different types of procurements, one in which the company is responsible for the particular product or service under a legal contract, this PPM includes contract management responsibilities that issue specific tasks to various team members (Kerzner, 2013).

According to PM (2004) Project Procurement Management (PPM) can also include responsibility of the contracts in which, the buyer that is hired for this particular project is performing the task for a certain seller, this contract is placed between the one providing a service and the particular team that was responsible for completion of this project (Jarkas, & Bitar, 2011). PPM includes a variety of tasks including the planning process where one decides what to acquire or purchase and how they will do so. Next, they plan the contract which provides the drafting of a legal document of the exchange. Legal documents enable the seller to respond with variety of inquiries such as a bid or proposal. Tender forms are returned for review of the various offers and decision is made who will be awarded the project. The most important process of Project Procurement Management includes project management relations between both the buyer and seller via the contract. Awarding of the contract sets the project in motion (El-Behary, 2013). Procurement actions are taken in a timely way to avoid schedule delays attributable to lack of inventory but also to bring suppliers and vendors into the scheduling and planning process so that

they can share ownership on the timing and quality of the deliverables Jarkas, & Bitar (2011)

CIC (2009) states that it is essential to ensure that sufficient project team is available to support monitoring and evaluation activities. Planning for project team needs ensures that you have employees who have the required skills and competencies for the job assigned. A project management skill is defined as ability to influence activities of others through communication they may be as a group or a single person towards achievement of specific goals or objectives of a project (Barasa, 2014).).

Every project design employs a hierarchy of basic elements known as: inputs, activities, outputs, outcomes, and impacts. These elements of project design are also components of a logical framework and a results framework and of the M&E system for that particular project which the project team need to familiarize with (Ochieng, & Price, 2010). Management can be defined as the act of getting things done by other people in order to achieve organizational goals (Koontz, H. 2010). Members of the PMCs are supposed to act as leaders in projects where they are selected to oversee implementation. The project manager should assign roles for staff and volunteers in conducting monitoring and evaluation be it in data collection, analysis, reporting, etc. and allocate time for staff/volunteers accordingly. The staff can be acquired through poaching, inward sourcing that is in-house or outward sourcing through advertisements. One of the ways of managing the monitoring and evaluation team is by taking them through the team development models which entails these processes namely forming, storming, norming, performing and adjourning.

The project manager should also allocate someone to take charge of evaluation to ensure that all the necessary pieces of work are happening. The lead person must also be able to count on the help of other key team members. These responsibilities should be made clear from the beginning, in the planning phase of a public engagement project, and should be valued by the organization as a whole on an ongoing basis (CIC, 2009). Ochieng, & Price (2010) argues that project management faces varied challenges, some of which include: The organization structure in managing projects, project identification criteria, political interference and corruption. In order to realize the full potential of an M&E system, it is critical that project team acquire project management skills to continually track the changing levels of risk, vulnerability and coping strategies in order to effectively manage responses to contextual shifts and establish needs for appropriate intervention (program design). Monitoring and evaluation should be approached as a “continual learning process rather than a single information gathering exercise by the project team” (Ngacho, & Das, 2014).

Project Management Skills

The required project management skills can include: communication and feedback systems, quality, safety, risk and a conflict management system, supervisory skills, experience, coordination and leadership, communication skills, organizational structures, control mechanisms of subcontractors' works, and the overall managerial actions in planning, organizing, leading and controlling (Zami, 2011). Kaliba, Muya, & Mumba (2009) convey that planning and management of a project, irrespective of its complexity require the opinions of a system based on the number of stakeholders involved.

Mutual communication between these stakeholders enhances division of labour, development of individual competencies and responsibilities for effective decision making. Winch (2010) puts competencies into threshold or surface and differentiating or core competencies. Threshold competencies need to be practical while core competencies are yardsticks for top performers. Organizational learning theory develops managerial competencies by incorporating informal practices in the development strategy. The theory has enabled organizations to respond better to competition needs and engage more inclusive employee participation (Siemens, 2014). Through training individual competencies are enhanced and translated to organizational competencies. Organisational learning enhances the interaction between people, vision and pragmatic matter, which is a major challenge to organizations in their quest for competitive advantage.

Procurement is the entire process of acquiring materials, property and services required for a particular project. The process starts with the identification of need, followed by a decision on procurement requirements. The process continues through risk assessment, identification and evaluation of alternative solutions, contract award, delivery and payment of the property or service. World Health Organisation report (2007) explains that an effective procurement process ensures that materials are available at the right time, right quantity, for the right client, and at a reasonable price and quality. Ondego, & Moturi (2016) further emphasizes that it does not merely entail the act of buying, but a wide range of business, operational, information technology, legal systems, safety and risk management, all undertaken to address an organisation's needs. The ability to satisfy desired

needs depends on the speed at which the good is delivered; otherwise a negative externality is created on the end users.

During project planning sufficient attention for establishing goals and objectives lacks; yet these are vital elements of planning. A good project plan does not necessarily lead to a good project. However, a project plan built on a weak foundation can lead to a good idea resulting into a poor project (Andawei, 2014). Project planning involves collection of baseline data, needs assessment, developing an action plan, implementation and evaluation. Target groups need to be well understood before goals, activities and resources required are formulated. In this study, timely completion of a project involved formal closure and transfer of lessons learnt from the project to other projects. To enhance the understanding of project management process, the following tools are applied: project management work book and methodology, and project management guide. The study aimed to identify the best practices for planning and executing a project, and then employ it as a benchmark for improving project planning in other industries (Tonnquist, 2008). Physical planning includes the scheduling of the project's tasks in terms of time while financial planning shows the required cash flow for each time period Alojairi (2011). Regular plan review should focus more on the role level rather than the activity level. This approach is said to increase the planning of a project which will lead to better completion results. The Gantt chart is the commonly used planning tool on projects.

Assaf, & Al-Hejji (2006) hypothesized that the main reason for the challenges experienced by complex projects is poor articulation of the assumptions during evaluation stage. Stakeholders are uncertain

about how the change process will progress and tend to pay little attention to the early and midterm changes that occur in the quest for longer term goal. Andawei (2014) postulates that clarity of the early steps needs to be undertaken towards the realization of the long-term outcome. The Theory of Change (TOC) process identifies the necessary and sufficient preconditions required to realize a certain long term outcome. Backward mapping is applied to enable the planners to think from the long term goals backwards to the intermediate and later early term changes expected to cause the targeted change. Although project delivery process does not have a stage called funding, budgetary constraints affect each stage of the process (Rahaman, 2011). The Right of Way to a project is not identified by a project that only fulfills the environmental process, only for the policy makers to disagree with the chosen source of funding. Chen, & Huang (2006) reviewed the correlation between cost overruns and project delays and realized that a good agreement exists between the two factors.

Project management skills are the integral of the entire construction project functions which include coordination of subcontractors, scheduling, cost control, labour relation, billing, purchasing, expending, and other functions related to the project. In Construction Company, project manager is in charge of these functions. The use of project management techniques is very important in the construction industry, because the coordination and use of the many types of labour, skills, materials, and equipments which are used in construction require daily application of proper project management techniques Brown, & Phua, (2011).

Completion of Government Construction Projects

Tonnquist (2008) considers competence of project manager, competence of project team, quality of subcontractor services, and top management support as CSFs of project management. In Lithuania, Gundecha (2012) states that project management's experience, project value, project manager's experience, experience of contractor, project size, competence of project team members, clear and realistic goals, decision making effectiveness of project management, and technical capability of project management are the most important success factors for construction projects. Wanjiku (2012) contends that financial issues, human resources conditions, site characteristics and design quality aspects to be factors influencing performance of contractors of government funded building projects in Kirinyaga County. Wambugu (2012) identifies strategy, project term capacity, project communication, monitoring and evaluation, and client consultation as factors influencing success of projects in Nyeri County. Moreover, Kabutu (2013) argues that top management support, technology, training and competence, organizational resource, and funds management to be success factors for offshore software development and implementation projects.

Empirical Review

Ondari,(2013) carried out a study on the factors influencing the construction of government road projects in Kenyan and he concluded that the Ministry lacks the necessary supervising engineering staff required to implement projects. Further Government procedures for disbursement of funds are beauracratc and thus most projects once approved by parliament await a longer period before actual release of funds is undertaken though

the current study disputes on availability of financial resources and equipments.

Project implementation requires considerable financial, human and other resources. The project sponsor defines the project characteristics. Investment in these resources is key to the project success. It is incumbent on the investors – whether these resources are international, national, regional or even local – to assess the impact and success of the activities and outcomes according to the description of the project to be implemented. First Tranche online blog (2012) noted that the success rate for projects with high levels of quality monitoring and evaluation (QME) was 93%, compared to a 3% success rate for those with low levels of QME. Zint & Montgomery (2012) noted that effective supervision was necessary for project success. The following can be regarded as important in effective M&E: it allows actors to specify the determinants of success, it provides points of unity for adjustments, it identifies best practices, and it encourages the improved use of resources and capacities.

According to Ngacho,(2014) in his research on performance evaluation framework of development projects, he concluded that understanding the needs of the community through proper involvement of the representatives of the community and other stakeholders and accordingly selecting suitable projects which would cater to their needs. Choge, (2014) in his study on the factors affecting adherence to cost estimates found out that the experience with rating “high” is a significant factor to adherence to cost estimates as indicated by 80% of the respondents. It also established that poor distribution of labour, poor site management, inadequate technical and managerial skills, inadequate quality control skills,

and bankruptcy are aspects influence contractors experience thus determining its significance to adherence to cost estimate.

Amaka (2011) studied the critical success factors influencing construction project performance in Nigeria. The research survey demonstrated the operating environment has a vital role in determining the critical success factors influencing project performance of a project. The result revealed six critical success factors which can influence project performance in Nigeria. These factors were objective management, management of design, technical factors, top management support and risk management. Project managers often use project plans, milestones and budgets to reduce risks and obtain project control Arogo, (2015). The common thread from the surveys on why construct projects succeeds include among others; clear goals, management support, control mechanism and communicating (Rahaman, 2011). The proposed approach raises a major conflict issue with the role of the project manager as it is very hard for project managers to keep the pace of the project when kept under a constant auditing (Alshanbari, 2010). According to (Chavada, Dawood, & Kassem, 2012) the Gantt chart widely used in project does not capture the visual interaction between the construction activities during the implementation phase. Continuous monitoring and evaluation have shown to produce the desired results.

RESEARCH METHODOLOGY

This study used descriptive survey designed to establish the determinants of completion of government construction projects in Kenya. A descriptive research study is designed to obtain pertinent and precise information concerning the

current status of phenomena and whenever possible to draw valid general conclusion from the facts discovered. The target population comprised of 162 government projects in Nyamira County. The study adopted a census survey design with respect of unit of analysis which is the government project in Nyamira County. This therefore ruled out application of specific sampling technique. The study used a census since the population of 162 is small and the study aimed to reach all the projects. On data collection, the study relied mainly on primary data. The researcher used questionnaire as the research instrument. The study utilized questionnaire that was developed for generating information on key variables of interest from the targeted respondents in the study. A self-administered questionnaire were dropped to each respondent and picked later. The questionnaire consisted of closed ended questions. A Pilot study was conducted to determining if there were flaws, limitations, or other weaknesses within the data collection instrument to make the necessary revisions prior to the implementation of the study. The study took 10% of the population that for pilot test (Coopers & schindler, 2010). The research adopted content validity which refers to the extent to which a measuring instrument provides adequate coverage of the topic under study. The content validity was achieved by subjecting the data collection instruments to an evaluation group of experts who will provide their comments and relevance of each item of the instruments and the experts to indicate whether the item was relevant or not.

Data collected was analyzed using quantitative method with the help of (SPSS) version 22 and excel. Data processing was carried out through editing, coding and classification. Quantitative data

was analyzed by employing descriptive statistics and inferential analysis Descriptive statistics such as measures of central tendency and dispersion along with percentages will be used to organize and summarize numerical data.

DATA ANALYSIS, PRESENTATION AND DISCUSSION

This chapter focused on data analysis, interpretation and presentation. A response rate of 62.96% was established with 102 respondents reached, out of the 162 targeted. This was deemed adequate and in tandem with Mugenda and Mugenda (2003) who assert that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. The high response rate was attributed to the fact that the researcher recruited three research assistants to personally administer the questionnaires and ensure they were filled in by the respondents in a drop and pick manner. The study found that the research instrument was reliable and valid could be used for the study.

The research went further to establish the gender of the respondents. A simple majority (57%) were male respondents while the rest (43%) were female respondents. The results indicate that the two genders were adequately represented in the study since there is none which was more than the two-thirds. However, this statistics show that the male gender could be dominating implementation of government projects in Kenya.

The study went further to establish the distribution of the respondents' ages. 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. This implies that respondents were well distributed in terms of their age during the study. The respondents were requested to indicate their highest level of academic qualifications. The study established that majority (25%) indicated that they had university first degree, followed by those who indicated that they had diploma (55%), certificate holders comprised 17% of the respondents, with a few (3%) indicating that they had a master's degree. This implied that respondents were well educated and that they were in a position to respond to research questions with ease. The findings therefore indicate that the respondents have the capacity, skills and expertise to apply in day to day running of projects in the study area. 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 30 years.

Study Variables

The study set out to examine the determinants of completion of government construction projects in Kenya. To this end, two variables were conceptualized as determinants influencing completion of government projects. These include: project team and project management skills.

Project Team

The first objective of the study was to establish the influence of project team on completion of government construction projects in Kenya. Respondents were thus asked to indicate the extent to which they agreed with various statements

relating to project team and its influence on completion of government construction projects. Responses were given on a five-point scale where: 1= Very small extent; 2= Small extent 3= Moderate extent; 4 = Great extent; 5= Very great extent. The scores of 'Very small extent' and 'Small extent' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Moderate extent' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'Great extent' and 'Very great extent' have been taken to represent a statement great extent upon equivalent to a mean score of 3.5 to 5.0.

With a grand mean of 3.870, a majority of respondents can be said to have highly agreed to great extent with most statements posed as regards influence of project team on completion of government projects. Majority particularly highly agreed that the team competency enhance efficiency of the procurement process (3.332); the team competency reduce delayed payment (3.329); the team competency facilitated decision making in the projects (3.652); the team competency enhanced transparency levels in the management of the projects (3.792); team cohesion reduce procurement cycle in your project (3.252); the team cohesion enhance contract scope changes in the project(4.200); the leadership encourage up front planning efforts (3.654); the leadership that encourage up front planning efforts in your project (3.791); team commitment encourages intrinsic motivation in the implementation of the projects; the team commitment which encourages intrinsic motivation in the implementation of the projects (3.053).

The study findings corroborates with the findings of Andawei (2014) and McLeod et al. (2012) who

found out that project team commitment is one of the most important factors for project implementation.

Project Management Skills

The second objective of the study was to establish the influence of project management skills on completion of government construction projects in Kenya. Respondents were thus asked to indicate the extent to which they agreed with various statements relating to project management skills and its influence on completion of government construction projects. Responses were given on a five-point scale where: 1= Very small extent; 2= Small extent 3= Moderate extent; 4 = Great extent; 5= Very great extent. The scores of 'Very small extent' and 'Small extent' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Moderate extent' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'Great extent' and 'Very great extent' have been taken to represent a statement great extent upon equivalent to a mean score of 3.5 to 5.0.

With a grand mean of 3.001, a majority of respondents can be said to a moderate extent that the project team possess adequate project management skills (3.112); the project stakeholders satisfied with management skills of the project personnel (3.239); the project team possess planning, communication and technical skills (3.052); the project resources managed properly (3.100); Do the project managers possess ability for budgeting and auditing (3.654); the project manager does ensure that there is efficiency in the procurement process (3.040). The study findings are in line with literature review by Kaliba, Muya, &

Mumba (2009 who observed that the required project management skills can include: communication and feedback systems, quality, safety, risk and a conflict management system, supervisory skills, experience, coordination and leadership, communication skills, organizational structures, control mechanisms of subcontractors' works, and the overall managerial actions in planning, organizing, leading and controlling. Zami, (2011) convey that planning and management of a project, irrespective of its complexity require the opinions of a system based on the number of stakeholders involved. Mutual communication between these stakeholders enhances division of labour, development of individual competencies and responsibilities for effective decision making. Winch (2010) puts competencies into threshold or surface and differentiating or core competencies. Threshold competencies need to be practical while core competencies are yardsticks for top performers for successful complement of the implemented projects.

Completion of Government Construction Projects

On the extent to which completion of projects in the study area in terms of finish in time, within budget and scope. The data was collected from the different indicators of the variable completion of projects which was ordinal categorical. The data was therefore presented in frequency tables with the median being used as the appropriate measure of central tendency.

The first indicator for the dependent variable required to know what the project's completion in terms of finished within time was, 5% of the respondents had 0% , 35% had less than 10%, 20% stated 20-30% , 15% indicated 30-40% , 15% posited 31-40%, 10% indicated over 40% The

mode was found to be 2 which imply that on average the most of the project's completion in time is less than 10%. The next indicator required the respondents to state level of completion of projects within budget, 25% of the respondents had 0% , 45% had less than 10%, 10% stated 20-30% , 0% indicated 30-40% , 5% posited 31-40%, 15% indicated over 40% The mode was found to be 2 which imply that on average the most of the project's completion within budget is less than 10%.

When the respondents were asked what the level of completion of projects within scope was, 30% of the respondents had 0% , 55% had less than 10%, 15% stated 20-30% , 5% indicated 30-40% , 5% posited 31-40%, 0 % indicated over 40% The mode was found to be 2 which imply that on average the most of the project's completion within scope is less than 10%.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

The study sought to establish the influence of project team and project management skills on completion of government projects in Kenya. The empirical literature showed that all the determinants had a positive impact on the overall completion of government 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 government A pilot study was undertaken to test the reliability and validity of the questionnaire.

Project Team

From the descriptive statistics the study established that project team influence completion of government projects. The team competency affects completion of the government construction projects in time, as it enhance efficiency of the procurement process, reduces delayed payments, facilitates faster decision making and enhance transparency levels in management of the projects. The project team cohesion is important for the completion of the government construction projects within scope as it facilitates faster decision making, enhance transparency levels in management of the projects; it enhances contract scope changes and higher chance of monitoring and evaluation of scope activities. The leadership affect completion of the government construction projects within scope as it leads to efficiency of the procurement process, reduces procurement cycle, it encourage up-front planning efforts and it can lead to effectiveness of communication. The team commitment affects completion of the government construction projects within budget. It was established that it has encouraged intrinsic motivation, it encourage up-front planning efforts, it can lead to effectiveness of communication and affect efficiency of the procurement process.

Project Management Skills

From the study results it was established that project management skills affect completion of government projects. The majority of the respondents indicated that planning skills affect completion of the government construction projects in time. This is due to leadership and management skills of manager are being good. The project stakeholders are not satisfied with the

management of the project, manager is competent enough to manage the project and project managers possess ability for decision making and conflict resolution. It was further established that human skills affect completion of the government construction projects within scope. This was through the managers of projects are not managing resources properly, management of the projects meet the needs of the stakeholders, it can enhance contract scope changes and higher chance of monitoring and evaluation of project team scope activities. The technical skills affect completion of the government construction projects within scope through the project managers' knowledge of the technology which can reduce project life cycle, encourage up-front planning efforts and lead to effectiveness of communication. The planning skills affect completion of the government construction projects within budget. The managers of projects are managing resources properly according to the budget, management of the projects meet the budget to the satisfaction of the stakeholders, project managers possess ability for budgeting and auditing and efficiency of the procurement process according to the budget can be enhanced.

Conclusion of the Study

The study established that project team affects completion of government projects. 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 government projects at 5% level of significance as it had a positive relationship with the dependent variable. This reveals that project team was an important factor that could enhance completion of government projects. This also revealed that the more project team was well managed the more the completion of government

projects. Therefore, from these quantitative results it could be deduced that the study which sought to establish the influence of project team on completion of government projects was achieved because it established that project team influences completion of government projects.

The study established that project management skills affect completion of government projects. 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 government projects at 5% level of significance as it had a positive relationship with the dependent variable. This revealed that a project management skill was an important factor that can enhance completion of government projects. This also revealed that the more project management skills was well managed the higher the rate of completion of government projects. Therefore, from these quantitative results it could be deduced that the study which sought to establish the influence of project management skills on completion of government projects was achieved because it established that project management skills influences completion of government projects.

Recommendations for the Study

The study recommends that there is need to improve the project team competency to enhance efficiency of the procurement process, reduce delayed payments, facilitates faster decision making and enhance transparency levels in management of the projects. The project team cohesion is important for the completion of the government construction projects through effectiveness in communication. The project team commitment is

required to enhance completion of the government construction projects within budget.

The study recommends for the project management skills to the project team to enhance completion of government projects. The planning, communication, leadership and management skills of manager should be adequate. The project should be competent enough to manage the project and project managers should possess ability for decision making and conflict resolution.

Recommendations for Further Studies

A review of literature indicated that there is limited of research on the determinants of completion of government projects in the Kenyan context. Thus, the findings of this study serve as a basis for future studies on determinants of completion of government projects. The effects of determinants

on completion of government projects, has not been widely studied which presents gaps in African and Kenyan contexts. The study has contributed to knowledge by establishing that determinants of completion of government projects in the Kenyan context.

This study confined itself to government construction projects in Nyamira County in Kenya. A comparative study should be carried out to compare whether the findings also apply for other projects in different regions in order to validate whether the findings can be generalized in Kenya. Additionally, the study did not tie the determinants as the only factors of completion of government projects Thus, there is need to undertake another research to examine the other factors which could be of influence completion of government projects in Kenya.

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