

The Effect of Stakeholder Involvement Factors on Project Quality among Housing Construction in Nakuru County, Kenya

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Abstract: The construction industry is one of the most important industries for the development of infrastructure and economy of a Nation. It is therefore important that adequate measures are put in place to ensure quality in the sector. The objective of this study was to investigate the effect of stakeholder involvement factor on quality of projects in Nakuru County, Kenya. Main aim of this study was to find out the factors that affect project quality in building construction projects in Nakuru County. The instrument of data collection was questionnaires. The target population consisted of 32 construction companies in Nakuru. The unit of analysis was ongoing and completed projects implemented by the construction companies. The target population was 147 project implementation teams consisting of Project engineers, project managers and project contractors in each of the 32 companies selected through random stratified sampling and thus the study had a total of 96 who formed the sample size out of which 87 respondents returned the questionnaires representing 84% response rate. Analysis of data was done using descriptive and inferential statistics. Under stakeholder involvement, stages and methods of involvement had a strong and significant positive relationship ($r = 0.844$, $p < 0.05$) with project quality. This showed that that the variations around the means in stakeholder involvement are about 84%. The overall regression model gave R² of 0.102. This showed that that the variations around the means in stakeholder involvement factor is about 10%.

Keywords: Nakuru County, Construction, stakeholder involvement and project quality.

1. INTRODUCTION

The definition of quality depends on the point of view of the people define it. According to [1], quality in its simplest form can be defined as: „meeting the customer’s expectations, or compliance with customer’s specification. Quality has three dimensions. It can be looked at in terms of process quality, product quality and organizational quality. All these dimensions are of interest to any researcher who wants to improve the performance of a firm. Quality of a performing project will therefore spread over to determine satisfaction of the stakeholders. For construction firm quality is nothing but the satisfaction of customers and fulfilling of their requirements within a specified budget [2]. There are many factors which affect quality of housing construction projects. This study focused on stakeholder involvement factor. The objective of the study was to investigate the effect of stakeholder involvement on project quality among housing construction projects using Nakuru County as a case study. This would help various actors involved in the construction industry to mitigate disruptions associated with construction projects.

2. CONCEPTUAL FRAMEWORK

A conceptual framework is a representation of the main concepts or variables under study and their presumed relationship with each other. It is a scheme of variables/concepts the researcher will use in order to achieve the research objectives. The conceptual framework used in this study is indicated in Fig. 1

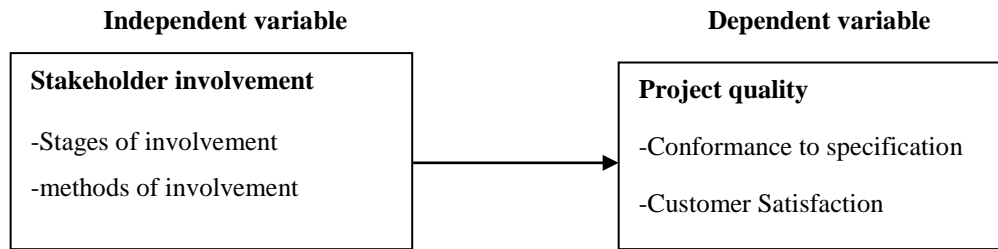


Fig.1: Conceptual framework

3. EMPIRICAL REVIEW

Over the years, project managers have increasingly utilized various measures to determine the success of their projects. Several studies have been carried out on factors affecting quality of projects in African countries and around the world. A study by [3] found the main factors that affected the quality of construction projects were design changes, delays in payment to contractors, information delays, funding problems, poor project management, compensation issues and disagreement on the valuation of work done. In Malaysia construction projects [4] as part of developing countries identified cause of quality failure in building construction project, quality issues, and examined the quality performance in construction projects. In road construction projects in Zambia, a study by [5] the study identified insufficient initial analysis of costs, change orders, inflation, and schedule overruns to be the most significant causal factors of cost escalation. Financial difficulties on the part of contractors, change orders, poor sub-contractor performance and changes in drawings or specifications were found to be the major causes of schedule overruns. On the other hand, the most significant causal factors for quality shortfalls were identified to be inadequate and inconsistent release of funds by clients, poor financial management by contractors, long lapse between feasibility study and implementation of projects, inadequate supervision, and incompetence or lack of capacity by contractors.

4. SUMMARY AND CRITIQUE OF EXISTING LITERATURE

There are a lot of factors can influence the quality of a project. Nevertheless, apparently the role of key stakeholders as an important factor in determining quality levels has not to date been widely examined in the literature [6]. A study by [7] on factors affecting quality in the delivery of public housing projects in Lagos, found that five most important factors affecting quality of public housing projects comprising of poor communication of design requirements by owners, poor labor skills and supervision, lack of clarity in project design and build ability problems, availability of skilled labor and availability of materials. The study left out of stakeholder involvement. Another study by [4] investigated the causes of quality failures in the building construction projects. The results showed top five causes of quality failure that insufficient skill levels among workers, inadequate reviews of the design and engineering drawings, lack of site layout studies, poor quality improvement programs, and lack of training personnel. Therefore, it can be concluded that most researchers have concentrated on other factors and little done on stakeholder involvement and monitoring

5. RESEARCH METHODOLOGY

This study adopted a descriptive survey research design which according to [8] it entails finding out what, who, where, when and how of the firm characteristics. A case study design was adopted so as to try and bring out deeper insights and better understanding of the issues under study. Simple random sampling and disproportionate stratified random sampling was used to choose the subjects in this study. Simple random sampling was used to determine the overall number to be selected from the target of 147 and disproportionate sampling was used to allocate the number of those to be sampled from the 49 construction companies. Random sample of 96 people were selected to be respondents in the study. This represented 86% which was above 30% suggested by [9] as the sample size. This sample was disproportionately divided into 4 strata and 3 respondents from each of the 32 construction companies randomly selected. The questionnaire contained closed and open ended questions for ease of analysis. The respondents were required to rank the factors affecting project quality on a 5-point Likert scale as follows; 1 for strongly disagree, 2- disagree, 3- neutral, 4 – agree and 5 – strongly agree.

Pilot study was done by sampling 18 respondents and the reliability and validity of the questionnaire was measured using Cronbach alpha coefficient. The reliability statistics were as indicated in TABLE 1

TABLE 1 RELIABILITY STATISTICS

	Cronbach's Alpha	N of items
Stakeholder involvement	.715	8
Project quality	.725	9

The reliability coefficients were above 0.7 and thus was accepted and used for the study

6. RESULTS AND DISCUSSION

6.1 Response Rate:

Out of the 96 questionnaires administered, 87 were returned, representing 84% response rate

6.2 Stakeholder Involvement:

a) Stages of involvement:

In response to the question as to whether stakeholders are involved in project quality in every stage of 44.8% and 27.6% of the respondents agreed and strongly agreed respectively that they were involved in every stage of the project. Therefore, it implied that majority of the respondents (72%) agreed that stakeholders are involved in every stages of project quality. Correlation analysis showed that stages of involvement had strong positive and significant relationship with project quality ($r = -0.844$, $p > 0.05$).

b) Methods of involvement:

In response to the question as to whether methods used in involving stakeholders are very effective was favorable, 44.8% strongly agreed and 39.1% agreed respectively. On question if methods of involving stakeholders are different based on quality issues, the response was 49.5 % agreeing and 44.8% strongly agreed.

The overall correlation analysis for stakeholder involvement and project quality is indicated in TABLE 2

TABLE 2: CORRELATION OF STAKEHOLDER INVOLVEMENT AND PROJECT QUALITY

Stakeholder involvement	Pearson Correlation	1	.844*
Sig. (2-tailed)		.000	
N	87	87	

6.4 Regression Analysis:

Regression analysis was done to determine the cause –effect relationship of stakeholder involvement on project quality.

The results are indicated in TABLE 3.

TABLE 3: REGRESSION OF STAKEHOLDER INVOLVEMENT AND PROJECT QUALITY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.0.797 ^a	0.636	0.566	.18309
a. Predictors: (Constant), Stakeholder Involment				

From TABLE 4, coefficient of determination, $R^2 = 0.64$ and 0.566 shows that 64 % of the variation in project quality is associated with stakeholder involvement.

ANOVA analysis for the above relationships showed that the above variable had significant relationship.

Overall regression analysis of the variable and project quality gave $R^2 = 0.102$ which means that 10.2% which showed about 10.2% of variations in project quality could be attributed to stakeholder involvement while the remaining is attributed to the other factors not considered in this study. The regression coefficients are indicated in TABLE 4.

TABLE 4: REGRESSION COEFFICIENTS

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	-.716	3.873			-.185	.853
	STAKEHLDRMNT	.061	.051	.082		1.200	.232

The regression model of the study was of the form

$$Y = \alpha + B_1 X_1 + \varepsilon$$

Where, y = project quality, B_1 = regression coefficient, X_1 = stakeholder involvement and ε = error term

Ignoring the error term, the equation of the model would be

Project quality = $-0.716 + 0.061$ stakeholder involvement

This showed that the factor considered in the study had a positive relationship with project quality. When stakeholder involvement factor is zero, influence on project quality will be -0.716 .

A unit increase in stakeholder involvement factor led to a 0.061 increase in project quality.

7. CONCLUSION AND RECOMMENDATIONS

The study sought to determine the effect of stakeholder involvement as a factor that affects project quality. The study found out that stakeholder involvement affects the quality of project since it was clear that the parties concerned are involved in project quality in every stage, their ideas on ways to improve quality are welcomed, involving them has helped identify quality issues, there are methods used in involving stakeholders and these methods are well understood and very effective.

The results of the study reveal that stages in involving stakeholders is influential in improving quality of projects which is supported by Olander (2007) who indicate that organizations should involve stakeholders whose outcomes can affect or may be affected by both negatively and positively. The implementation of the project during the different stages of a project from the initial planning through to the final operation and maintenance. Therefore, stakeholders should be involved in project quality issues in the organization.

The overall regression model gave R^2 of 0.102 indicating that the variations around the means in stakeholder involvement is about 10% . The remaining balance could be explained by other variables, which were not examined in this study. Therefore stakeholders should be involved in every stage of project quality in an organization.

REFERENCES

- [1] Jha K.N and Iyer K.C., Civil Engineering Department, "Critical Factors Affecting Quality Performance in Construction Projects", Total Quality Management, Vol. 17, no. 9, 1155- 1170, Nov 2006.
- [2] Y Frimpong, J Oluwoye, L Crawford., " Causes of delay and cost overruns in construction of groundwater projects in a developing countries", International Journal of Project Management, 321–326. 2003
- [3] Chileshe, N., & Kikwasi, J. "Critical success factors for implementation of risk assessment and management practices within the Tanzanian construction industry". Engineering, construction and Architectural management. Vol. 21, 2012
- [4] Abdul-Rahman, H., Wang, C., Takim, R., & Wong, S. " Project schedule influenced by financial issues: Evidence in construction industry". Scientific Research and Essays, 6 (1), 205-212, 2012
- [5] C Kaliba, Cost escalation, schedule overruns and quality shortfalls on construction projects, in, University of Zambia, 2010.
- [6] Joaquin, D. "A framework for building quality into construction projects part II". Total Qual. Manag. 21 (7), 725–736, 2010.
- [7] Adenuga, O. "Factors Affecting Quality in the Delivery of public Housing Projects in Lagos State Nigeria". International journal of Engineering and Technology, Volume 3, 2013.
- [8] Sekaran, U. & Bougie, R. "Research Methods for Business: A Skill Building Approach (5th Edn)". New Jersey: John Wiley and Sons, 2010.
- [9] O Mugenda, A Mugenda, Research Methods, ACTS Press, Nairobi, 2003.