

# Project Management Practices and Implementation of Construction Projects in Public Secondary Schools in Nairobi City County, Kenya

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**Abstract:** *The implementation of construction projects heavily relies on the application of project management practices. Nonetheless, the existence of excessively delayed and over-budget projects serves as significant indications of insufficient project application. Management practices, alongside other challenges, are prevalent throughout the implementation phase of school construction projects. The initial understanding of the problem revealed that there was not enough emphasis on the application of proper project management practices. This consequently affected the implementation of school construction projects such as dormitories, libraries, halls, offices, classrooms, and laboratories in public secondary schools in Nairobi, Kenya. This research sought to examine the influence of project management practices on the implementation of construction projects in the public secondary schools within Nairobi City County, Kenya. In particular, the extent to which project planning, risk management, stakeholder involvement, and monitoring and evaluation practices influence the delivery of construction projects. The study was grounded in project theory as the core theory for the study. The study adopted a descriptive research design. A census technique was used to consider the total population of 49 overrun construction projects in public secondary schools in Nairobi City County. The researcher used structured questions to collect data from 196 respondents including school principals, BOMs chairpersons, PTAs chairpersons, and teachers. The questionnaires were delivered to the respondents and picked later after they were filled. diagnostic test and pilot test were carried out to determine the research validity. Whereas the Diagnostic Test was subjected to the test of normality, multi-collinearity, and homoscedasticity through the use of the Shapiro-Wilk test, Variance Inflation Factor, and Levene's test; Pilot Testing on the other hand, was done using the test-retest reliability techniques on a small group of 10 respondents from two overrun construction projects executed in public secondary schools located in Kiambu County. Cronbach's alpha coefficient was used in obtaining the correlation coefficient of the test scores and the threshold values from 0.59 and above were considered acceptable for the reliability. SPSS version 23.0 and Excel software were utilized in entering data. Quantitative data was analyzed using descriptive and inferential statistics. Multiple linear regression was also utilized for modeling. The results showed that project planning, risk management, stakeholder involvement, and monitoring and evaluation practices had a significant impact on the successful delivery of school construction projects. The study concluded that effective implementation of school construction projects is mainly facilitated by the application of planning, risk management, stakeholder involvement, and monitoring and evaluation practices. It is recommended that project planning should be undertaken first to identify and ensure the availability of resources and to provide a roadmap for successful project implementation within time and budget. It is also recommended that particular attention be paid to risk management to avoid wasting resources and time and that drastic measures be taken to either mitigate or minimize any risks that may arise during implementation. It is further recommended that stakeholders should be involved throughout the project so that they can take ownership of the project and promote the success of the implementation process. It is also recommended that monitoring and evaluation should be done on time to avoid cost and time variation and interruption of the project during implementation. Finally, it is recommended that government institutions should encourage more public participation in the management of public school construction projects.*

**Keywords:** Project management practices, Project Implementation

## 1. Introduction

In the present century, both private and public sectors are considerably filling in the gap of their need through projects. Private sector organizations use projects through research and development departments to develop good products with high quality and provide better services to customers. On the other hand, the public sector uses projects to tackle challenges in various domains of society to improve the living conditions of the citizens; these domains include political, economic, social, technological, Ecological, educational, and legal. An instance of a government institution, such as the National Government Constituency Development Fund (NGCDF) which has provided critical support to fund projects in public schools to boost the

capacity of their infrastructure. Even though, the government's determination to provide support in building educational facilities to enable universal access to secondary education is very great. The approaches required to make sustainable progress are increasingly clear, but the challenge of implementation remains considerable [3]. Despite efforts, construction projects around the world mostly in developing countries, still witness project delays or failures in implementation [9].

At the global level, construction projects are facing major challenges and failures. During the Fiscal year 2018, the United States of America allocated over in dollars 50 billion for novel construction besides renovation in public elementary along secondary schools. Unfortunately, in 2020

the Government Accountability Office declared that only 54% of the school construction projects were executed [12]. Construction projects in general are struggling to meet deadlines in the United States. Indonesia was not an exception; the Government through the Ministry of Education has been constructing 512 school buildings since 2019. But like any other country worldwide, school construction projects are still being executed while facing challenges and countering risks [19].

Similarly, in Iraq, school construction projects suffer from numerous difficulties in addition to complex issues among them poor project management practices, unavailability of resources, and low level of project leadership skills among others. Since 2018, 800 school project constructions have been delaying implementation or are completely discontinued, and these include school building projects. As a consequence, the existing school buildings are becoming more and more overcrowded due to the significant surge in the number of students [2].

According to the [1] on Quality of Project Results, “there are many successful construction projects funded by AfDB across the African Continent,” however, only 58 % of the projects are successfully implemented and achieved. This means that 42 % of the approved and budgeted projects by AfDB are not executed and accomplished within the given timeline. The effective implementation of construction projects is an evident indicator of growth within a nation. In this context, the failure of projects in Africa may be due to internal and external factors including lack of proper application of project management practices, mismanagement of the available resources, political situation, use of technology that is not adapted to the nature of the project, insufficient fund, inappropriate bureaucracy, natural phenomena, inappropriate construction policy standards and among other.

The implementation of construction projects on time is habitually a vital aspect besides a measure of project success. Nevertheless, Malawi's construction sector is similarly confronted with the same problem of project delays during the implementation process and this can be proved by the significant number of school construction projects that have been plagued by delays due to lack of proper project management practices application and delivery problems among others. In the past years, out of 184 construction projects, only a third of them were realized within the timeline. Hitherto the liquidate harm caused was solely carried out in 29 percent of the 111 late projects [4].

Equally, school facilities and challenges in construction were noted in Uganda. Despite proactive role-playing by the Construction Management Unit of the Ministry of Education besides Sport to of any construction projects. The authorities identified 268 construction projects that have been delaying completion out of 758 projects, spread in over 648 sub-counties in 80 districts [21]. The uncompleted construction projects represent 36 percent of the construction projects sponsored by the World Bank.

Another developing country, Kenya also suffers from substantial delays in school as is the case in many infrastructure construction projects. In the recent decade, it has been noted that the implementation of construction projects in schools is either partially executed or still stalling for implementation. For instance, in 2013 Mombasa County did not realize 57% of its development public projects. The report further clarified by demonstrating that just 43 percent of budgeted projects were completed, 21% of them were effectively as well as efficiently executed, and 45% of the projects are struggling whereas the remaining ones are either forsaken or failed wholly [21]. This failure was attributed to poor leadership and lack of proper project management practices application.

Moreover, the same Mombasa County allocated a total amount of Ksh. 3,200,000,000 for development projects for its 12 departments during the financial year 2014/2015. Unfortunately, just 60 projects out of 111 signifying 54 percent of the prearranged projects were accomplished. Among these projects, the education department had 11 construction projects but only 2 projects were fully executed and completed as well [13]. Meaning, only 19% of the construction projects in public schools are either completed while 81% of the selected projects remain under implementation or are completely abandoned.

### **1.1 Statement of the problem**

The Kenyan government has been continuously working very hard to construct new schools, expand the capacity, and rehabilitate the existing public schools to accommodate the snowballing number of students graduating from primary schools. [21] acknowledged that “Kenya applies project management practices to well-implemented projects, but many projects are still falling short of demonstrating timely delivery of cost-efficient, and quality construction”. Despite all the effort, only 18 percent of projects are completed within budget, with 50 percent exceeding the cost, whereas 30 percent of the projects are so highly pricey that they are annulled before accomplishment in Kenya [7]. In addition, school construction projects are hectic to manage due to the challenges faced by school principals in applying project management techniques, methods, processes, and standards since they are all involved in school management and school projects at the same time [18].

Project implementation is based on the completion of project activities within their initial cost, on time, and to the required quality standards [13]. Effective implementation of a project is examined through its work on progress within time, budget, and scope, besides with limitations of risks. As such, carrying out a project throughout the entire execution process can be very complex, resource-consuming, and even time-consuming. A project often possesses a particular set of crucial factors which if they are well tackled and attention is given, the project team can enhance the possibility of effective execution. In Meru County, for instance, only 12 school construction projects out of 30 are executed [5]. In another way, only 40% of the selected projects have been fully implemented and achieved, whereas, 60% remain either under construction or have not yet even started. The

evidence of overrun school construction projects has shown that the notion of delays in project execution is a conjoint difficulty for construction projects within public secondary schools in Kenya. Therefore, if projects are undertaken without being managed effectively and efficiently, then, the probability of projects failing would remain high.

The existence of overrun construction projects in public secondary schools and the lack of proper application of project management practices have become a central problem because the chance of project failure or project delay remains high. There was little evidence of the application of project management practices throughout the implementation stage of school construction projects. Therefore, the current study was aimed at filling in the research gap that exists by conducting an empirical assessment of the influence of project management practices on the implementation of construction projects in the public secondary schools within Nairobi City County, Kenya. The assessment finally tried to find out if project management undertakings like planning, risk management, stakeholder involvement, and monitoring and evaluation can effectively impact the execution of construction projects for public secondary schools within the estimated time, budget, besides scope. This was a significant attempt to help by solving the problem concerning the project delay, since, these construction projects were either executed with difficulties or, worse never went beyond the paperwork step [5].

### 1.2 Specific Objectives of the Study

- a) To establish the extent to which project planning practice influences the implementation of construction projects in public secondary schools in Nairobi City County, Kenya.
- b) To investigate the effect of risk management practice on the implementation of construction projects in public secondary schools in Nairobi City County, Kenya.
- c) To examine the influence of stakeholder involvement on the implementation of construction projects in public secondary schools in Nairobi City County, Kenya.
- d) Determine how monitoring and evaluation practices affect the successful implementation of construction projects in public secondary schools in Nairobi City County, Kenya.

### 1.3 Significance of the Study

The research was of importance since it came up with findings that will become a source of valuable reference as well as guidance to scholars. Data from the study will be helpful to numerous stakeholders and the government, especially the Ministry of Education of Kenya, which conventionally holds the obligation of overseeing the development of corporate governance along with the practices of construction projects within public secondary schools.

The project manager along with the management team ought to comprehend the management performance presently developing in the business globe besides comprehending their influence on project implementation, whether it is

negatively or positively influenced. With that knowledge, the project management team can easily track the execution of a project, comprehend the factors affecting time and price, and make sure that their effort is focused on the correct practices that can contribute to the successful implementation of the project. The accomplishment of projects is assessed in terms of time, and spending as well as on the quality of the project.

The economic development of a country rests on the success of projects taken on by the government along with other entities. It is thus vital that additional discovery is made done in project management for projects in the future to upsurge their success rate and build confidence between the project manager and stakeholders. This research will be important to scholars who are catalysts of forthcoming project achievement as it provides an understanding of the undertakings of management promoting good project implementation. It will likewise form the foundation for forthcoming studies that would in the future encourage project management knowledge. The study also came up with recommendations for new topics and areas of further study.

## 2. Theoretical Review

This research was rooted in three theories including; Diffusion Innovation Theory, Stakeholder Theory, and Resource-Based View Theory.

### 2.1 Theory of Project

The theory of the project was developed by Turner back in 1993. As stated by Turner, "scope management is the *raison d'être* of project management", and the purpose of scope management is as follows: a satisfactory amount is achieved; needless work is not completed; work completed accomplishes the projected business target. He further claimed that "project management is about managing work" [11]. As such, actions, besides tasks, are the unit of analysis in the central procedures of project management, including scope management, time management, besides cost management. In addition, their management as well as control are centralized [16]. Therefore, this study focused on the theory of project as the main theory.

### 2.2 Theory of System

System theory is the work envisioned by Karl Ludwig in 1928 and further advanced by Ross Ashby in 1956. He utilized the theory to explain biological experimentation. Nowadays, the theory is assumed in other study areas, like project management. The system theory explores the interrelationship between features in a system along with the method by which this interrelationship can be fashioned to enhance the functioning of the entire system. This theory is defined as an input-process-output model that holds the feedback loop from the environment into the system conveyed to the output before converting feedback into the input.

The theory of the system is used by several studies in project management. Recently, the theory was used by [13] in research on Project management practices besides public project performance within Mombasa County, Kenya. In this research, system theory was also used with the prerequisite that a project can be seen as a system through an input-process-output model. Project implementation can be seen as system output. Inputs towards the system encompass variables like project planning, risk management practices, and stakeholders' involvement, along with project monitoring and evaluation practices. Control measures as well as project team capabilities are the feedback towards the system through offering factors needed to enhance project implementation. The system theory is appropriate to this research since it informs how the project management undertakings are interrelated with one another, and how they influence construction project implementation in public schools within Nairobi City County.

### **2.3 Resources-Based View Theory (RBV)**

The RBV theoretical foundation has existed since 1950 with Penrose, who considers the organization as a collection of resources. Penrose (1950) stated, "The resources can be categorized in two ways: tangible and intangible resources. In the case of project management, tangible resources might include, but are not limited to, the embracing of templates, tools, and methods, besides codified methodologies readily obtainable in the discipline. While intangible resources may include teamwork, leadership, and among others.

The current research was guided by RBV theory, as initiated by Penrose and further developed by Barney in 1991. The RBV theory is used in several studies in the project management field. For instance, [5] used the RBV theory to conduct a study on construction waste management besides the performance of housing and water projects within Nairobi City County, Kenya. The theory was suitable for this research as it helped in recognizing during the planning stage key elements besides resources of Time, activities, funds, human resources, besides materials resources. Therefore, the RBV theory was relevant to carry out the current study on the influence of project management practices towards the execution of construction projects in the public secondary schools within Nairobi City County since one of the aspects of project management is project resource planning.

### **2.4 Stakeholder Theory**

The theory of stakeholder can be traced since 1984 by Freeman who elucidated that "stakeholders are groups and individuals who have interests and possess the force to impact or be impacted by the achievement of the organization's objectives". Stakeholders are important in any project's life cycle, and one of the principal purposes of a project manager is to manage potential project stakeholders [13]. This theory offered a framework for classifying besides comprehending stakeholders to manage them strategically and afterward find the backing required from them to execute the project.

Stakeholder theory can be utilized to gain the community's confidence during the project [9]. In the case of construction projects within public secondary schools, stakeholders may include the Parents and Teachers Association (PTA), students, the Board of Governors (BOG), the Government of Kenya (GOK), local NGOs, and others. This research was guided by the stakeholder theory that predicts the desires of its compelling stakeholders and helps to successfully implement the construction project. Thus, the theory was vital in forming a foundation for establishing the level of stakeholders' involvement in the execution of construction projects in public secondary schools within Nairobi City County, Kenya.

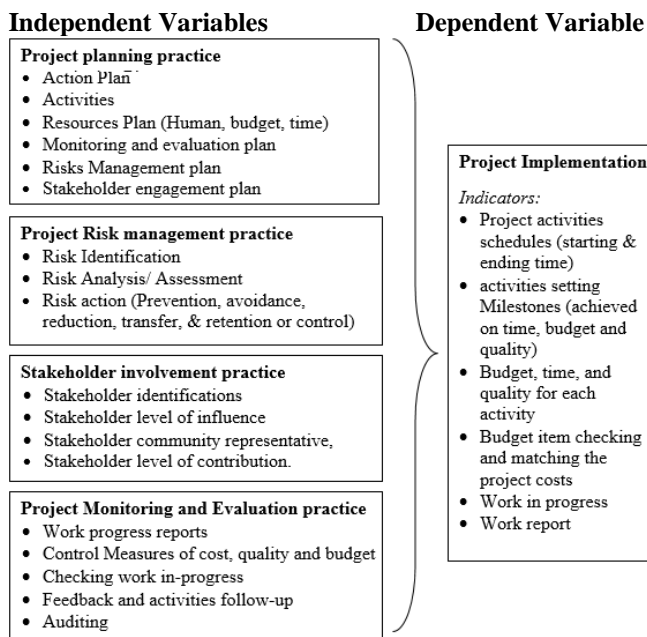
### **2.5 Realistic Evaluation Theory (RET)**

The theory of realistic evaluation is a philosophy conceptualized and published by Pawson in 1997. The theory offers guidance to define the effects and the way they are created. In addition, to the significance of the diverse conditions under which participation is reached. The theory provides a framework centered on determining precise outcomes from many project interventions, including how they are attained along with the diverse dynamics around the varying conditions of the interventions. The theory aids the assessor in considering the successful or unsuccessful aspect of intervention along with the contextual explanations needed to duplicate interference in other areas [4].

The realistic assessment tries to describe the suitable conditions that efficiently permit the learning of how an intervention produces findings and can have a substantial influence in terms of comprehension of how system deliverables are produced during monitoring and evaluation procedures [7]. Consequently, this theory precisely emphasizes evaluating, particularly as it highlights the diverse contextual factors that brought about the efficiency of a project besides providing background on how an individual can probably reproduce the results [10]. This theory applies to the present research as it aids the assessment undertakings by expounding whether interventions are efficient besides considering the circumstantial influences. Bearing in mind the exceptional state of construction projects, it is especially vital to understand the contextual influences for monitoring and evaluation variables on the execution of construction projects in public secondary schools within Nairobi City County, Kenya.

### **2.6 Conceptual Framework**

The conceptual framework offers a representation, in diagrams, of how the research variables relate. It describes the critical concepts, factors, and the relationships between them. The conceptual framework highlighted how predictor factors (identifying projects, preparing them, carrying them out, and monitoring them) associated with experimental variables (project success)



**Figure 1:** Conceptual Framework  
Source: Researcher (2023)

### 3. Research Methodology

A descriptive research design was considered more appropriate for this study. The design was applicable as it depicted the phenomenon in real time without manipulation of study constructs. Additionally, according to [17] on key achievements, there were 49 overrun construction projects executed by the government in public secondary schools located in Nairobi City County for the past years, which, therefore, formed the target population for the study. The census sampling technique was the most suitable method as the target population was accessible. More so, the current study distributed questionnaires to a total number of 196 respondents, who were able to provide key details and information concerning the study. The respondents included school principals, Board of Governors (BOG) chairpersons, Parents and Teachers Associations (PTA) chairpersons, and teachers

#### 3.1 Data Collection Instrument

The research used questionnaires to gather useful information from the principals, BOG chairpersons, PTA chairpersons, and teachers. Questionnaires are widely used methods to acquire information on conditions and practices, making inquiries about attitudes besides opinions swiftly as well as in a precise form. It was considerable to use a questionnaire to gather data when research involves a large number of people. The questionnaire was distributed to all 196 respondents. The distribution list consists of four categories of people that was: principals, BOGs, PTAs, and teachers.

#### 3.2. Data Analysis

After the data collection exercise, the questionnaires were first checked for clarity, consistency, and completeness. Before the processing of the responses, the raw data was

then appropriately edited, coded, then grouped into several segments to enable better evaluation. Statistical Package for Social Science (SPSS) version 23.0 and Excel software for data analysis were utilized in entering quantitative data, whereas analysis was conducted employing descriptive statistics. The researcher generated a regression model to determine whether a collective group of independent variables predicts the change that occurs in a given dependent variable. The regression model for the research is displayed as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Whereby:

Y= Dependent variable (project implementation);

$\beta_0$ = Constant term;

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficients for independent variables respectively

$\epsilon$ = The residual error term

### 3.3 Ethical Consideration

To ensure the accuracy of data and to secure respondents' privacy, respondents were advised to maintain anonymity by not revealing their names for confidentiality purposes. Moreover, during the entire period of the study, the researcher demonstrated a higher level of professionalism. So, the researcher kept confidential all the information that was gathered from the respondents, and this guaranteed them that all the information was only meant for academic research purposes. Additionally, the investigator sourced an introductory letter from Kenyatta University along with a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI) for introduction and authorization to collect data from the public.

## 4. Research Findings and Discussion

### 4.1. Response Rate

One hundred and ninety-six questionnaires were distributed to project managers, BOG chairpersons, PTA chairpersons, and teachers. Only 160 questionnaires were filled and returned to the investigator. This represented an 81.63% response rate making it fit for analysis. This is backed by [7] who asserted that a response rate of more than 50 percent is considered suitable for research findings to be analyzed.

### 4.2 Reliability Test Results

**Table 1:** Reliability test results

Construct	Number of items measured	Cronbach's Alpha
Project planning	6	0.825
Risk management practices	3	0.847
Stakeholders' involvement	4	0.863
Monitoring and evaluation practices	5	0.848
Overall Cronbach		0.834

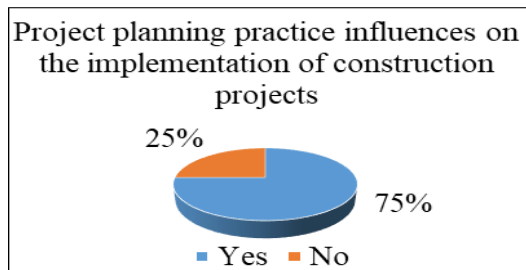
Source: Research data (2023)

Cronbach's Alpha coefficient was employed to gauge data collection tool reliability. The Cronbach Alpha coefficient was demarcated by [8] as follows: >0.9 - Excellent, >0.8 - Good, >0.7 - Acceptable, >0.6 - Questionable, >0.5 - Poor,

and 0.5 - Unacceptable. This research's results were scrutinized with SPSS Version 23. Findings are presented in Table 1. The dependability of the data was ensured by Cronbach's alpha values for all four independent variables being above the cut-off.

**4.3 Descriptive analysis**

**4.3.1 Do project planning practices influence the implementation of construction projects?**



**Figure 2:** Project planning and project implementation  
Source: Research data (2023)

Consistent with the results presented in Figure 1, it is clear that most of the respondents as denoted by 75% agreed whereas 25% disagreed that project planning practices were applied before the implementation of construction projects in the secondary schools.

**4.3.2 Does project risk practice influence the implementation of projects in your school?**

**Table 2:** Project risk and project implementation

Response	Number of respondents	Percentage of respondents
Positively through enhancing project implementation success	130	84.375%
Negatively through hindering project implementation	20	12.500%
Not sure	5	3.125%
Total	160	100%

Source: Research data (2023)

It is precise that the majority of the respondents cited that project risk practices positively influenced project implementation as denoted by 84.375%, whereas 12.5% said it negatively influenced project implementation and 3.125% were not sure.

**4.3.3 Does stakeholder involvement influence construction project implementation in public secondary schools within Nairobi City County, Kenya?**

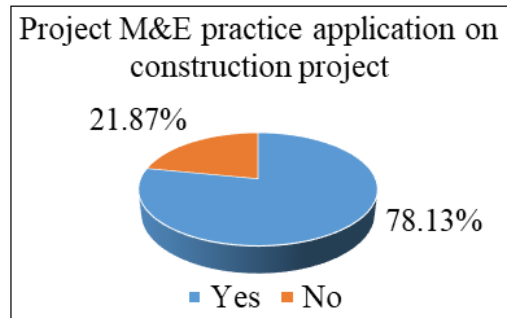
**Table 3:** Stakeholder involvement and project implementation

Response	Number of respondents	Percentage of respondents
Stakeholder involvement positively influences construction project implementation	142	88.75%
Stakeholders' involvement negatively influences construction project implementation	18	11.25%
Total	160	100%

Source: Research data (2023)

Consistent with the findings, most of the respondents as denoted by 88.75% noted that stakeholder involvement positively influenced construction project implementation whereas 11.25% indicated that stakeholder involvement negatively influenced construction project implementation within their schools.

**4.3.4 Are project monitoring and evaluation practices applied throughout the construction project in your school?**

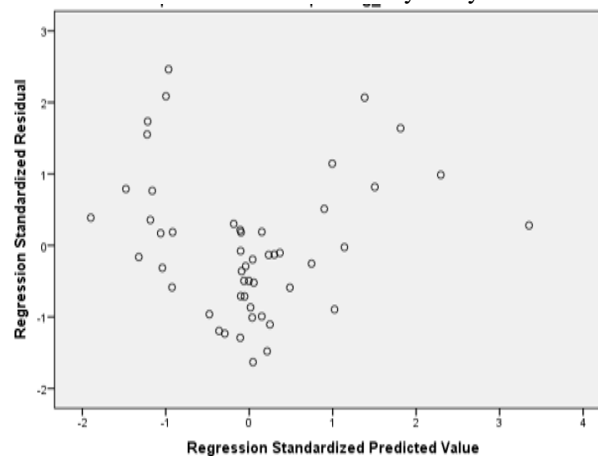


**Figure 3:** Project M&E and project implementation  
Source: Research data (2023)

**4.4 Diagnostic Test Analysis**

To determine whether the data set was fit for carrying out regression analysis, diagnostic tests were run. They were proposed to test the presumptions of regression analysis. The detailed diagnostic tests done in this study encompassed the homoscedasticity (homogeneity of variance) test, the multi-collinearity test, the autocorrelation test, in addition to the normality test. Pearson's relationship coefficient was employed to check the standard of the connection between the autonomous and subordinate variable

**Table 4:** Homoscedasticity analysis



**Figure 4:** Scatter plot  
Source: Research data (2023)

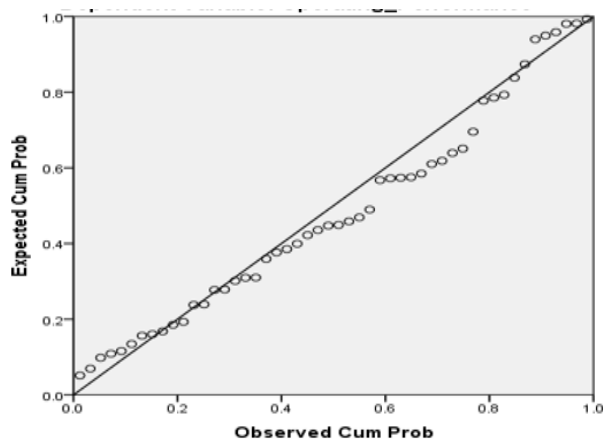
The majority of variables are broadly distributed without any discernible pattern, as seen in Figure 4. This indicates that the data used for analysis lacked homoscedasticity.

**Table 4: Multi-collinearity test**

	Tolerance	VIF
Project planning	.442	2.171
Risk management practices	.433	1.113
Stakeholder involvement	.619	1.341
Monitoring and evaluation practices	.765	1.465

Source: Research data (2023)

Table 4 shows the variance inflation factor (VIF) values, ranging from 1 to 2.2. The VIF values typically lie within the range of 1 to 10, indicating that the data does not show multicollinearity. Consequently, the fact that the VIF values were above 1 designates that there was no multi-collinearity in this research's data.



**Figure 5: Normal PP Plot**  
Source: Research data (2023)

The majority of the data points are shown to be falling along the typical PP line, as demonstrated in Figure 5 the study's data were regularly distributed.

**4.6 Multiple Liner Regression Results**

The statistical link between the independent characteristics and the dependent variable was established through a regression model. R2 value, regression coefficients (Beta), alongside ANOVA were the key metrics utilized in confirming the presence of the connection. Based on a 5% level of significance, Analysis of Variance (ANOVA) was executed to assess the model's goodness of fit along with the significance of the association among the dependent and independent variables.

**Table 5: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.909 <sup>a</sup>	0.825	21	0.037

Source: Research data (2023)

The study revealed that the regression model is fit for reaching conclusions regarding the population parameter as the p-value is smaller than alpha at 95% confidence level (that is, p=0.001, =.05).

**Table 6: ANOVA**

Model		Sum of Squares	Mean Square	F	Sig.
1	Regression	2.320	4.640	17.234	.003 <sup>b</sup>
	Residual	38.412	.226		
	Total	40.732			
a. Dependent Variable: Project implementation					
b. Predictors: (Constant), Project planning, risk management practices, stakeholder involvement, and monitoring and evaluation practices					

Source: Research data (2023)

Consistent with the ANOVA Statistics. The computed F-value was higher than the crucial limit (56.560>2.48), signifying that the connection between Project planning, risk management practices, stakeholder involvement, risk management and evaluation practices have a positive and statistically significant connection to the implementation of school construction projects.

**Table 7: Regression Coefficients**

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	0.116	0.219	0.317	0.001
	Project planning	0.31	0.511	6.226	0.002
	Risk management practices	0.432	0.691	8.592	0.001
	Stakeholder involvement	0.237	0.317	6.083	0.000
	Monitoring and evaluation practices	0.275	0.782	6.412	0.000

Source: Research data (2023)

Interpretation of the regression findings displayed in table 7, revealed project planning significantly influences the implementation of school construction projects. This is for the reason that a regression coefficient of, B=0.31 is significant as its p-value = 0.002 is below 0.05. As it is positive, it infers that an enhancement in project planning practices will instigate an improvement in the implementation of school construction projects.

Consequently, enhancing planning will promote the positive implementation of school construction projects in Nairobi city county. These findings prove that project planning posed a positive significant impact at the 5% level of significance as the p-value (p = 0.002, = 0.05) was below the alpha. Signifying that planning is positively as well as statistically connected to the implementation of school construction projects. These findings concur with those of [6] who established that, "setting deadlines for each project activity, identifying roles and responsibilities during the project's initial plan is very crucial to the project performance of the projects". In addition, these findings agree with those of [8] study on the consequence of project management practices on project results of chosen projects amongst catholic churches within Nakuru County, Kenya which established that the four selected project management practices namely project resource planning, stakeholder involvement, along with project monitoring and evaluation posed a positive substantial effect towards project results at catholic churches within Nakuru County, Kenya.

As stated by the results revealed in Table 7 ( $p=0.001$ , = 0.05), there was a statistically significant correlation between the implementation of school construction projects and the risk management practices at the 5% level of significance. This is for the reason that its  $p$ -value = 0.001 is below 0.05 with a regression coefficient, of  $B=0.432$ . Indicating that risk management practices would contribute to an upsurge in the implementation of school construction projects. These findings agree with those of [15] that examined risk management approaches along with the performance of government-sponsored youth projects within Machakos County, Kenya, establishing that risk management techniques had a substantial impact on the performance of government-sponsored youth projects within Machakos County. This research's results also revealed that youth projects aiming at enhancing the lifecycle of the youth through enablement along with employment, resource mobilization, as well as enhancing access to economic besides social amenities must consider assessing risks at all levels of the project.

In line with the findings displayed in Table 7, at a 5% level of significance and regression coefficient of  $B=0.237$ , stakeholder involvement posed a statistically significant besides positive influence on the implementation of school construction projects in Nairobi city county. This is for the reason that its  $p$ -value = 0.000 is under 0.05. This implies that if more stakeholders are involved in the project this will in turn enhance the implementation of school construction projects. These findings concur with those of [7] that studied, project management practices along with the execution of projects in manufacturing corporations within Nairobi City County, Kenya, establishing that there exists a positive besides substantial connection between the four independent variables namely stakeholder participation, resource allocation, communication besides the dependent variable (project implementation). In addition, these findings are in line with those of [14] who investigated how project management techniques affect levels of successful borehole water project implementation in Makueni County, Kenya, determining there was a positive correlation between project management techniques and project implementation of water projects in Makueni County.

A positive besides significant influence in monitoring and evaluation practices about the implementation of school construction projects was determined. With a regression coefficient of  $B=0.275$  at a 5% level of significance, the connection between monitoring and evaluation practices and project implementation schools was statistically significant ( $p=0.0002$ , = 0.05). This implies that enhancing M & E data practices would have an advantageous consequence on how well school construction projects in Nairobi city county are implemented. These results are in line with those of [20]; [8] who examined how NGO projects were carried out in Nairobi County, Kenya. Establishing a positive relationship between the independent variables like planning, communication financing monitoring, and controlling) and the dependent variable (project implementation).

## 5.1 Recommendations

The first objective sought to establish the extent to which project planning practice influences the implementation of construction projects in public secondary schools in Nairobi City County, Nairobi. The study recommends that project planning policy ought to be followed in undertaking any project. In addition, a clear project action plan specifying goals, smart objectives, scope, and time ought to be outlined before the commencement of any project execution. Moreover, the cost and specification of the project timeline for projects should be established before starting its execution in school construction projects within Nairobi city county.

The second objective was to investigate how risk management practices affect the implementation of construction projects in public secondary schools in Nairobi City County, Nairobi. This research suggests that there needs to be project risk identification along with the conduction of project risk assessment while taking actions like risk prevention, risk avoidance, risk reduction, risk transfer, and risk retention to promote the effective implementation of school construction projects in Nairobi city county.

The third objective examined the influence of stakeholder involvement on the implementation of construction projects in public secondary schools in Nairobi City County, Nairobi. The study recommends that different stakeholders including, teachers, the Ministry of Education, members of PTA, members of BOG, CDF, and donors should be involved in the implementation of school construction projects in Nairobi city county to promote the success of the implementation process.

The fourth objective sought to determine how monitoring and evaluation practices affect the successful implementation of construction projects in public secondary schools in Nairobi City County, Nairobi. The research suggests that monitoring and evaluation practices including the conduction of regular work progress reports, control of cost, time, and budget, and checking of work progress with consideration of the feedback and following of activities along with the auditing activities ought to be embraced to promote the successful implementation of school construction projects in Nairobi city county, Kenya.

## 5.2 Areas for Further Studies

The study concentrated on the assessment of the influence of project management practices on the implementation of construction projects in public secondary schools in Nairobi City County, Kenya. Hence, there is a need for another research to be conducted on a similar subject in a different county to determine the variations in the findings as the results from Nairobi city county cannot be used as representative of the other counties.

Additionally, the current study was limited to four objectives under the project management practices that encompassed Project planning, risk management practices, stakeholder involvement, and monitoring and evaluation practices.



Therefore, another study can be conducted on other project management practices.

The current research focused on public secondary schools as the target population. Thus, another study ought to be conducted focusing on primary schools, private secondary schools, and even other learning institutions like universities and colleges.

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