

## **INFLUENCE OF PROJECT PLANNING PRACTICE ON PERFORMANCE OF CONSTRUCTION PROJECTS IN KENYA**

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**Abstract:** *The purpose of the study was to establish the influence of project management practices on performance of construction projects with a specific objective to determine the influence of planning practice on performance of construction projects in Kenya. The study adopted a mixed research design which included descriptive survey, census and correlation. The target population was 1761 respondents with a sample size of 313 respondents comprised of 160 managers of Early Childhood Development Education, 11 managers of county polytechnics, 133 stall managers and 9 managers of county modern markets. The study is of significance to policy makers, county governments and academicians. The study found out that project planning practice and project stakeholders' practice had a negative significant influence on performance of construction projects. The study also found out that planning gives direction to the activities to be performed in time and reduces mistakes. The study therefore recommended that management of the construction projects should have competent managers to have plans in place to give direction to the activities to be performed on time and reduce mistakes also utilize the project resources adequately*

**Keywords:** *construction projects, project planning, project management practices*

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### **I. INTRODUCTION**

The community and the stakeholder participation in planning process involve different roles and responsibilities in the planning (Omolo, 2011). Project planning includes coming up with a plan that entails specification of resources required and their allocation and determining the project end results, solving critical issues and time schedule (Ntuala, 2010). To manage a project professionally and successfully, a project manager will need adequate project management skills. Omidvar, Samad and Alias (2012) state that the competence elements like technical, behavioural and contextual are essential. They further argue that project managers' competency can influence the achievement under construction process.

#### **National Perspective of Project Management Practice and Performance**

In Kenya, construction industry is an important sector in the growth of the economy. The Kenya National Bureau of Statistics (KNBS, 2015) notes that the construction industries contributes to 4.1%, 4.2% and 4.8% towards Gross Domestic Product (GDP) 2011 – 2014 (Gwayo, Wanyona & Ong'londo, 2015). The importance of using construction projects is to create socio-economic value through effective public services that produces an environment that fosters investment and improving the standards of living of the people in any society (Ofari, 2013, Graham & Englund, 2013).

Gwayo, Masau and Wanyona (2014) assert that the construction projects faces problems such as not being completed on time, the building defects and over reliance on foreign workers. Many construction projects majority being road infrastructure faces cost escalation that they may need extra funding and also project management conflicts. Munamo (2012) asserts that many projects which are from the public sectors are not completed on time. For instance the rate of completing government projects in Kenya 2010 – 2012 was 37.97%, 47.53%, 33.14% and 21.88%. In place they have building operations and organization documents that are supposed to give guidelines 35.6% in the average completion rates. According to Mbaluku and Bwisa (2013) a project is successfully implemented when it is on schedule, budget and when it is able to attain all the goals set and accepted by the customers and used by him or her for the purpose it is intended. Muchungu (2012) supports that despite the good quality of training of consultants in the building industry in Kenya, construction projects do not meet the key performance goals. This can be seen by delay in completion time, cost overrun and low quality of work hence collapsing of buildings in various parts of the country, customers' dissatisfaction, while cost of maintenance is high and some buildings are not functional.

Reasons why objectives of a project are not successfully attained are noted by Gwayo, Masau and Wanyoma (2014) is that they do not depend on the stakeholder's satisfaction in the project. They further assert that the construction industry contributes to 4.1%, 4.2% and 4.5% towards the Gross Domestic Product (GDP) between 2011- 2014 (KNBS).

Olembe (2012) and Okumbe (2008) note that there is less training of mangers in schools during the construction of infrastructural facilities. This could be the causes of many schools having projects that are stalled, dilapidated structures and poor performance in construction projects. Kibuchi and Muchungu (2012) further argue that even with the best quality of training of consultants in the Kenyan construction sector do not always meet their objectives. This is when many projects are delayed to be completed in time. Mukulu, Nteere and Namusonge (2012) noted that performance measure is important for growth of organizations in achieving goals.

### **Scope of the Study**

The study focused on construction projects which are located in Kakamega County. This study comprised Early Childhood Development Education, County polytechnics, County stalls and County modern markets that are located in the County.

Kakamega County is the second largest county among the forty seven counties in Kenya. The County chosen was justified by the many construction projects that are being undertaken and it has been used by other counties as a bench mark.

### **Statement of the Problem**

Project management practice in the construction industry continues to be a great challenge in Kenya. Projects undertaken are substandard and only the contractors reap heavily from the shoddy work they do and most people are not pleased with the quality of projects done (Bwisa & Oyalo, 2015). Despite the training of consultants in the construction industries they do not meet the specified criteria. This construction projects can collapse due to poor design, use of low quality materials and lack of qualified and incompetent contractors as noted by previous researchers, Githenya and Ngugi (2014), Gacheru (2015) and Nyagah 2010. This is a problem because few projects in Kenya are supervised by qualified technicians who end up failing. The objectives of construction project are not successfully achieved since they do not depend on the customer satisfaction (Gwayo et al., 2014). According to Kakamega County project implementation report (2013 –

2017), the County has twelve sub counties under which construction projects are located. These markets are Shianda, Khayega, Harambee, Shirere and Mulwanda are completed and yet some are under construction yet the plan by County government was to complete these projects within a period of five years. It is noted with concern that some projects are still under construction. For example, the construction of Bukura market, Kipkaren and Mumias and Early Childhood Development Education Centres in Bahari Primary and Furale Primary school are not yet completed and the period stipulated was five years. Namusonge, Kabare and Mutua (2012) suggest that performance measure is important in assessment of improvement of organisation as well determining whether or not it is achieving its stated goals. This study therefore sought to examine how project planning practice influence the performance of construction projects in Kenya.

### **Study Objectives**

The general objective of the study was to establish the influence of project management practices on performance of construction projects with a specific objective to determine the influence of project planning practice on performance of construction projects in Kenya.

## **II. RESEARCH METHODOLOGY**

The study adopted a mixed research design. The research design was both qualitative and quantitative. The research was descriptive and census. Descriptive was to assist the researcher to describe fully all the dependent variables and independent variables to establish the relationship between the variables. The target population was 1761 respondents comprised of 925 Early Childhood Development Education managers, 62 County polytechnics managers, 765 modern stall managers and 9 managers of County modern markets. A sample size of 313 respondents comprised of 160 managers of Early Childhood Development Education, 11 managers of County polytechnics, 133 stall managers and 9 managers of county modern markets. The sampling technique that was used was stratified random sampling. For primary data questionnaires was used as the main data collection instruments and was in form of a five likert scale with both closed and open ended. Multiple sources were used to collect secondary data; the respondents filled in the answers in the spaces provided to collect information required. Pilot study was done using 11 respondents. Reliability was measured using Cronbach's Alpha. Validity of the instruments was measured using a team of experts in the field of project management who are in charge of the area of study. Data was analyzed using qualitative and quantitative methods. Linear regression model and correlation coefficient was used to determine the relationship between project management practices and performance of construction projects.

## **III. RESEARCH FINDINGS AND DISCUSSION**

### **Descriptive Results**

The The findings are presented in a five point Likerts scale where SA=strongly agree, A=agree, N=neutral, D=disagree, SD=strongly disagree and T=total.

Table 1 below contains a summary of data relating to attitude of respondents towards determining the influence of project planning practice on performance of construction projects in Kenya. For instance, when respondents were asked whether planning gives direction to the activities to be performed in time and reduces mistakes. The distribution of findings showed that 46.0 percent of the respondents strongly agreed to the statement that planning gives direction to the activities to be performed in time and reduces mistakes, 27.0 percent of them

agreed, 1.0 percent of the respondents were neutral, 12.0 percent disagreed while 14.0 percent of them strongly disagreed. These findings implied that planning gives direction to the activities to be performed in time and reduces mistakes. The study findings are in agreement with Githenya and Ngugi (2014) who opine that project planning leads to success of implementation of housing projects in Kenya.

The respondents were also asked whether funding of the project is done on time. The distribution of the responses indicated that 25.0 percent strongly agreed to the statement, 30.0 percent of them agreed, 6.0 percent of them were neutral, 33.0 percent of them disagreed while 6.0 percent of them strongly disagreed to the statement. These findings implied that funding of the project is done on time. The study findings disagree with the findings by Bwisa and Oyalo (2015) who found that there were delays in funding the CDF projects in Kenya.

The respondents were also asked whether resources used in the project were adequate. The distribution of the responses indicated that 24.0 percent strongly agreed to the statement, 28.0 percent of them agreed, and 5.0 percent of them were neutral, 26.0 percent of them disagreed while 17.0 percent of them strongly disagreed to the statement. These findings implied that resources used in the project are adequate. The results support the findings of Kariungu (2014) who noted that timely availability of material and work had a significant impact on early delivery of the construction project.

The respondents were further asked whether project managers have experience and skills in planning the construction projects. The distribution of the responses indicated that 33.0 percent strongly agreed to the statement, 25.0 percent of them agreed, 5.0 percent of them were neutral while 20.0 percent and 17.0 percent of them disagreed strongly and disagreed to the statement respectively. These findings implied that project managers have experience and skills in planning the construction projects. This finding are corroborated by Cheron and Morenge (2016) who asserted that planning skills assisted the project team with knowledge and skills to achieve the project goals.

The respondents were further asked whether planning tools are involved in the project. The distribution of the responses indicated that 21.0 percent strongly agreed to the statement, 36.0 percent of them agreed, 4.0 percent of them were neutral, 21.0 percent of them disagreed while 18.0 percent of them strongly disagreed to the statement respectively. These findings implied that planning tools are involved in the project. Findings consistent with Kariungu (2014) who found that project planning tools influenced the completion of projects.

The respondents were asked whether the estimated period (long term and short term) by managers in planning is used in projects. The distribution of the responses indicated that 22.0 percent strongly agreed to the statement, 28.0 percent of them agreed, 4.0 percent of them were neutral, another 27.0 percent of them disagreed while 19.0 of them strongly disagreed to the statement respectively. These findings implied that the estimated period (long term and short term) by managers in planning is used in projects. The findings concurred with Nzioka (2017) who suggested that project management planning on time affected the performance of construction projects.

*Table 1: Influence of project planning practice on performance of construction projects in Kenya*

<b>Statement on Influence of project planning practice on performance of construction projects in Kenya</b>		<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
1. Planning gives direction to the activities to be performed in time and reduces mistakes	%	46.0	27.0	1.0	12.0	14.0
2. Funding of the project is done on time	%	25.0	30.0	6.0	33.0	6.0
3. Resources used in the project are adequate	%	24.0	28.0	5.0	26.0	17.0
4. Project managers have experience and skills in planning the construction projects	%	33.0	25.0	5.0	20.0	17.0
5. Planning tools are involved in the project	%	21.0	36.0	4.0	21.0	18.0
6. The estimated period (long term and short term) by managers in planning is used in projects	%	22.0	28.0	4.0	27.0	19.0

### Inferential Analysis

Table 2: inferential analysis

<b>Statement on Correlations matrix</b>		<b>Project planning practice</b>	<b>Project stakeholders' practice</b>	<b>Project risk practice</b>	<b>Project monitoring and evaluation practice</b>	<b>Project leadership practice</b>	<b>Project performance</b>
Project planning practice	Pearson Correlation	1	.241*	.233*	.196	.296**	.006
	Sig. (2-tailed)		.016	.020	.052	.003	.009
	N	300	300	300	300	300	300

As shown in table 2 above, the p-value for project planning practice was found to be 0.009 which is less than the significant level of 0.05, (p<0.05). The result indicated that Pearson Correlation coefficient (r-value) of 0.006, which represented an average, positive relationship between project planning practice and performance of construction projects in Kenya.

### Regression Coefficients

A simple linear regression was performed to determine the effect of project planning practice on their contribution to performance of construction projects in Kenya.

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

$$Y = 0.002 + 0.153X_1$$

Where;

Y=Performance of construction projects in Kenya

$\beta_0$  = Constant (coefficient of intercept)

X1=Project planning practice

$\beta_1$ = Regression Coefficients

$\epsilon$  - error term

Table 3: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.002	.091		.019	.000
Project planning practice	-.153	.099	-.153	-1.549	.000

a. Dependent Variable: Project performance of construction projects in Kenya

The results indicated that a unit increase in project planning practice leads to 15.3% improvement in the performance of construction projects in Kenya. According to this model when the project planning practice value is zero performance of construction project in Kenya will have a score of 0.002. This shows that model is a good fit that significantly be used to predict the dependent variable representing the performance of construction project in Kenya.

### Hypothesis Testing

The hypothesis to be tested was:

H0<sub>1</sub>: Project planning practice does not have a significant influence on performance of construction projects in Kenya.

The findings from the table 3 above show that project planning practice ( $\beta = -.153$ ) was found to be negatively related performance of construction projects in Kenya. From t-test analysis, the t -value was found to be -1.549 and the p -value 0.000. Statistically, this null hypothesis was accepted because  $p < 0.05$ . Thus, the study rejected the alternative hypothesis and it concluded that project planning practices does not affect performance of construction projects in Kenya.

## IV. SUMMARY AND CONCLUSION

Project planning is organizing the assembling or putting the required resources such as manpower, time, material, inputs and money to perform the work in the plan. In this study project planning practice were measured by planning giving directions to activities to be performed on time to reduce mistakes, funding of the projects is done on time, adequate use of resources, experience and skills in planning, projects tools and estimated period. This study sought to determine the influence of project planning practice on performance of construction project in Kenya. The study found out that planning gives direction to the activities to be performed on time and reduces mistakes influenced the performance of construction projects. It also

established that resources used in the project are adequate influenced the performance of construction projects and project managers experience and skills in planning influenced the performance of construction projects. Likewise planning tools are involved in the project and that estimated period (long term and short term) by managers in planning used in projects influenced, performance of construction projects.

Moreover, the study found out that there was an average positive relationship between project planning and performance of construction projects. Therefore, the study found out that project planning influenced the performance of construction projects.

In conclusion basing on the findings, project planning practices ( $\beta = -.153$ ) was found to be negatively related to performance of construction projects in Kenya. From t-test analysis, the t -value was found to be -1.549 and the  $\rho$  -value 0.000. Statistically, this null hypothesis was accepted because  $p < 0.05$ . Thus, the study rejected the alternative hypothesis and it concluded that project planning practices does not affect performance of construction projects in Kenya.

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