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SOME FACTORS INFLUENCING COMPLETION OF ROAD CONSTRUCTION PROJECTS IN KENYA

A CASE OF SOLEL BONEH INTERNATIONAL (SBI) INTERNATIONAL COMPANY ON MAU SUMMIT-KISUMU ROAD IN KERICHO COUNTY

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Abstract

Road construction industry is known to be a time-consuming and material depleting industry, due to its complexity and volatility occasioned by varied needs, wants and preferences. The main purpose of this study was to determine some of the factors influencing completion of road construction projects in Kenya: A case of SBI International Company on Mau-Summit – Kisumu Road in Kericho County. The specific objectives which guided the study were to determine the influence of staff competency and stakeholder participation. The research design used was descriptive research design. The study used census method in collecting data from all the 202 respondents. Questionnaires was delivered to the respondents and collected after they have been filled. Face to face interviewing was adopted to obtain answers from management representatives in the construction sites while secondary data was interrogated to find out the actual factors which influenced the completion of the said road. Data from questionnaire was coded and analyzed using Statistical Package for Social Science (SPSS) version 20. The validity of the research instruments was confirmed by expert review, while the reliability of the tools was 0.76 based on Cronbach's alpha. Data was analysed descriptively. The findings were presented in form of frequency tables while explanation was presented in prose. The findings of

this study may help policy makers on key issues related to project development and management of road construction. Project managers may also benefit immensely from understanding some of the underlying causes of project construction delays as was documented by this study.

Keywords: Building Construction Industry, Stakeholder participation, Staff competency

INTRODUCTION

Road Construction Industry is a key contributor to the national gross fixed capital formation. This industry has been frequented with occasional delays and disruptions causing time and cost overruns. These delays and disturbances are sources of potential dangers that present studies are investigating approaches to oversee them. Clients finance projects with sole aim of reaping benefits from the investments. Road construction industry is known to be a time-consuming and material depleting industry, due to its complexity and volatility occasioned by varied needs, wants and preferences. No investor would invest in a project that seem to last forever, with indefinite cost or budget. Time and cost of project could be causing projects delays because they have definite start and finish time, consume resources and meet certain criterion in satisfaction to the beneficiaries. In a construction project, contracts are based on price or cost and time period needed to finish a project (Waihenya, 2011).

Roads development in Africa is a rare endeavor and where roads are accessible, they are to a great extent inadequately kept up. As per World Bank Report (2012), the normal road thickness in Africa is 20.4km for every 100 square kilometers of land zone. More terrible still, of these a quarter are well maintained. Southern Africa is the main locale in Africa with a genuinely decent road transport framework. South Africa specifically is accounted for to have 62km of roads for each 100km square kilometers near the United States of America that has 67km of streets for each 1000 square kilometer. This example of overcoming adversity has been credited to the nation's rejuvenation of its road and railroad framework before the FIFA World Cup Of 2010.

In Kenya, roads development industry has been powerful (Kenya facts and figures , Kenya National Bureau of Statistics, 2012). Outside financial specialists have demonstrated a great deal of astuteness to have a stake in Kenya considered a business center in east and focal Africa and a middle from which they can work with in Africa. Therefore, roads developments have seen a blast in development ventures. Roads development is very integral to making various work openings which would help in lessening the joblessness levels which

are an issue in numerous nations Kenya included. A considerable lot of the ventures are labour intensive and subsequently a lot of generally jobless individuals of the working age are utilized in this industry.

In Kericho County, most contractors, particularly road contractors have shown a lot of interest in the sector. However, most of these firms have been performing minimally, (Ministry of Planning, 2010). Public Procurement Oversight Authority's (PPOA, 2005) Conditions of projects by SBI International on Mau Summit-Kisumu Road in Kericho County has provisions for variations, extension of time within reasonable limits and loss and expense clauses. The document also limits extent to which the architect/project manager can vary the contract, but with express authorization of the tender/project committee and approval. Joint Building Council's (JBC) Agreement and Conditions of Contract for Building works, 1999 edition has several clauses that relates to time and cost overruns, such as Clauses 22 on Architects instructions, Clause 30 on Variations, Clause 34 on Payment where contractors are allowed to charge for interest on delayed payment, Clause 36 on Extension of Time and Clause 37 on Loss and Expense caused by disturbances of regular progress of the works. The project manager/Architects are allowed to vary extent of works, but with limitation of about 15%. At the same time, variations that have cost implication may also have time impact, thus contractors are allowed to apply for extension of contract period, but based on facts. The study sought to investigate the factors which influence completion of road projects and to explain why the problem of completion still persists even when the Government of Kenya has made positive strides in development such as, improvement in technology. Despite all the efforts put in place for the last 10 years or so, roads construction projects still suffer heavily in cost and time overruns.

LITERATURE REVIEW

Staff Competency

Competence in human resources is a standardized requirement for an individual to properly perform a specific job. According to Cuban (2011) who observed that there are many ways to define and measure the adequacy of staff competency, capacity and the effectiveness of agencies tasked with the construction projects. The effectiveness of the project team tasked with road construction project administration depends to a large extent on the project staff capacity relative to the demands placed upon them. To be effective, road construction projects need to have sufficient and capable staff with the appropriate mix of skills and expertise, the motivation and will to act, and the incentives and resources necessary to achieve their mandate. In a country like Kenya, construction workers are relatively unskilled and lack adequate planning

at the early stages of the project impacts on timely completion of construction projects and cost overruns. In the construction of Thika Superhighway for example, The Chinese contractors knew this. They planned on how to train the Kenyan labor force on their construction methods and this reduced the scenarios that we saw of Chinese contractors working with only two or three local workers at the construction site.

Stakeholder participation

A Stakeholder is anyone who significantly affects or is affected by another's decision pertaining to the project activities (Chevalier, 2010).Globally; projects have changed in the last decade as globalization presents a dynamic and more interactive process which is influencing nowadays everywhere. Therefore, a lot of global projects currently executed in organizations containing completely diverse cultures, working together to reach success. This extra ordinarily and worthy phenomenon which consists of different stakeholders which intervene from various points of view as well as the global project itself (Annon, 2010). As Aarseth (2012) points out the biggest challenge in global perspective is the treatment of stakeholders. Stakeholders in general need to be considered key to success within global environment (Turner, 2007). Ferreira (1999) argues that influence of stakeholder participation on effective implementation of projects provides opportunities for public operation. According to Project Management Institute, (2006), stakeholders may have a positive or a negative influence on a project. Positive stakeholders are those who would normally benefit from a successful outcome of a project while negative stakeholders are those who see negative outcomes from project success. Negative stakeholders shall be often overlooked by the project team due to the risk of failing, to bring the project to a successful end.

METHODOLOGY

Research Design

This study used descriptive survey design. Kothari (2008) recommends descriptive design as it allows the researcher to describe, record, analyze and report conditions that exist or existed.

Sample and Sampling Procedures

The sampling procedure describes the list of all population units from which the sample was selected (Cooper & Schindler, 2005).The study employed census method where all the 202 SBI International Company staff working on Mau Summit - Kisumu road and the community formed the sample size.

Data Collection Instruments

The study used questionnaire developed and validated by the researcher. The questionnaire was self-administered. Secondary data entailed going through records from the SBI international Company on number staff working on the project, expected start and end date and minutes on stakeholders meeting. Cronbach Alpha coefficient α test was applied to test the reliability and α value of 0.76 was actualized indicating that research instrument was reliable.

Data Collection Procedures

Staff competency was done by checking the qualification of staff who worked on the road project and stakeholder participation was ascertained by going through record to check if stakeholder participated in the decision making.

Data Analysis and Presentation

The study generated both qualitative and quantitative data. Quantitative data was coded and entered into Statistical Package for Social Sciences (SPSS) and analyzed using descriptive statistics and inferential statistics. Descriptive statistics involved the use of absolute and relative (percentages), frequencies, measures of central tendency and dispersion (mean and standard deviation respectively).

RESULTS AND DISCUSSION

Staff Competency

Staff engaged during the road construction had different skills, expertise, competence and experience. Staff competences are paramount if road construction project is to be completed on time.

Table 1: Indicators on competency of staff on completion of road project

	Mean	Std. Dev
Turnaround time(time taken to complete a task)	3.81	1.014
Lack of Experience	3.35	0.486
Lack of required Skills	3.94	0.250
Lack Knowledge in the area of constructions	3.45	0.568
Accuracy levels	3.19	1.167

According to the findings in table 1, the respondents indicated that lack of required skills and time taken to complete a task influenced completion of road construction projects to a very great extent with a mean of 3.94 and 3.81 respectively. The respondents further indicated that lack of

experience and accuracy levels also influenced completion of construction projects with a mean of 3.35 and 3.19 respectively. This implies that the above factors influence completion of road construction projects to a great extent.

Stakeholder Participation on Completion of Road Projects

The study sought to determine the influence of stakeholder participation on completion of road construction projects.

Table 2: Stakeholder Participation on road construction projects

Stakeholder participation and road project completion factors	VGE	LE	M	LE	NL
	5	4	3	2	1
Clarifying vision of road construction project to all stakeholders facilitated faster road construction.	67 (33%)	84 (42%)	17 (9%)	15 (8%)	15 (8%)
Engaging stakeholders in road construction project facilitate faster completion of road construction.	84 (42%)	71 (36%)	20 (11%)	12 (6%)	11 (5%)
Ineffective mode of stakeholder engagement delays road construction.	72 (36%)	65 (33%)	25 (13%)	21 (11%)	15 (7%)
Data collection and management by stakeholders assist in monitoring and hence faster road construction.	90 (46%)	75 (36%)	11 (6%)	12 (8%)	10 (4%)
Supervision events by stakeholders assist in the completion of road construction in time.	74 (42%)	57 (33%)	25 (8%)	27 (9%)	15 (8%)
Performance reviews by stakeholders enable faster completion of road construction.	94 (47%)	67 (34%)	15 (8%)	12 (6%)	10 (5%)
Active project site participation by stakeholder assists in the road construction activities being completed on time.	64 (32%)	62 (31%)	30 (15%)	27 (14%)	15 (8%)

As per table 2, majority of the respondents 67 (63%) noted that clarifying vision of road construction project to all stakeholders facilitated faster road construction to a great extent. Clarifying vision of road construction project to all stakeholders facilitated faster road construction to a great extent as per response of 23 (22%) response. 13 (12%) of the respondents agreed that clarifying vision of road construction project to all stakeholders facilitated faster road construction to a moderate extent. Clarifying vision of road construction

project to all stakeholders facilitated faster road construction to a little extent as per 3 (3%) of the respondents. This showed that clarifying vision of road construction project to all stakeholders facilitated faster road construction thus there is need to involve all stakeholders in all stages of road construction.

Coefficient of Determination

The variation in completion of road projects need to be explained by competency of staff, stakeholder participation, project resources availability and supervision of work. The results of coefficient of determination are shown in Table 3

Table 3: Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.792(a)	0.727	0.303	0.125

According to table 3, the independent variables that were studied explain only 72.7% of the completion of projects as presented by the R^2. This therefore means that the independent variables only contribute to about 72.7% to the completion of projects while the other factors not studied in this research contribute 27.3 % to the completion of projects hence there is need to further study the other factors.

Multiple Regression Analysis

Multiple regression analysis was done to determine various factors that influence completion of road projects.

Table 4: Multiple Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients		
B		Std.Error	Beta	t	Sig.
(Constant)		1.224	0.312	4.358	0.000
Staff Competency	0.272	1.1264	0.089	0.849	0.038
Stakeholder Participation	0.299	0.0715	0.0235	2.7936	0.044

The regression equation ($Y=\beta_0 +\beta_1X_1+\beta_2X_2$) now becomes

$Y=1.224 + 0.272X_2+0.299X_3$ Where by Y =Completion of road projects, X_1= Staff Competency, X_2=Stakeholder Participation.

According to table 4, taking all factors (staff competence, stakeholder participation) constant at zero, the completion of road construction projects realized would be 1.224. The data findings analyzed also shows that taking all other independent variable at zero, a unit increase in project resource availability lead to increase in completion of road projects by 0.217. A unit increase in staff competence will lead to increase in completion of road projects by 0.272, a unit increase in stakeholder participation will lead to an increase in completion of road projects by 0.299. These results infer that stakeholder participation contributes most to completion of road construction projects followed by staff competence.

SUMMARY AND CONCLUSION

The study found out that there is a strong influence of competency of staff and completion of Mau Summit – Kisumu road construction projects by SBI International Company, Kericho County. The study established that competency of staff influenced completion of road construction projects with 89% of the responses agreed to it to a very great extent. This was indicated from lack of proper academic qualifications, turnaround time (time taken to complete a task), lack of required skills, knowledge of road construction and accuracy levels influenced effective completion of road construction projects. On stakeholder participation, the study found out that it influenced completion of road construction projects with 63% responses to a great extent. Respondents indicated that identification of project scope influenced completion of construction projects to a very great extent. They also felt that project site visit and performance review by stakeholders also influenced completion of construction projects. The respondents agreed to a little extent that data collection and management and supervision of events by stakeholders led to completion of road projects.

Staff Competency

The study revealed that competency of staff influenced effective completion of construction projects. The study also established that lack of proper professional and academic qualification, turnaround time, lack of accountability and responsibility among staff and accuracy levels influenced completion of construction projects. Most respondents reported that competency of staff influenced project completion to very great extent. This is in agreement with Gardner (2003) who argued that skilled personnel staff entrusted with project execution should have required technical expertise in the area. From the findings we can deduce that for construction projects to be effective there is need for qualified personnel.

Stakeholder Participation

The study concluded that there is a great influence of availability of resources on completion of road construction projects. The study concluded that staff competency influences completion of construction projects. This is to mean that the effectiveness of agencies tasked with construction projects administration depends to a large extent on the agencies staff capacity and competency relative to the demands placed upon them. The study also revealed that there is an influence of stakeholder participation on completion of construction projects. This can be taken to mean the extent to which stakeholder participates ensures enhances ownership and sustainability which is one of the key aspects in monitoring and evaluation of projects.

RECOMMENDATIONS OF THE STUDY

Based on the findings of this study and conclusion made, the study recommends that there should be stakeholder engagements to ensure that their ideas and perspectives are represented in road project scope identification and planning. Their participation will improve the quality of project management and that of evaluations accuracy of information, increased credibility and acceptance of findings, and will ensure that the roads constructed are completed on time.

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