

Risk Management and Project Implementation

Olivia Charlotte

Department of Entrepreneurship, Charles Sturt University

Corresponding author's e-mail: jharper@edithcowanjournals.org

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ABSTRACT

Purpose: The purpose of this study was to establish the effect of risk management on the implementation of projects.

Methodology: This study adopted descriptive cross sectional survey design. The target population were the 168 construction project managers at various departmental levels. The population was divided into strata consisting of the departments i.e. Procurement department, HRM department, Finance department and the monitoring department and the sample population was then calculated using the stratified random sampling technique from each respective stratum. The quantitative data was analyzed by descriptive statistics and inferential statistics using Statistical Package for Social Sciences (SPSS version 20). Data was then presented in tables, charts and graphs.

Results: The findings revealed that project management training, project audits, project monitoring and supplier vetting had a significant association with project implementation.

Unique contribution to theory, practice and policy: The government in conjunction with the county government need to set clear policies governing the management and accountability of construction fund which should be directed towards serving the citizens rather than being utilized for self-interests. There is need for constant and periodic improvement of the human resource. The induction and training process in the project management combined with the experience of the personnel and the skills, works well to see the construction projects to completion. Transparency in the utilization of construction funds is key since most of them are utilized through self-interests of the managers.

1.0 INTRODUCTION

The process of project implementation involves the successful formulation of a project's mission and the establishment of fundamental procedures essential for its effective execution within any organizational context (Roba, 2014). In order to successfully integrate new strategies, organizations and projects are confronted with the task of selecting capable departmental leaders to introduce innovative products, services, software, and systems, thus gaining a competitive advantage in the market (Cleland & Ireland, 2012). Consequently, project risk management becomes a crucial procedure aimed at identifying, assessing, analyzing, and responding to the risks associated with a project (Wachuru & Amuhaya, 2013).

Within the realm of project implementation, risks can severely impede the achievement of major project objectives encompassing cost, time, scope, and quality. This could potentially result in additional costs, consequently leading to diminished returns on investment for clients, as well as reduced revenues for contractors and consultants (Heeks & Stanforth, 2014). To establish an effective and efficient risk management approach, it is imperative to have well-defined and proficient processes in place, as well as a wealth of knowledge and experience drawn from various types of projects that have been previously undertaken.

In this context, effective teamwork plays a pivotal role in ensuring the success of projects, as project management focuses on the controlled introduction of desired changes. Given the aspiration for sustainable development within the realm of project implementation, a more effective approach involves the identification and categorization of risks, followed by an assessment of potential risks, their impacts, and probabilities within each category (Williams, 2012).

With a shift towards devolution in tandem with Kenya's economic pillars, particularly within the Vision 2030 development framework, the construction industry emerges as a fundamental sector contributing significantly to socio-economic growth and the realization of Vision 2030. Notably, within Kenya's construction operations, Malala, Ndolo, and Njagi (2015) underscore the persistent concerns among stakeholders regarding procurement processes. These concerns encompass various ambiguities ranging from tender advertisement and opening procedures to subjective tender evaluation and unclear bid awarding, further compounded by inactivity or a complete absence of receipt, inspection, and acceptance committees.

Consequently, the repercussions of these factors translate into a substantial number of construction projects, approximately 60%, experiencing delays or abandonment. Financial resources allocated for project implementation occasionally get redirected towards personal endeavors, thus sidelining community development initiatives and resulting in numerous stalled projects (Richard, 2013). Many of these projects lose value in their incomplete state, failing to meet the intended recipients' requirements. Additionally, some projects commence without involving the recipients in identification and prioritization, ultimately lacking community support.

The implementation challenges faced by Kenya's devolved government include issues of fund misappropriation, inadequate mechanisms for monitoring and assessing community-level activities, and poor management of community needs by administrative councils, as noted by

Yatich and Sakataka (2013). Furthermore, adherence to project timelines often falls short, leading to issues of procrastination and the eventual delay or non-implementation of projects. Fengler et al. (2011) also highlight Kenya as an example of a traditional aid recipient nation. The expansion of aid has been modest, and Kenya's main hurdle has been the volatility of aid. Apart from the rapid increase in aid from China, the emergence of new donors has been gradual. Public concerns have also been raised regarding the administration and political interference with the funds.

1.1 Statement of the Problem

The effective execution and optimal utilization of construction and endorsed projects have become a subject of growing concern within the country, ever since the enactment of the construction Act. While the project implementation process is intricate and demands simultaneous attention to various variables, such as management support, its ultimate aim is the successful project completion. Aligned with the construction Act, the fund essentially operates as a mechanism for decentralization, channeling government funding down to the common citizens, in accordance with Kenya's constitution. This framework is designed to ensure the efficient implementation of projects (Roba, 2014).

Despite the positive portrayal of construction, doubts linger regarding its optimal utilization, with suspicions arising that politicians might be exploiting it to further their patron-client networks (Kimenyi, 2005). Notable examples, such as the Bondeni/Kosovo Bridge and the construction of a perimeter wall at Salama Primary School, highlight discrepancies between allocated funds and project progress (The Auditor-General, 2015). An audit report on construction s indicated irregularities and discrepancies in financial statements, raising concerns about the accuracy and reconciliation of figures presented for audit (The Auditor-General, 2015).

In light of these issues, the present study endeavors to shed light on the implementation of construction projects specifically within the Starehe constituency. While previous studies by Kariuki (2013), Oyalo (2015), and Sugal (2017) have explored aspects of risk and construction project implementation in different constituencies, their focus did not extend to examining the impact of risk management strategies on construction projects within the Starehe constituency. Given the limited applicability of findings from these studies to the current context, it is evident that research on risk management strategies and construction project implementation in the Starehe constituency is scarce.

The current study recognizes these gaps in the existing literature and aims to address them by investigating how risk management strategies influence the implementation of projects in Kenya. Through this exploration, the study seeks to contribute valuable insights into the dynamics of construction project execution and its alignment with risk management practices.

1.2 Objectives of the Study

This study sought to establish the effect of management strategies on the implementation of construction projects in Kenya.

2.0 LITERATURE REVIEW

2.1 Theoretical Review

This study was based on four theories, namely the Resource Based theory of the firm (Wernerfelt, 1984), the stakeholder Theory, Theory of Constraints, and Systems theory.

The stakeholder Theory was originally published by Mitroff (1983). The stakeholder approach is a universally perceived proficient train, which appreciates bolster from a developing network of scientists, researchers, and enquiring professionals. This theory was instrumental in evaluating the capability of stakeholders in any projects especially construction projects to monitoring the projects processes from the initial stages of planning and to make sure the project comes to its ultimate implementation stage. Thus the theory was very significant in informing the effect of project audits and project monitoring on the implementation of construction projects in Kenya.

Theory of Constraints (TOC) stipulates that every system, has at least one constraint that hinders its performance. The theory by Goldratt in 1984, holds that any reasonable framework has an inhibitive factor which has a tendency to obstruct the best execution of the foundation (Rahman, 1998). The requirement is the repressing variable that turns away the framework from accomplishing its objective or a task from getting more outputs. The project managers closely monitor the demand and supply curves to ensure equilibrium is maintained (Şimşit, Günay & Vayvay, 2014). The theory was informative to the relationship between Supplier Vetting practices and Implementation. This theory was practically instrumental in evaluating the capability of construction projects to adopt, incorporate functional and effective and cost effective practices in the procurement/supplier selecting process.

The Resource based-view Theory developed by Wernerfelt (1984) emphasizes resources and capabilities as the origin of competitive advantage. Based on the resource-based view theory of the firm, the connection with firm resources, capabilities and competitive advantages and proposes that organizations should look inside the company to find the sources of competitive advantage rather by searching for competitive environment for it such as such as capital, equipment, skills of individual employees, patents, finance, and talented managers (Kraaijenbrink, Spender & Groen, 2010). This theory was, therefore, deemed relevant to this study since it informed the relationship between training at the management level in a project and the implementation of the project by acknowledging the advancement of the human resources of the project as assets through training to improve managerial competencies.

Systems theory presupposes explaining, predicting and controlling phenomenon of projects (Von, 1968). Liu and Forrest (2010) observed that all organizations consists of processing inputs and outputs with internal and external systems and subsystems, which without one part, the entire system collapses. Community projects need a functional system by inclusion of all partners will guarantee productive and compelling administration of their undertakings and different assets for most extreme yields (Åström & Wittenmark, 2013). The theory was informative to the relationship between risk management strategies and Implementation of projects. This theory was practically instrumental in evaluating the capability of all the components of the projects as a system this

includes all the stakeholders, managers, and the staff of the projects into one system that works towards a common initiative/goal.

2.2 Empirical Review

Omeno and Sang (2018) also sought to establish the relationship between project management and performance of public sector construction projects. The study took a case of constituency development funds projects in Migori East, Kenya. The study adopted and employed descriptive survey design. The study concluded that overall performance within the construction enterprise is wrought with demanding situations and proprietors regularly are victim to value and agenda overruns, especially on excessive profile projects which are large, complex, and risky.

Mutua and Kilika (2016) conducted a survey of the role of audit committees in promoting corporate governance and accountability in constituency development fund management in Nairobi, Kenya. A descriptive research design was employed. The examination discovered that the degree of writing in the field of corporate administration and responsibility and announcing as opposed to the field to administration construction in Nairobi had to a great extent overlooked the training inside construction associations. The investigation proposed the drawing in review advisory group in construction administration and responsibility can possibly enhance estimating practice and the supportability execution with associations.

Gichaiya (2016) also carried out a study to establish the effect of monitoring and evaluation tools in the implementation of Wireless network implementation in institutions of higher learning in particular JKUAT. A descriptive study design was used to collect quantitative and qualitative data. The Results revealed that monitoring and evaluation contributed to working within the expected timeframe in order to achieve positive results. The assessment revealed that Wireless network project facilitated the respondents with network and internet connectivity in a positive way. In general, from the findings, the institutions can gain full benefit of the project when monitoring and evaluation facet is emphasized. Monitoring and evaluation was positively significant in the implementation of wireless network projects. A more detailed study can be conducted to establish the other factors that contribute towards the implementation of Wireless projects in institutions of higher learning.

Machoka (2017) conducted a study a study on public procurement practices and performance of selected constituency development fund projects in Kenya. The study used a descriptive research design. The findings of the study concluded that most of the construction projects management had a capacity building programme, good supplier relationships, good procurement ethics, but didn't have a well-established information communication technology system. The study also concluded that government policy influenced the relationship between public procurement practices and the performance of most of the construction projects negatively. The study recommended that the stakeholders and policy makers should employ better capacity building strategies. The construction project management committees should emphasis on supplier relationships so as to ensure continuous performance of the construction projects.

3.0 METHODOLOGY

This study adopted descriptive cross sectional survey design. The target population for the study consisted of all the governmental/ construction projects in Kenya. There are 42 new and ongoing construction projects in Starehe Constituency. Therefore, the target population were the 168 construction project managers at various departmental levels. The population was divided into departmental strata that is the Procurement department, HRM department, Finance department and the monitoring department and the sample population was then calculated using Fisher's formula and stratified random sampling technique from each respective stratum. The sample was drawn from the target population of 168 and the sample size was determined according to the Fischer's formula. Therefore, the study sample size was 116 respondents. Semi-structured questionnaires were used in this study in the collection of data. Prior to conducting the actual data collection, the study conducted a pilot test in order to establish the validity and reliability of data collection instruments. The quantitative data was analyzed by descriptive statistics and inferential statistics using Statistical Package for Social Sciences (SPSS version 20.0). Data was then presented in tables, charts and graphs.

4.0 FINDINGS AND DISCUSSIONS

4.1 Project Management Training

Table 1: Project Management Training

Statement	Strongly disagree	disagree	neutral	agree	Strongly agree	Mean	Std Dev
The staff have the required project technical skills	3.85	12.5	16.35	31.73	35.58	3.83	1.16
The staff are equipped with good communication skills	4.81	12.5	17.31	37.5	27.88	3.71	1.15
The Human resource have the capacity to perform the tasks to the required standards	14.42	4.81	17.31	19.23	44.23	3.74	1.43
Project managers have relevant experience and knowledge about the implementation of the project.	9.62	23.08	20.19	17.31	29.81	3.35	1.37
Project managers are well conversant with the advanced IT skills	10.58	10.58	25	20.19	33.65	3.56	1.34
Human resources on the project are given clear job allocation, description and designation befitting their expertise	27.88	15.38	14.42	18.27	24.04	2.95	1.56
Human resource are constantly trained and inducted into the project management strategies.	8.65	10.58	32.69	16.35	31.73	3.52	1.28
The staff have skills in project planning	13.46	14.42	4.81	20.19	47.12	3.73	1.5
average						3.55	1.35

The results in Table 1 revealed that majority of the respondents (67.31%) agreed with the statement that the project staff have the required project technical skills. The responses had a mean of 3.83 and a standard deviation of 1.16. Majority of the respondents (65.38%) agreed with the statement that the staff are equipped with good communication skills. The responses gave a mean of 3.71 and a standard deviation of 1.15. Furthermore, majority of the respondents (63.46%) agreed with the statement that the human resource have the capacity to perform the tasks to the required standards. The responses showed a mean of 3.74 and a standard deviation of 1.43. In addition, majority of the respondents (61.54%) agreed with the statement that the project managers have relevant experience and knowledge about the implementation of the project.

The responses gave a mean of 3.35 and a standard deviation of 1.37. The results also showed that (53.84%) agreed with the statement that the project managers are well conversant with the advanced IT skills. The responses had a mean of 3.56 and a standard deviation of 1.34. However, the results indicated that most of the respondents (43.26%) disagreed with the statement that the human resources on the project are given clear job allocation, description and designation befitting their expertise. The responses had a mean of 2.95 and a standard deviation of 1.56. Most of the respondents (48.08%) agreed with the statement that human resource are constantly trained and inducted into the project management strategies. The responses had a mean of 3.52 and a standard deviation of 1.28. Majority of the respondents (67.31%) agreed with the statement that the staff have skills in project planning. The responses had a mean of 3.73 and a standard deviation of 1.50. On a five point scale, the average mean of the responses was 3.55 which mean that majority of the respondents agreed with the statement; however the answers were varied as shown by a standard deviation of 1.35. These findings were consistent with those of Nyaguthii and Oyugi (2013) who concluded that project management competency highly influences project performance.

4.2 Project Implementation

Table 2: Project Implementation

Statement	Strongly disagree	disagree	neutral	agree	Strongly agree	Mean	Std Dev
The construction project has been completed within time frame	13.46	35.58	14.42	29.81	6.73	2.81	1.2
Community participation in decision making on economic issues within the constituency	9.62	8.65	6.73	46.15	28.85	3.76	1.23
Service delivery has improved	8.65	16.35	13.46	35.58	25.96	3.54	1.28
Contribution to social economic growth	7.69	10.58	16.35	22.12	43.27	3.83	1.3
Sustainability has been achieved	7.69	40.38	15.38	10.58	25.96	3.07	1.37
Revenue generation for the community	8.65	17.31	12.5	28.85	32.69	3.6	1.33
Green environment through sustainability	9.62	10.58	12.5	34.62	32.69	3.7	1.29
Employment opportunities in the constituency	11.65	8.74	13.59	26.21	39.81	3.74	1.37
Environmental development of Starehe Constituency	5.77	9.62	9.62	42.31	32.69	3.87	1.15
The construction projects in Starehe Constituency is used as a benchmark example in comparison with other constituencies	11.54	8.65	7.69	37.5	34.62	3.75	1.33

Average

3.64

1.30

The results in Table 2 revealed that majority of the respondents (49.04%) disagreed with the statement the construction project has been completed within time frame, at required standards and by achieving its set objectives. The responses had a mean of 2.81 and a standard deviation of 1.20. The results further revealed that majority of the respondents (75.00%) agreed with the statement that the construction project has helped many people to participate in the decision making on economic issues within the constituency.

The responses had a mean of 3.76 and a standard deviation of 1.23. The results also revealed that majority of the respondents (61.54%) agreed with the statement that The construction funds have greatly improved service delivery in the constituency. The responses had a mean of 3.54 and a standard deviation of 1.28. The results also showed that majority of the respondents (65.39%) agreed with the statement that the construction project has satisfactorily contributed to social economic growth in the constituency. The responses had a mean of 3.83 and a standard deviation of 1.13. However, majority of the respondents (48.07%) disagreed with the statement that the project has achieved sustainability and no longer requires funding from the government. The responses had a mean of 3.07 and a standard deviation of 1.37. Further, majority of the respondents (61.54%) agreed with the statement that the project has been able to generate revenue for the community. The responses had a mean of 3.60 and a standard deviation of 1.33.

The results also revealed that majority of the respondents (67.31%) agreed with the statement that the construction project has also benefited the green environment through sustainability. The responses had a mean of 3.70 and a standard deviation of 1.29. The results also revealed that majority of the respondents (66.02%) agreed with the statement that the construction project has created the employment opportunities in the constituency. The responses had a mean of 3.74 and a standard deviation of 1.37. The results, further, revealed that majority of the respondents (75.00%) agreed with the statement that the project has contributed to the environmental development of Starehe Constituency. The responses had a mean of 3.87 and a standard deviation of 1.15. Furthermore, the results revealed that majority of the respondents (72.12%) agreed with the statement that the construction projects in Starehe Constituency is used as a benchmark example in comparison with other constituencies. The responses had a mean of 3.75 and a standard deviation of 1.33.

On a five-point scale, the average mean of the responses was 3.88 which mean that majority of the respondents indicated that majority of the respondents agreed with the statement; however, the answers were varied as shown by a standard deviation of 1.06. These findings correspond to those by Roba (2014) who stated that implementation process begins with instructions to state the plan and its objectives in line with the mission and the vision of the construction.

4.3 Correlation Analysis

Table 6: Correlational Analysis

Statement		Project implementation	Project management training
Project implementation	Pearson Correlation Sig. (2-tailed)	1	
project management training	Pearson Correlation Sig. (2-tailed)	.500** 0.000	1

The analysis in Table 6 found that there was a positive and significant association between project management training, project audits, Project monitoring, supplier vetting and project implementation $\{(r = 0.500, p = 0.000), (r=0.464, p=0.000), (r=0.592, p=0.000) \text{ and } (r=0.729, p=0.000)\}$ respectively}. This implies that project management training, project audits, Project monitoring and supplier vetting affects the implementation of project in Starehe Constituency.

These findings were consistent with those of Kagona, Shukla and Oduor (2015) whose findings indicated that, trainee characteristics, peer support, trainer characteristics and training design account for 10.6% (R squared .106) variance in the performance of the girl child catch up project. These findings also were in agreement with those of Umugwaneza (2016) whose findings of the study revealed that there is a significant positive relationship between accountability, effective communication, and partnership for planning and supportive supervision have a positive effect on sustainability of projects in Rwanda.

4.4 Regression Analysis

Regression presents a way to devise a relationship between two sets of variables. It is expressed as linear regression equation that can be used to predict the relationship between the dependent variable with the independent variables.

Table 7 Model results from the Regression Analysis

Model Fitness				
Model	R	R Square	Adjusted R Square	Std. Error Estimate
1	.823a	0.678	0.665	0.2173
ANOVA				
Sum of Squares	df	Mean Square	F	Sig.
9.837	4	2.459	52.074	.000b
4.675	99	0.047		
14.512	103			
Regression of coefficients				
Statement	β	Std. Error	t	Sig.
(Constant)	0.041	0.261	0.157	0.875

Project management training	0.178	0.058	3.097	0.003
project audits	0.118	0.050	2.357	0.020
project monitoring	0.234	0.061	3.85	0.000
supplier vetting	0.485	0.067	7.219	0.000

The results in Table 7 present the fitness of model of regression model used in explaining the study phenomena. The independent variables, that is, project management training, project auditing, project monitoring and supplier vetting were found to be explanatory variables to firm performance. This was supported by coefficient of determination i.e. the R square of 67.8%. This shows that project management training, project auditing, project monitoring and supplier vetting define 67.8% of variation in the project implementation. The rest of the percentage of the project implementation is explained by other variables not included in the current study. This asserts that the model used was sufficient and acceptable.

The ANOVA results indicated that there was significance from the overall model. Project management training, project auditing, project monitoring and supplier vetting were good determinants of project implementation. The F statistic of 52.074 which is greater than the critical value supported the p value (0.000) which was significant as it was below 0.05 significance level i.e., $0.000 < 0.05$.

The model in the regression of coefficients was presented as follows:

$$Y = 0.041 + 0.178X + \varepsilon$$

Where:

Y is project implementation

X = project management training

ε is error term

The regression of coefficients established that project management training project audits ($\beta = 0.118$, $p = 0.020$), Project monitoring ($\beta = 0.234$, $p = 0.000$) and supplier vetting ($\beta = 0.485$, $p = 0.000$) were positively and significantly related to project implementation ($\beta = 0.178$, $p = 0.003$). From the overall regression model it was clear that supplier vetting had the greatest effect on project implementation. This is because change in supplier vetting by one unit would improve performance by 0.485 units. Project monitoring improves project implementation by 0.234 units. In addition change in project management training by one unit would lead to positive project implementation by 0.178 units. Project audit was found to be the least influencing variable, contributing 0.118 units to the implementation of projects.

CONCLUSIONS

The findings revealed a significant association between project management training and implementation of construction projects. Based on the findings above the study concluded that the project staff recruited in managerial positions as well as other operations are required to exhibit

project technical skills such as good communication skills, advanced IT skills, project management skills as well as human resource skills in order to execute the operations competitively and expertly for project completion.

5.1 Recommendations

The study also informs and advises the county government in conjunction with the national government to take keen interests in seeing the whole process of construction project management to completion. The government should not take it for granted that the managers are self-sufficient but rather be on the fore-front to offer advisory guidelines to the management.

The government in conjunction with the county government need to set clear policies governing the management and accountability of construction fund which should be directed towards serving the citizens rather than being utilized for self-interests. Based on the research findings, the study recommends constant and periodic improvement of the human resource. The induction and training process in the project management is a necessary tool for the improvement of the quality of delivery of services. This aspect combined with the experience of the personnel and the skills, worked well to see the construction projects to completion.

The study also highly recommends transparency in the utilization of construction funds since most of them are utilized through self-interests of the managers. This is done by over budgeting the construction projects in order to include their personal expenditures within the fund. Through proper monitoring and inclusion of every stakeholder in the value-chain process, all construction transactions would be well monitored for the purposes of accountability.

The findings also recommended the training of the personnel in charge of the construction projects since this field involves the critical issues to do with the managing of public funds and without proper skills and competences of the managers, such operations as the accounting and financing would not be properly managed. Training on the job in skills such as management, financing, IT and human relations should be a continuous exercise to enable the manager/personnel be aware of what is expected of them and deliver to expectations.

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