

# Effect of Contract Management Practices on Performance of Road Construction Projects in Kigali, A Case of Rwandex-Remera Road Construction Project

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**Abstract:** *Institutions rely on contracts with service providers to keep them on track. Shippers, vendors, outsourced services and independent contractors all require a high level of contract management to maintain efficiency for the institutions. Contract management for roads has been the norm all over the world, some countries especially African ones do not have a sufficient industry of independent contractors and road works are mostly done by force on account or awarded to state construction agencies on a negotiated basis. Kigali City recorded a high unit of periodic and routine maintenance of road works amounting to US\$12 million annually. If the trend continues, there will be low value for money and low customer satisfaction by constraining the limited financial resources. Contract management is still a challenge in Sub Saharan Africa; contractors are not performing as per the contract. Most of them are not fully equipped in terms of personnel, equipment and financial capacity. It is partly because of poor contract management which most of times lead to cancellation and suspension of funding for a number of road projects by World Bank largely due to poor funds and contract management. According to Kigali City Statistical abstract (2016/2017), road works in good condition targeted in EDPRS II was 70% while 51 % was achieved. Hence the need for the study to analyze the effect of contract management practices on performance of the road construction projects in Kigali City. The general objective of the study was to analyze the effect contract management practices on performance of road construction projects in Kigali City. The study adopted descriptive research. The target population 62 people including project managers, contractors, clients and all staff from Rwanda Transport Development Authority. During this study, the researcher adopted census sampling technique since the population was quite small. SPSS was used to process data after their collection. The researcher organized the questionnaires by numbering them for validation and checking. Questions were coded. Data presentation is in forms of tables in order to produce meaningful results. The researcher concluded a strong and positive relationship between management techniques and performance of Remera-Rwandex road construction project as their results of correlation between management techniques and project performance was at 0. 720 meaning that management techniques affect project performance at the level of 72% which prove a significant relationship between management techniques and performance of Rwandex-Remera road construction project. The researcher recommends the project managers to put much emphasis in management techniques including contract negotiation, understanding the terms of contract and contract monitoring frequency.*

**Keywords:** Contract management practices, Performance of road construction project

## 1. Introduction

Contract management is an issue of strategic importance both to organizations and projects. Through successful contract management, project and organizations can increase control and effectiveness and reduce cost. Institutions rely on contracts with service providers to keep them on track. Shippers, vendors, outsourced services and independent contractors all require a high level of contract management to maintain efficiency for the institutions. Contract management for roads has been the norm all over the world, some countries especially African ones do not have a sufficient industry of independent contractors and road works are mostly done by force on account or awarded to state construction agencies on a negotiated basis. In many of these developing countries such as Uganda, Rwanda, DR. Congo, Kenya, etc. incur high costs of road construction and in turn these roads are completed with low quality and this is mainly due to the fact that suppliers of construction materials and services have monopoly power and in turns it increases inefficiency and lowering quality (World Bank report, 2012). Globally there is a meteoric growth within the road construction industry, which outpaces that of global Gross Domestic Product (GDP) with major concentration in China, the United States and India. However, Sub Saharan

Africa is characterized by limited number of firms dominating large scale-works, mainly Chinese and European contractors (Queiroz, 2012).

## 2. Statement of the Problem

Kigali City recorded a high unit of periodic and routine maintenance of road works amounting to US\$12 million annually. If the trend continues, there will be low value for money and low customer satisfaction by constraining the limited financial resources (RTDA, 2016). However, in Kigali City a number of major roads have been completed and many are earmarked for reconstruction, there is persistent poor projects performance associated with irregular payments amounting to over 6 USD million annually, low value for money due to shoddy works, overestimated costs and time overruns by the contractors (Juvenal, 2017). According to Germaine (2017), contract management is still a challenge in Sub Saharan Africa; contractors are not performing as per the contract. Most of them are not fully equipped in terms of personnel, equipment and financial capacity. It is partly because of poor contract management which most of times lead to cancellation and suspension of funding for a number of road projects by World Bank largely due to poor funds and

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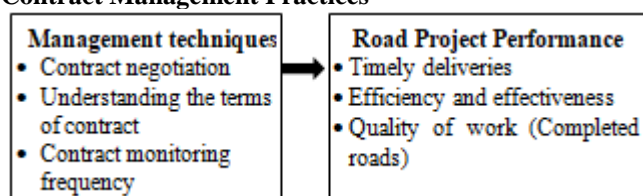
contract management. According to Kigali City Statistical abstract (2016/2017), road works in good condition targeted in EDPRS II was 70% while 51 % was achieved. Hence the need for the study to analyze the effect of contract management practices on performance of the road construction projects in Kigali City.

### 3. Objectives of the Study

The general objective of the study was to analyze the effect contract management practices on performance of road construction projects in Kigali City. Some of its specific objectives was to examine the effect of management techniques on performance of road construction projects in Kigali City.

### 4. Conceptual Framework

#### Contract Management Practices



### 5. Research Methodology

- **Research Design:** A descriptive survey was used in this study, descriptive research design was chosen because it provides a means to contextually interpret and understand the study variables
- **Target Population:** T the target population 62 respondents included project managers, contractors, clients and all staff from Rwanda Transport Development Authority who are directly involved in the management of road construction projects.
- **Sample Size:** During this research, the researcher preferred to adopt a census where total population was considered as sample size. Therefore, the sample size of the study was made of all 62 respondents
- **Data collection instruments:** For this study, the primary data were collected by using questionnaires and structured interview. The questionnaires consisted of both open and close ended questions.
- **Data processing and analysis:** The collected data were firstly captured in Microsoft Excel, checked for completion and coded. The data for this study were analyzed quantitatively using percentages, frequencies and using linear regressions

### 6. Summary of Research Findings

#### 6.1 Examination of the effect of management techniques on performance of road construction projects in Kigali City

**Table 1:** Descriptive Statistics on management techniques and performance of road construction projects in Kigali City

Indicators	N	Mean	Std. Deviation
Well negotiation and agreement	62	1.44	.643
Well understanding on contract terms	62	2.97	.940
Contract compliances	62	1.61	.710
Valid N (list wise)	62		

Source: Field Data (2018)

As revealed by the findings in Table 1 above, the mean values for the first statements are (1.44) which is rounded off to 1; the code for strongly agree on that contract terms of between the contractor and client have been well negotiated and agreed up on by both parties and (2.97) are rounded off to 3; the code for neutral on contract terms and (1.61) are rounded off to 2; the code for agree.. The standard deviation for all statements is above 0.5 meaning that respondents' answers on these statements were far different from the mean, in other words, their answers to the statement were heterogeneous. This means that respondents' views on the above statements were varied.

**Table 2:** Correlation between management techniques and performance of Rwandex-Remera road construction project in Kigali City

Variables		Management Techniques	Project Performance
Management Techniques	Pearson Correlation	1	.720**
	Sig. (2-tailed)		.000
	N	62	62
Project Performance	Pearson Correlation	.720**	1
	Sig. (2-tailed)	.000	
	N	62	62

Source: Field Data (2018)

The findings in Table 2 revealed that the results of correlation between management techniques and project performance was at 0. 720 meaning that management techniques affect project performance at the level of 72% which prove a significant relationship between management techniques and project performance. If the researcher considers the level of significance which is 0.05, there is therefore a significant relationship between them because their p-value (0.000) is statistically significant at 5% level of significance.

#### 6.2 Analysis of the effect of excellent communication between contractors and clients on performance of road construction projects in Kigali city

**Table 3:** Descriptive Statistics on excellent communication between contractors and clients and project performance

Indicators	N	Mean	Std. Deviation
Enough meeting organized	62	2.95	1.562
Use of regular call talks	62	2.65	1.088
Frequently communicated	62	1.97	.724
Valid N (listwise)	62		

Source: Field Data (2018)

The findings from Table 3 revealed that the mean values for the first and second statements are respectively rounded off to 3 the code for neutral and the third statement mean is respectively rounded off to 2 the code for agree. The

standard deviation for all statements is above 0.5 meaning that respondents' answers on these statements were far different from the mean, in other words, their answers to the statement were heterogamous. To mean that respondents' views to the above statements were varied.

## 6.2 Performance of Rwandex-Remera Road Construction Project

**Table 4:** Descriptive Statistics on Performance of Rwandex-Remera road construction Project

Indicators	N	Mean	Std. Deviation
Project delivering on time	62	2.71	1.233
Project efficiency and effectiveness	62	2.37	1.163
projects set quality standards	62	3.06	1.546
Valid N (listwise)	62		

**Source: Field Data (2018)**

The findings from Table 4 revealed that the mean values for the first and third statements are respectively rounded off to 3 the code for neutral and the second statement mean is respectively rounded off to 2 the code for agree. The standard deviation for all statements are above 0.5 meaning that respondents' answers on these statements were far different from the mean, in other words; their answers to the statements were heterogamous. This means that respondents' views to the above statements were varied.

**Table 5:** ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	85.667	3	28.556	233.023	.000 <sup>b</sup>
Residual	7.108	58	0.123		
Total	92.774	61			

**Source: Field Data (2018)**

- a. Predictors: (Constant), Independent variables  
b. Dependent variable: Performance Project

The findings in Table 5 show that predictors: management techniques, excellent communication and contractor's quality compliance have an effect on dependent variable, Performance of Rwandex-Remera Road Construction Project. This is statistically significant with a p-value (.000).

## 7. Conclusions and Recommendations

### 7.1 Conclusions

The researcher concluded a strong and positive relationship between management techniques and performance of Remera-Rwandex road construction project as their results of correlation between management techniques and project performance were at 0.720 meaning that management techniques affect project performance at the level of 72% which proves a significant relationship between management techniques and performance of Rwandex-Remera road construction project.

### 7.2 Recommendations

As the study findings show a positive and a very high strong correlation between management techniques and performance of Remera-Rwandex road construction project; the researcher recommends the project managers to put

much emphasis in management techniques including contract negotiation, understanding the terms of contract and contract monitoring frequency. The study further recommends the project managers and contractors to keep up the excellent communication between them as it is an ingredient to the project performance. Finally the researcher recommends the project owners and managers to increase and put much efforts in making close follow ups in contractor's quality compliance by regularly monitoring quality conformance and reliability of used materials. This will lead to the accomplishment of the project within the set scope.

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