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INFLUENCE OF PROJECT PLANNING PRACTICES ON EXPENDITURE OVERRUNS IN ROAD CONSTRUCTION PROJECTS IN NAIROBI COUNTY

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ABSTRACT

Road construction companies are always vulnerable to shortcomings and sometimes lead to poor performance the major reasons being due to failure of projects they undertake. Projects failure has mainly been due to not meeting deadlines and high cost overruns and this is noticeably because of very poor project management practices. Road construction projects are profoundly aggressive and have an extremely unique and changing market thus it makes the companies in this sectors to constantly make, actualize, survey and enhance methodologies in order to stay applicable and competitive in this market. Despite many road construction projects coming up with strategic measures in their contractors, numerous projects end up failing or having cost overruns. This study therefore, purposed to determine the influence of project planning practices on expenditure overruns in construction projects in Kenya, particularly in Nairobi County. The study was founded on the theory of project planning and practice. The study adopted a descriptive survey research design. The study targeted a population of 367 road contractors in Nairobi County. The respondents were one project manager in each of the companies. Therefore, the study employed purposive sampling in selecting the sample. The study used primary data collected using semi-structured questionnaires which were selfadministered with the help of two research assistants. The study used a multiple linear regression model in order to test the significance of the impact of the predictor variables on the dependent variable. Statistical package for social sciences (SPSS) computer software was used in conducting the analysis. The statistics produced include descriptive statistics and inferential statistics. For complementary purposes, Microsoft excel was used to in extracting diagrams and tables. The qualitative data gathered using the open ended. Findings were reported in a narrative form under themes reflecting the study objectives. The findings were expected to benefit various stakeholders namely road construction companies and other contractors, the government as well as other scholars.

Key Words: Project Planning, Expenditure

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INTRODUCTION

Project Management practices have been used to ensure that company's projects are successful, that is when they will be completed on time and within the estimated budget. A pointer of the degree to which an organization can possess proficiency to repeatedly accomplish what it has set out to embark on ensuring quality intended is achieved is referred to project management maturity, Cooke A major strategy used by and Tate (2011). companies is project management practices, which involves project planning practices, project communication practices, change management practices and project schedule management practices.

Rwelamila and Asalan, (2010) point to a list of project letdowns in both public and public divisions across various African countries in SADC region. These results of poor project performance were as a result of bad practices in project management and the best way to deal with such was better of what requirements understanding were necessary for good project management practices. In conclusion, Rwelamila and Asalan (2010) stated that for commencement of best practices in project management, Africa has to find solution to the challenges experienced leading to project failures. In Ghana, a study conducted by Frimpong et al, (2003), noted that cost overruns and time delays were predominant outcomes when projects undertaken were assessed. From the findings of the Ghanaian report it was noted that out of 47 projects commenced, over 30 projects exceeded the budgets and timeline signifying over 60% of all projects (Frimpong et al, 2003).A study conducted on performance of power projects in Kenya targeting Kenya Power Generating Company (KENGEN), showed that majority of the projects never met the expected timeline and overshot their budgets by very noteworthy levels fluctuating up to 50% and 29% respectively, (Gituro & Kagiri, 2008)

The road sector in Kenya, is rather competitive and packed; the number of companies is relatively high for one sector (Olotch, 2009). As indicated by Road

Regulatory Authority, there are 49 road construction projects in Kenya. Among the 49 road construction companies, 23 are life road construction projects and 26 are purely non-life road construction projects while the aggregate number of general road construction projects is 37 (IRA, 2014). Due the competitive and crowded road sector, many challenges faced, have led to collapse of some contractors. Within the past 10 years, 9 road contractors in Kenya have collapsed. This has been attributed to the fact that majority of the projects that road construction projects start, end up with overrun of expenditure and delay in implementation. According to IRA (2013), majority of road construction projects have poor project management practices.. Therefore, for any project they undertake, risk management is crucial and is integrated into the companies' system. The above factors led the study on the influence of project practices on expenditure overruns in road construction companies.

Statement of the Problem

Road construction companies are always vulnerable to shortcomings and sometimes lead to poor performance the major reasons being due to failure of projects they undertaken. Project failure has mainly due to not meeting time deadlines and high cost overruns and this is noticeably because of very poor project management practices. According to Rajagopal (2002), despite many road construction projects coming up with strategic measures in their contractors, 50% of the projects end up failing or having cost overruns. A survey conducted by International Monitory Fund (2009) showed that 57% of contractors failed in executing their projects over the last three years.

One of the essential project management practices is project planning, though this has not been the case in many road construction projects as it noted from late payment of claims which shows lack of preparedness. According to Katz and Tushman (2011), for a project to be successful project planning practices help one to understand the progress and know what measures are needed to get there. Poor project planning practices have led to loss of billions and time wastage, since majority of projects fail in Kenya (Mwaniki, 2009). Majority of road contractors have not been able to put this practice to their advantage. Road construction risk is all about anticipating a change or risk which can occur at a sudden and unexpected time, thus the contractor has to have an action plan ready, (Joseph 2006). However, this has been a gap in road construction companies whereby project managers have been known not articulate their goals or their expectation and thus the expected outcomes are rarely met.

There are still major gaps in many road construction projects in Kenya. Project scheduling practice has a significant influence in the finances of an organization, (Kerzner, 2013). Lack of а comprehensive work structure in majority of companies has led to poor performance in projects. Lack of resource allocation or poor allocation is a major issue that leads to time wastage. This study seeks to understand the influence of project planning practices, project communication practices, change management practices and project scheduling practices on expenditure overruns in road construction projects. The numerous studies conducted have not focused on these project management practices and their influence on expenditure overruns in road construction projects in Kenya which the study sought to fill.

Objective of the Study

The objective of this study was to determine the influence of project planning practices on expenditure overruns in selected road construction projects in Kenya.

LITERATURE REVIEW

Planning Theory

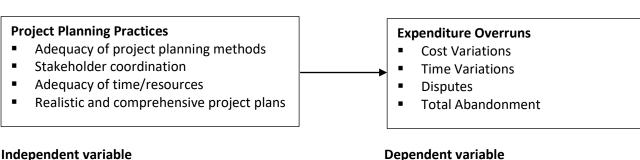
The tem planning can be applied to the whole process of constructing a project from the inception, feasibility study to the final commissioning and handing over the works that have been completed (Neale & Neale, 1989). Ackoff

(1970) as cited in Laufer and Tucker (1987) defines planning as a decision making process that is derived at in advance of a project of project execution meant to design a desired future with suggested ways of implementation. Planning therefore answers the questions; what, how, by who, with what and when. The purpose of planning as explained by Laufer and Tucker (1987) is to assist the manager of the project to achieve the basic functions of directing and controlling within the process of implementing the components of the project. The control of a projects encompasses monitoring and evaluating performance as well as undertaking actions towards correcting the process especially where performance goes contrary to the laid down plan. It is at the planning phase where proactive identification of various probable problems is undertaken before such problems can have a great impact on the cost as well as the schedule of the project (George et al., 2008).

Nyandemo and Kongere (2010) however present a different view of project planning. They argue that it is an institutionalized activity comprising of a series of predetermined and coordinated actions and processes for undertaking the operations for the identification, preparation, appraisal an implementation of projects. This definition does not incorporate the aspect of contingency planning which is a critical dimension in planning since things do not always work as planned.

Laufer and Tucker (1987) citing Birrel (1980), BRT (1983), Fondatil (1982), Jaafari (1984) and Peer (1974) seem to attribute ineffectiveness of planning to that it has traditionally stressed on the technical side of planning. However, with exception of control and forecasting so little of the original purpose of planning is being pursued. Other researchers such as Gilbert (1983) have focused on project control while Lichterberg (1983) has focused on project forecasting. Clough (1972) brings out a fundamental confusion that is a result of the emphasis given to scheduling wherein scheduling is even referred to as planning. The arguments seem to conclude that planning requires striking a balance between technical planning, scheduling, project control and contingency measures. Planning requires that the roles and responsibilities are clearly defined for involved parties. Mbaya (1984)

Conceptual Framework



Independent variable

Figure 1: Conceptual Framework

Project Planning Practices and Expenditure Overruns in Road Projects

Kimemia (2015) on an assessment of the main factors that led to delays in implementing projects within Kenya's construction sector by conducting a survey of the roads that were under the maintenance construction by KeNHA within the Coastal region of Kenya. The influence of project planning practices in these delays was assessed and noted lack of proper planning had influenced the delays in the construction industry significantly. The major reasons for this was that poor planning by the engineers led to delayed completion of road projects, while the long procedures involved in planning projects from the national level led to the increased days in which road projects were completed and this significantly led to delay of completion of roads. Pre-planning of the roads projects was found to be very poor; project schedule planning had not been achieved due to coordination and that KeNHA poor had compromised plans due to external interferences. Contractor's planning experience was also found to influences the rate of projects completion. The study therefore, concluded that construction project planning had a significant influence in the delay of construction projects in the road sector.

Munano (2014)explored the factors at preconstruction planning for public buildings in Kenya that influenced timeliness of project completion. The research adopted a qualitative strategy with a cross-section research design and an element of exploratory case studies on randomly sampled projects. The findings revealed that preconstruction planning is vital and have a great bearing on timely completion of projects. Factors that caused delays in project delivery identified included inadequate design and documentation, inadequate resources, long decision making process, inadequate personnel, inadequate time for preconstruction planning, lack of synergy among the project team, inconclusive feasibility study, unclear brief by the Client and lack of commitment by the project team. The consequences of not addressing them included substandard buildings cost and time overruns, variations to contract, strained relationships which impact negatively on project delivery completion.

Roslan (2015) investigated the mitigation measures for controlling time and cost overrun factors throughout four faces of project life cycle in Malaysia. The findings showed that the most influence ive mitigation measures for controlling time overrun was through implementation of

highlights the need for a system planning in project management that coordinates all the participants on the implementation of construction projects.

realistic planning and scheduling of the project, while for cost overrun was development of a comprehensive financial plan and cash flow. Planning emphasized complete and detailed plan as necessary to meet the objective requirement of a project. It allowed for identification of the project's task and resource requirements, along with the strategy for the project. A project plan created outlined the activities, tasks, dependencies and timeframes. The preparation of the budget was important in determining the cost estimates for the labour, equipment and material costs.

Empirical Review

Project implementing organizations rather companies are considering management practices to avoid expenditure overruns, there has been a number of project letdowns due to poor management practices. Rwelamila and Asalan, (2010) observed that there was a listing of project letdowns in both public and public divisions across various African countries in SADC region. These results of poor project performance were as a result of bad practices in project management and the best way to deal with such was better understanding of what requirements were necessary for good project management practices. Rwelamila and Asalan (2010) further noted that for commencement of best practices in project management, there is need to find a solution to the challenges experienced leading to project failures. A study conducted by Frimpong et al, (2003), noted that cost overruns and time delays were predominant outcomes when projects undertaken were assessed.

Azis, Memon, ARahman, and Karim (2012) focused on factors for controlling cost overrun in construction projects in Malaysia. The study was based on qualitative research methods. The study found that information and communication was crucial because in implementing construction project, different groups of companies were involved which included civil engineering contractors, subcontractors, M&E contractors and others, in such cases advanced information and communication systems were very important as to provide faster data sharing and making practitioners to take decision at earliest in solving any problem occurring during the project execution without delaying the activities

Al Nasseri and Aulin (2016) investigated a set of factors identified as enablers and barriers to successful project planning and scheduling of construction projects in Oman. The study found that the quality of a project schedule was a key factor both in determining the duration of the project with sufficient accuracy and, later, in managing the physical execution of the work. Poor project management of schedules was a major reason for projects failing to meet their original This commitment. weakness resulted in unintentional process and technical constraints, such as the inefficient management and allocation of resources and, hence, unrealistic schedules.

METHODOLOGY

This study adopted a descriptive survey research design. This design was adopted due to its ability to give a glimpse of the existing state of affairs pertaining the phenomena under study at the time of undertaking the study (Mugenda & Mugenda, 2008). The study targeted a population 367 road contractors in Nairobi County (NCA, 2014). The sample size for the study was 191 respondents representing 52.04% of the target population. The study used purposive sampling in selecting the sample. Semi-structured questionnaires were used to collect the data for the study and contained both open ended and closed ended questions allow both quantitative and qualitative data to be collected. The questionnaires were administered through two methods a drop and pick method and mail survey due to the busy schedules of some of the respondents. Data analysis preceded with screening and cleaning to find out whether there are errors that can be corrected. Qualitative data was analyzed using content analysis where findings were reported in a narrative form under themes reflecting the study objectives. For quantitative data, SPSS (V.20) was used to code and create a

data sheet that was used for analysis through quantitative techniques. Descriptive statistics were used to describe the characteristics of collected data. Pearson's Correlation, Analysis of variance (ANOVA) and Multiple Regression Analysis was used to establish the relationships among the study variables.

RESULTS AND DISCUSSION

A total of 191 questionnaires were administered. However, 180 questionnaires were returned dully filled as was required, with only 11 questionnaires not returned. This translated to 94% response rate. Orodho (2009) observes that a response rate of above 50% contributes towards gathering of sufficient data that could be generalized to represent the opinions of respondents about the study problem.

Project Planning Practices

The study sought to find how Project Planning Practices affect the expenditure overruns of the organization by exploring their view on how they describe project planning practices in the company and the findings were as follows;

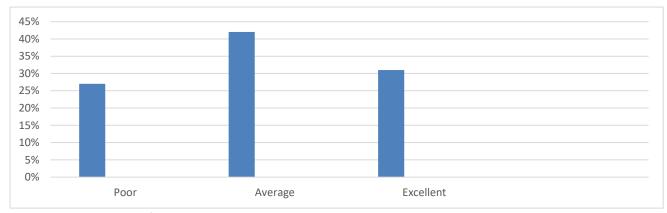


Figure 2: Description of project planning practices

The study sought to find out to what extent have project planning practices affected time and expenditure overruns if any in the projects undertaken by the company. Different reactions were observed where 13% indicated that project planning does not affect time, 27% were in the opinion of to low extent, 29% were in the opinion of Moderate extent last but not least the majority of the respondents summing up to 31% were supporting that the planning practice time is vital for the success of any project in the organization

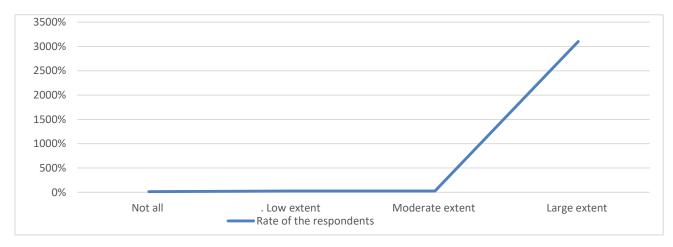


Figure 3: Extent to which project planning practices have affected time and expenditure overruns

Statement	Strongly	Disagree	Neutral	Agree	Strongly
There are lengthy precedures and desision making	Disagree	1 0 0/	00/	200/	Agree
There are lengthy procedures and decision making	12%	18%	9%	39%	22%
processes involved in planning practices in projects					
within the company					
There is coordination among stakeholders in	10%	16%	9%	37%	28%
planning road projects within the company					
There is some level of compromise of road project	11%	16%	7%	31%	35%
plans resulting from external interferences within					
the company					
The company possesses adequate road project	12%	20%	5%	34%	29%
planning methods					
Project planning affects the number and impact of	11%	24%	5%	33%	27%
change orders within the road projects					
The quality of preconstruction planning of road	9%	22%	0%	36%	33%
projects affect the number and magnitude of					
problems in the successive stages of the project					
There is adequate time and resources for	15%	15%	3%	38%	29%
undertaking planning of road projects	20/0	20/0	0,0	00/0	2370
The road project plans undertaken in the company	15%	18%	0%	38%	29%
are realistic and comprehensive	13/0	10/0	070	3070	2370
·	1 / 0/	26%	10/	2.40/	7.40/
Road project plans affect the identification of road	14%	26%	4%	34%	24%
projects' task resource and time requirements					

The study required to find out the level of agreement of respondents to the statements relating to project planning practices. On the statement, 'there are lengthy procedures and decision making processes involved in planning practices in projects within the company,' 22% of the respondents strongly agreed as 39% of the respondents agreed with the statement, alluding that time is spent on procedures and decision making that would otherwise be used in implementation process. On the contrary 12% of the respondents strongly disagreed as 18% of the respondents disagreed with the statement, this section perhaps suggest they have no problem with the lengthy procedures and long decision making process. 9% of the respondents were neutral to the statement.

'There is coordination among stakeholders in planning road projects within the company,' on this statement 28% percent of the respondents strongly agreed as 37% of the respondents agreed with the statement, indicating majority of the respondents agreeing with the statement in the sense that during project stakeholders have amicable coordination. On the other hand, 10% of the respondents strongly disagreed with the statement as 16% of the respondents disagreed, indicating that there exist poor or no coordination among stakeholders. 9% of the respondents were neither in agreement nor disagreement.

'There is some level of compromise of road project plans resulting from external interferences within the company,' majority of the respondents were in agreement with statement at 35% and 31% strongly agreed and agreed respectively. While 11% strongly disagreed as 16% disagreed with the statement. 7% of the respondents remained nonaligned with the statement. 'The company possesses adequate road project planning methods on this statement 29% of the respondents were in agreement, 34% agreed with the statement indicating that there are sufficient road project planning methods within the company. On the other hand, 12% and 20% of the respondents strongly disagreed and disagreed respectively. 5% of the respondents were neither in agreement nor disagreement. On the statement that Project planning affects the number and impact of change orders within the road projects, 27% of the respondents were strongly in agreement with the statement as 33% of the respondents agreed with the statement. 11% of the respondents strongly disagreed and 24% of the respondents disagreed with the statement indicating a contrary opinion to the statement. 5% of the respondents were neutral. The quality of preconstruction planning of road projects affect the number and magnitude of problems in the successive stages of the project. Majority of the respondents were in agreement with the statement at 69% while 31% of the respondents were in disagreement.

There is adequate time and resources for undertaking planning of road projects, 30% of the respondents were in contrary opinion that the time and resources that are available for planning is not adequate, 3% of the respondents lack the idea of the relationship between the time resource and planning, 67% of the respondents agreed with the statement and assert that the time allocation and the resources are normally sufficient for the planning of the project activities. On the statement of the road project plans undertaken in the company are realistic and comprehensive, 33% disagreed with the statement and no one seemed to lack idea of how realistic the projects are and 67% were in similar opinion asserting that all road project was realistic and worth undertaking.

On the statement of Road project plans affect the identification of road projects' task resource and time requirements 40 % disagreed claiming that road project plan does not necessarily affect the identification of those project, 4% neither agreed nor disagreed with the statement claiming that they have no idea at all, 56% of the respondents agreed claiming that plans must be there for all the projects to be identified.

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The number of delayed road projects has reduced significantly in the past 5 years	12%	21%	2%	37%	28%
The number of road projects that faced cost overruns has reduced significantly in the past 5 years	14%	19%	4%	32%	31%
The variation of total project cost from the initial budget has reduced significantly in the past 5 years	15%	17%	0%	38%	30%
The deviation of total construction period from planned project completion date has reduced significantly in the past 5 years	13%	17%	2%	39%	29%

On finding out the level of agreement by respondents on statement relating to Overruns in Expenditure of Road Construction Projects 65% of the respondents were in the view that the number of delayed road projects has reduced significantly in the past 5 years but 33% had a differing view on the statement by disagreeing with the statement. On the statement that the number of road projects that faced cost overruns has reduced significantly in

the past 5 years was supported by 63% of the respondents by agreeing with the statement, as 32% of the respondents were in disagreement with the statement. On the statement of the variation of total project cost from the initial budget has reduced significantly in the past 5 years 32% of the respondents were in disagreement stating that the variation is there but does not normally satisfied the cost since a lot of funds mismanagements have

been observed While 68% were in the opinion that cost and budgets have been reconciling for most of the road project.

And lastly the deviation of total construction period from planned project to completion date has reduced significantly in the past 5 years the reaction favors the statement since majority of the respondents summing up to 68% were in agreement claiming that total construction period from planned project to completion date has indeed reduced 2% lacked idea and the remaining 30% were in disagreement and stress that a lot still need to be done for the project time to be reduced.

Summary of Findings

Project Planning Practices

The study find out that project planning practice is vital for the successful completion of the project and this was achieved through extracting more information from the respondents by asking different question concerning their level of agreements with the statement an majority of the respondents stated that 'there are lengthy procedures and decision making processes involved in planning practices in projects within the company,' only few alluding that time is spent on procedures and decision making that would otherwise be used in implementation process. They further suggest there has no problem with the lengthy procedures and long decision making process. And explain that there is coordination among stakeholders in planning road projects within the company and during project stakeholders have amicable coordination. Though there is some level of compromise of road project plans resulting from external interferences within the company and the company should take the responsibility to ensure that the problem is properly tackled. And also the company possesses adequate road project planning methods there is a need for sufficient road project planning methods within the company.

On the statement that Project planning affects the number and impact of change orders within the

road projects, majority agreed with the statement. Only few disagreed indicating a contrary opinion to the statement. The quality of preconstruction planning of road projects affect the number and magnitude of problems in the successive stages of the project. Majority of the respondents were in agreement with the statement and suggested that something should be done. And time and resources were observed to be adequate for undertaking planning of road projects, On the statement of the road project plans undertaken in the company are realistic and comprehensive majority agreed, asserting that all road project are realistic and worth undertaking. On the statement of Road project plans affect the identification of road projects' task resource and time requirements only few claiming that road project plan does not necessarily affect the identification of those project, while majority agreed claiming that plans must be there for all the projects to be identified.

Overruns in Expenditure of Road Construction Projects

On finding out the level of agreement by respondents on statement relating to Overruns in Expenditure of Road Construction Projects majority of the respondents were in the view that the number of delayed road projects has reduced significantly in the past 5 years but minority had a differing view on the statement by disagreeing with the statement. On the statement that the number of road projects that faced cost overruns has reduced significantly in the past 5 years was supported by majority of the respondents by agreeing with the statement, as minority of the respondents were in disagreement with the statement. On the statement of the variation of total project cost from the initial budget has reduced significantly in the past 5 years minority of the respondents were in disagreement stating that the variation is there but does not normally satisfied the cost since a lot of funds mismanagements have been observed While majority were in the opinion that cost and budgets have been reconciling for most of the road project and lastly the deviation of total construction period from planned project to completion date has reduced significantly in the past 5 years the reaction favors the statement since majority of the respondents summing up to majority were in agreement claiming that total construction period from planned project to completion date has indeed reduced, a section lacked an idea and the remaining minority were in disagreement and stress that a lot still need to be done for the project time to be reduced.

CONCLUSION AND RECOMMENDATION

For effective completion of the project the lead teem should focus on project planning, project communication scheduling time among other factors is when integration of the project management practice will be a success.

Project planning practice should be seen as vital for the successful completion of the project and this should be achieved through extracting more information from the respondents by asking them different question concerning lengthy procedures shorten and decision making processes be involving in planning practices in projects within the company. Authority should ensure coordination among stakeholders in planning road projects within the company and during project stakeholders should have amicable coordination. The company should take the responsibility to ensure that the problem is properly tackled. And also the company should possess adequate road project planning. And time and resources should be adequate for undertaking planning of road projects, last but not least road project plans undertaken in the company should be realistic and comprehensive.

The number of delayed road projects has reduced significantly in the past 5 years there should be more to be done to ensure no road projects are delayed. Though the number of road projects that faced cost overruns has reduced significantly in the past 5 years, the company should work extra hard to ensure there is no cost overruns when undertaking road project.

Suggestions for further Research

The study aimed at investigating the Overruns in Expenditure of Road Construction Projects hence further study should be conducted that cuts across all the line of projects and should not be limited to the government projects only the study should also be extended to Non-Governmental organization projects.

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