

INFLUENCE OF UTILIZATION OF PROJECT PLAN DOCUMENTS ON PERFORMANCE OF GOVERNMENT PROJECTS IN RWANDA: A CASE OF SELECTED GOVERNMENT PROJECTS IN GASABO DISTRICT

¹DANIEL HANYURWIMFURA, ²Dr. PATRICK MULYUNGI

^{1,2}Jomo Kenyatta University of Agriculture and Technology

Abstract: The use of project management approach in management of organizations is gaining importance globally. Project management provides organizations with powerful tools at every project stage. Project initiation is the first stage in project management and is marked with the presence of communication plans, project design, risk management plans and project procurement plans. The aim of this research was to find out how these plans influence the project performance with focus on government projects in Gasabo District in Rwanda. The research was conducted through a survey. The target population of this study was the group of project managers of the 150 managers of ongoing and the stalled government projects in Gasabo District. Stratified sampling basing on the 9 ministries and the District office was used to get the sample of 110 managers. Information about the projects was obtained by visiting the project site and a self-administered questionnaire completed by the respondent manager. The validity of the questionnaire was established by seeking expert opinion. Reliability was established through a test-retest in a pilot study with 10 managers responding to the questionnaire twice without expectation. Data collection was done by use of a self-administered questionnaire. Statistics like mean standard deviation and percentages was used to analyze the data. Regression analysis was used to establish the relationship between the dependent and the independent variables. The research culminated in a research project. The study employed both quantitative and qualitative research in its data analysis. Data collected was analyzed through SPSS version 21. Data analyzed was reported using frequencies presented in tables, percentages, pie-charts and histograms. Qualitative data was incorporated in research findings on the basis of reviewed literature and field experiences. The findings led to the provision of recommendation on how utilization of project design plan documents can be used to improve project performance in Gasabo District. The study found that, lack of reviewing communication plan influenced the performance of government projects in Gasabo District. Communication between the parties also influenced the performance of the project which was not effective in Gasabo District. The study further revealed that past experience and relevant data should be used in designing project, and the standards to be achieved should be clear since they influence the performance of government projects in the District. The study recommends that the governments' employees should improve the current status of projects in the District. The projects should attain any tangible and observable performance levels. The study further recommends that the regulatory and legal conditions should be clear to the project team and a clear plan outlining timeframe for acquiring the products should be in place since it also affects performance of government projects in the District.

Keywords: Project design plan documents, Project Performance, Projects.

1. INTRODUCTION

1.1 Background:

Globally, use of project management approach in management of organizations is gaining importance (Isabalijsa, *et al.* 2011). Project management provides organizations with powerful tools at every project stage (Project Management Institute, 2013). The tools improve the ability to plan, implement, and control activities and the utilization of people and other resources. This rise of project management is due to the demand for the development of new methods of management to satisfy the needs of the contemporary society (Project Management Institute, 2014).

Project management is a strategic competency that enables entities to link project outcomes to business goals. For organizations running several short-term customer projects, Kerzner (2013) observed that project management is designed to control company resources in a given activity within the constraints of time, cost, acceptable level of performance and good customer relations. Project management follows a specific sequence of phases which define the work to be done, the person to do the job, the milestones, the person to approve and review the milestones as well as the control and monitoring of the milestones (Islam, Bhuiyan, & Hoque, 2011).

Application of project management documents in Africa shows positive effect on project outcomes on the continent, especially in the private sector and in Non-Governmental Organizations (NGOs). Research into Nokia projects in Africa (Sheiki, 2014) revealed a positive correlation between proper Earned Value Management (EVM) and project success. The study established that planning phase and initial assumptions made influence the way EVM can be handled, hence impacting on project outcome. According to PriceWaterhouseCoopers (PWC) survey, capital projects and infrastructure delivered expected benefits to stakeholders (PriceWaterhouseCoopers, 2014). Respondents indicated that key challenges included lack of skills and capacity to handle large projects, project delays and budget overruns. Adoption of project management methodologies and practices in the entire project life cycle increases chances of achieving project goals.

Planning is a fundamental tool in project management used in meeting project scope, time and cost (Passenheim, 2009). Planning defines the activities and actions, time and cost targets, and performance milestones which resulted in successful project objectives (Ubani, *et al.*, 2010). In the developed countries, according to Harris and McCaffer (2015), contractors have embraced planning because the results of a well-planned, carefully monitored and controlled contract directly impact on performance and profitability of the contract and the project.

Lock (2009), identifies the initiation phase as the first phase of a project. In this first phase, the problem or opportunity is identified and a case suggesting various solution options defined. Once the problem or opportunity is identified and a case built, a feasibility study is conducted to determine whether each suggested option addresses the problem and final recommended solutions put forward. On approval, the project is initiated to deliver the approved solution. Terms of reference are completed in which objectives, scope and structure are outlined and the manager appointed. The project manager recruits the project team, establishes a project office and seeks approval for planning to begin. The consolidation of all the documents associated with every aspect of project initiation results in the project initiation document (PID).

1.1.1 Project documents:

Kastner (2010) describes project initiation as the start of a project. He adds that proper documentation acts as evidence that a project was properly initiated. Some of the documents that should be present after effective initiation process and that was the focus of this research include: the communication plan, the procurement plan, the risk management plan and the project design plan (Ramabodu, & Verster, 2010).

According to Dahiru, *et al.* (2010) project communications plan identifies who received information, what information is to be communicated, how the information was disseminated, how often, and who was responsible for delivering the information. Abdulrazaq & Ahmad, (2011) notes that project procurement plan defines the contracting arrangements to be established in order to deliver the project. They added that for one to clearly spell out the procurement strategy, the market approach, the project brief and tendering method must be achieved through proper documentation. Masood, & Chouldhry, (2010) states that risk management plan identifies risk, assesses the risk, indicates how to respond to the risk, how to monitor and control the risk, and how to report the risks. Project design is the document in which solutions to clearly identified problems are identified and structured in a way that makes them implementable by the project manager (Whelton, 2014).

1.1.2 Project Performance:

Projects in developing countries are highly influenced by their external environment (Yimam 2011). Moreover, the project environment in many developing countries is unstable and characterized by rapid change of markets, shift of funding sources, frequent change of government policies and the business environment. Project performance is determined through measurement of various agreed aspects of the project. Walker and Nogeste (2009) identify four dimensions of performance of projects. These are project efficiency, impact on the customer or stakeholder, business success and preparing for the future. Project efficiency is a short-term measure that focuses on meeting schedule and cost goals. Impact on the customer or stakeholders focuses on meeting technical specifications, functional performance, fulfilling customer's needs, utilization of the project's product, customer satisfaction etc. Business success is about the commercial success of the project and its enabling the organization to gain increased market share (Mosse and Sontheimer, 2016). Preparing for the future focuses on the ability of the project to develop new technology, new product or a new market.

1.1.3 Government projects in Rwanda:

In Rwanda, project management approach is gaining momentum. The construction industry is one of the major industries contributing significantly to the socio-economic development growth (Choge & Muturi, 2014). The construction sector in Rwanda is a key potential driver of economic growth (RDB 2014). The expenditure on development projects in Rwanda for year 2014-2015 is projected at 784.1 billion Rwanda Francs, which is equivalent to 44.7% of total budget (Ministry of Finance and Economic planning [MINECOFIN], 2014.). Part of this expenditure is on construction projects as the country rebuilds its basic infrastructure after many years of underdevelopment and the 1994 Genocide. The construction industry is plagued by project expenditure exceeding the budget, delays in completing the projects in time and lack of acceptance by the stakeholders or end users at project completion.

Most government projects in Rwanda experience cost variations and completion delay problem due to documentation. The Kigali convention Centre took 6 years while the contract period was less than three years. The Auditor General's annual report highlights delays and cost overruns in Bushenge hospital and wasteful expenditure in the proposed King Faycal expansion project (Office of the Auditor General of State Finances [OAG], 2013). King Faisal Hospital initiated a project for rehabilitation, upgrading and expansion of the existing facilities to include a Physicians' Plaza, a new services extension building and Biomedical Centre. The studies and design for the proposed project were done at the cost of 1.8 billion Rwanda Francs. The studies indicated an estimated construction cost of 191.5 Million Dollars. The above state of affairs is an indicator that King Faysal hospital expansion and rehabilitation project was launched prior to confirming availability of necessary funds for full implementation of the project. It appears like the hospital started the designs without a clear financing plan. This is an indicator of poor project conception. Consequently, the expenditure incurred on the design may become wasteful, especially if the designs developed for this project are not put to use by Government (OAG, 2013).

To counter, this research investigated the extent to which project initial documentation is used in the planning and initiation of government projects in Rwanda.

1.2 Statement of the Problem:

A problem well stated is a problem half solved as noted by Crawford, (2011) that 30% of all projects are canceled midstream, and over 50% of completed projects end in up to 190% over budget and 220% late because of the poor handling of the initial process of documentation, there is a link between the project documents and the performance of the project.

Project initiation of most projects in developing countries is amalgamated with normal operational undertaking in functional organizations that have low project management capacity (Walliman, 2011). Despite the efforts by all players in the construction industry, many government projects in Rwanda and generally in the region and the world run a high risk poor performance by being well over budget and significantly late.

Projects are meant to address problems. The identification of a wrong project always causes a waste of valuable time, energy, and resources. If the problem is not effectively defined, the project executed always wrong, objectives and goals wrong and never address the intended problem. The effort to complete the project within the allowable budget, time and to the required specifications has been fruitless. Consideration therefore, must be considered before implementation.

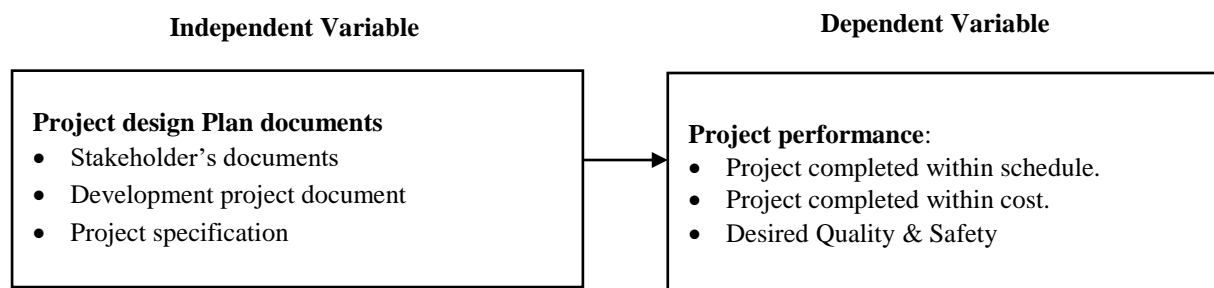
In reference to Rwanda no studies have been carried regarding project documentation process thus rendering the researcher to carry out the research on project identification process to fill the gap. This study analyzed the influence of the project plan documents on the project performance of government projects in Rwanda.

1.3 Objectives of the study:

The general objective of this study was to establish the influence of the utilization of the project plan documents on the performance of government projects. To achieve this the study established the influence of project design framework plans documents on the performance of government projects in Gasabo District.

2. CONCEPTUAL FRAMEWORK

A conceptual framework is a hypothesized model identifying the concepts under study and their relationships (Mugenda & Mugenda, 2009). A conceptual framework provides an outline of the preferred approach in the research and outlines the relationships and the desired effects, forming independent and dependent variables respectively. The conceptual framework is a diagrammatical presentation of variables in the study. The framework illustrates the interrelationship between dependent and independent variables. The independent variables for the study are communication planning documents, while the dependent variable is project performance.



2.1 Project design plan documents and Performance of a Project:

Amponsah (2012) conducted a study to identify the general reasons why projects fail in Ghana with focus on Accra and Kumasi. The study adopted the exploratory survey design. Using the purposive and convenience sampling methods, data was collected from 200 project managers and individuals from various cultural backgrounds and corporate organizations managing various projects. Data were collected in two phases. In the first phase, meetings and discussions with key personnel in project management areas on reasons why projects fail. In the second phase research instruments to both junior and senior staff of various organizations on the influence of culture on their daily work and subsequent impact on project failure were used. The study found that over 59% of the project managers had no knowledge of project management and did not even have designs of their projects. The study concluded that poor project design was a factor leading to project failure.

3. TARGET POPULATION

A target population refers to the total of all possible elements fitting a given set of specification (Borg and Gall, 2008). This study was carried out on projects in Gasabo District. This included 96 ongoing and 54 stalled projects. In total there are 150 projects. The total of the managers of each of the 150 project makes the population of the study which translates to 150 project managers.

3.1 Data Analysis Technique:

The data collected was coded and analyzed through SPSS (statistical package for social sciences) version 21. Descriptive statistics such as percentages, means and standard deviation was used. The data analysis technique that was utilized for this study is inferential and descriptive statistics, by use of measures of central tendency and dispersion. The arithmetic mean is the measure of central tendency that was used in this study since data clustered around statistical averages. The standard deviation is the measure of dispersion used in this study because Mugenda and Mugenda, (2009) states that standard deviation is the best measure of dispersion. Frequency and percentages tables were used to present descriptive analysis for the demographic data.

A multiple regression model was used in this study:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$$

Y= Dependent variable – Performance of Government Projects, α = Constant, μ = Error, β = Coefficient, X_1 = Communication Plan documents, X_2 = Project Design Framework plan documents, X_3 = Risk management plans documents and X_4 = Procurèrent Plans documents

Simple analysis of variance (ANOVA) was used to look for significant differences between the project plan documents utilization and performances. SPSS (Statistical Package for Social Sciences) software program was used for in-depth data analyses. Analyzed data was then presented using tables, pie charts, percentages and text.

4. RESEARCH FINDINGS

4.1 Project Design plan documents and government project performance:

The respondents were asked to indicate their opinions on the project design documentation and government project performance on the questionnaire; the results are as presented in Table 1

Table 1: Project design plan and government project performance

Statements	Mean	Std. Dev
The project had clear specifications	4.48	0.29
Standards to be achieved were clearly defined	4.22	0.24
Past experience and relevant data were used in designing project	4.24	0.23
Only qualified resources were specified in the design	4.27	0.27
Impartial reviews were conducted to ensure specifications are met	4.06	0.23
The design had effective change control	4.25	0.26
Designing the project involved a team with multiple stakeholders	4.20	0.24
Clear basic schedules and budgets developed	4.21	0.23
Problems and needs were identified, and solutions strategized	4.17	0.26
There were clear and measurable indicators of project progress	4.38	0.26

The research sought to establish the level at which respondents agreed on the above statements relating to project design, from the research findings majority of the respondents strongly agreed that; the project had clear specifications as shown by a mean of 4.48, Others stated that designing the project involved a team with multiple stakeholders as shown by a mean of 4.20, problems and needs were identified and 36 solutions strategized as shown by a mean of 4.17 and impartial reviews were conducted to ensure specifications are met as shown by a mean of 4.06. The findings are in line with Amponsah (2012), who stated that poor project design is a factor that can lead to project failure. All projects, whether successful or otherwise, revolve around the people involved at all levels. Relatively, few projects fail for technical reasons. Most fail because they are not effectively managed. The most important and complex aspect of the management task is managing relationships amongst the people involved.

On the influence of project design on performance of the projects, the study established that the project had clear specifications and there were clear and measurable indicators of project progress. It further revealed that only qualified resources were specified in the design and the design had effective change control. The research indicated that past experience and relevant data were used in designing project and the standards to be achieved were clear. Designing the project involved a team with multiple stakeholders who identified problems and needs of the projects and strategized their solutions.

4.2 Performance of Projects:

The study sought to establish the extent to which respondents agreed with the statements below on project performance. The following statements were presented to respondents in order to gauge their extent of agreement. The results are tabulated below: Item sought to assess the level of success of the project in Gasabo District the findings are indicated in Table 2

Table 2: Trend of performance of the government projects

Statements	Mean	Std. Dev
The project was completed on time	4.28	0.25
The cost of completing was approximately as budgeted	4.21	0.21
The project does not have adverse effect on the environment	4.32	0.24
The project is functioning very well	4.17	0.21
The users of the project are satisfied with the project	4.35	0.29
The financiers of the project are satisfied with the project	4.13	0.23
The contractors were satisfied with the project	4.43	0.27
The design team was satisfied with the project	4.18	0.25

The study sought to establish the level at which respondents agreed on the above statements relating to project performance, from the research findings majority of the respondents agreed that; the users of the project are satisfied with the project as shown by a mean of 4.35, the project does not have adverse effect on the environment as shown by a mean of 4.32, the project was completed on time all members as shown by a mean of 4.28, the cost of completing was approximately as budgeted as shown by a mean of 4.21, the design team was satisfied with the project as shown by a mean of 4.18, the project is functioning very well as shown by a mean of 4.17, and the financiers of the project are satisfied with the project as shown by 4.13. The findings are in line with Kishk and Ukaga (2008), who argue that successful project management is analyzed on the criteria of performance, budget and time of completion, utilization of resources and acceptance by the customer. The impact on the customer or stakeholders focuses on meeting technical specifications, functional performance, fulfilling customer's needs, utilization of the project's product, customer satisfaction.

5. CONCLUSIONS

On the influence of project design framework plan, the study concludes that there should be clear and measurable indicators of project progress. The study found that past experience and relevant data should be used in designing project and the standards to be achieved should be clear since they influence the performance of government projects in the District. In addition, the achieved plans should be clear since they influence the performance of government projects in the District. The study further concludes that the regulatory and legal conditions should be clear to the project team and a clear plan outlining timeframe for acquiring the products should be in place since it also affects performance of government projects in the District.

5.1 Recommendations:

This study makes the following recommendations.

1. The study recommends that specifications given in project design should be followed to ensure that projects meet the standards set by the stakeholders.
2. The study recommends that effective communication methods are applied to District government project and communication plans be used to the later.
3. Communication plans document has the highest influence on performance of District project thus communication objectives, channels and framework should be effectively put in place.
4. The study suggests that project managers are supposed to be trained on risk management related cases because risk management plans significantly influenced project performance.

5.2 Areas for further research:

Based on the conclusions and findings of the study, the following areas were suggested for further research:

This study focused on the influence of utilization of project plan documents on the performance of Gasabo District government projects, this research recommends that future research should look into factors influencing completion of other government projects in specific areas such as hospitals and schools.

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