



PROJECT PLANNING PRACTICES AND PERFORMANCE OF BUILDING CONSTRUCTION PROJECTS IN INTERNATIONAL SCHOOLS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

This study determined the impact of human resource planning, financial resource planning, material usage planning and time management in influencing the performance of construction projects in Nairobi International Schools. This research was based on the Resource Based View Theory, Constraint Theory, Stewardship Theory, and Project Management Competency Theory. The selected sample consisted of 33 projects conducted inside the Nairobi International Schools. The research included a total of 231 participants, including project managers, executive committee members, and principals from each of the 33 international secondary schools. The methodology of stratified sampling was used. Yamane formula was used to arrive at 146 respondents. The data collection method used of semi-structured questionnaires. Piloting was done in Kitengela International School where six respondents were used. Construct and content validity was tested. The study findings indicated that majority of the projects accorded human resource management function as an important role and that majority of the firms conduct training to its project team members. The results indicated that project completion was being done without much struggle and that the budgeted funds were enough to complete the project. The study further established that all material resources allocated were in use and that project output had been well defined. The study also found that quality projects planning was being carried out effectively. It was also clear that that activity duration had been well estimated, time schedules were well developed, and that project scope had been well specified during planning phase. The study concluded that human resource planning, time management, material resource planning and financial resource planning positively and significantly contributes to performance of the construction projects. The study concluded that construction firms should conduct proper and continuous training programs aimed at developing human resources in the industry. The study suggested that the cost estimation ought to be founded on the project scope and be associated to the project plan. The study recommended the creation of time plans in accordance with previously created work-breakdown structure.

Key Words: Human Resource Planning, Financial Resource, Material Usage Planning, Time Management

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INTRODUCTION

Globalization and global competition have put tremendous pressure on organizations, institutions, governments, and businesses in order to control cost, improve productivity, increase profits, to remain relevant and competitive in the rapidly changing environment (Dvir, Raz & Shenhar, 2017). As for the organizations that engaged in projects, the performance of those projects is critical for their survival. Regardless the industry the projects are involved in, they all need to be managed, planned, monitored, evaluated and controlled. Thus, the organizations need to deliver the projects within budget, on time and as per agreed specifications (Wang & Gibson, 2018). Large amounts of resources are dedicated to projects during selection and designing however, it is crucial for the projects to be adequately managed in those organizations to ensure objectives are met. Serrador (2018) emphasized the significance of a project's planning phase, revealing that the triple constraint; cost, quality and can only be solved through proper planning.

There is great progress in terms of the existing infrastructure in Kenya, particularly in international schools with the view of providing better learning environments for the learners. While the government is keen on improving the learning conditions in the public institutions, private investors in international schools within Nairobi have similarly invested extensively towards ensuring comfortable and modern learning environments for the learners (Council of International Schools in Kenya, 2022). However, many projects within these international institutions fail due to the failure to meet the minimum standards of the core requirements of the intended purpose of these projects.

Project performance entails projects achieving the pre-set objectives based on time, costs and finance (Jiang, 2019). Berg & Karlsen (2017) noted that historically, project managers have stressed technical knowledge and abilities as the most important aspects of project management. Due to

the necessity of managing projects, improved proposal administration procedures that regard human capital and leadership capacity as essential project management instruments are increasingly essential (Sumner, 2016). A roadway project is deemed successful if it is completed within the stipulated schedule, budget, and quality. Schedule, cost, dependability, customer happiness, innovation, business results, and health and safety were used to gauge the success of the project (Cheung, 2019). Nonetheless, the key performance indicators considered by many studies (Takim & Adnan, 2019) time, cost, and quality

Project planning is the process through which the schedules, materials, milestones, equipment needed and the budget are specified for the execution of the project (Chatzoglou & Macaulay, 2020). The project resources must be arranged systematically to ensure that maximum objectives are obtained in the project. It is also a very important tool designed to ensure that the projects remain successful. It can also be defined as the process of defining suitable approaches toward the accomplishment of the specific project objectives. Project planning practices indicators include; material planning, human resource planning, time planning and financial planning (Horetal, 2017).

Kenya economic survey (2017) indicated that Kenyan construction market will record significant expansion over the next ten years with an annual growth of 6.2 percent, positioning Kenya as the leading country as compared to other countries within the Sub-Saharan region. Kenya construction industry is rapidly growing and has seen a boom in the past couple of years. As per information from Kenya National Bureau of Statistics (KNBS) (2016), the construction industry grew by 9.2 percent in 2016 from growth of 13.9 percent registered in 2015. The statistics demonstrated an expansion in action in the development of housing and construction projects to a rate of over 17.2% in the years 2019 to 2021.

Construction activities in schools in Nairobi City County especially International Schools are usually organized by firms that handle the day-to-day running of construction activities. The projects under

consideration, in this case, include the housing, water, drainage and road construction projects. The various international schools in Nairobi City County have embarked on implementing various projects to improve the learning environment experiences of the learners. However, majority of the international secondary school projects initiated over 10 years ago have stalled, abandoned and some are struggling to meet the timelines, budgeted cost and quality (Council of International School, 2021).

Many of the international schools such as Hillcrest Secondary School, Aga Khan Academy, Light Academy Schools, Oshwal Academy Nairobi and the Aga Khan Academy and The Vale School Muthaiga have got projects which have exceeded scheduled time, costs and quality (Council of International Schools, 2022). Many of these international schools have targeted expansion of the existing resources to ensure they can accommodate more learners into the system. However, 56% of the project; the construction of classrooms, drilling boreholes, water drainage systems, constructing raised tanks, road projects, perimeter walls and lighting projects have slowed down and failed to meet the set timelines and quality.

Statement of the Problem

Majority of international schools projects consists of classrooms, boreholes, and drainage and perimeter walls. Majority of the schools started varied projects to satisfy diverse needs based on their financial and investors strengths. However, many of these international schools have faced challenges relating to quality of the projects, costs incurred and untimely delivery of project. For instance Aga Khan Academy, Hillcrest Secondary and Oshwal Academy Nairobi started classrooms projects over 5 years, 7 Years and 6 years ago respective which were projected to be completed within 3 years. Additionally, Kenton College Preparatory School, Light Academy Schools and Premier Academy had classroom projects , borehole project and perimeter wall project with

projected cost of Kshs. 50M, Kshs. 12M and Kshs. 30M which ended up being reviewed to 70M, 18M and 42M respectively (CISK, 2022). The cost escalation, untimely delivery and low quality projects was attributed to project planning practices, corruption, government regulations and stakeholders involvement.

Wright et al., (2019) investigated the relationship between 190 US chemical refineries' work performance participation as well as other Human resources practices (recruitment, education, engineering skills, management, and style of management). Overall outcomes of this research endorsed the notion that staff choice, instruction, leadership, and methodology are all directly related to employee enthusiasm. However, the study's findings show that Human resource practices (such as selection, training, administration, and scientific methods) are only strongly related to a company's project performance when those processes are integrated with the step-by-step process. The study was conducted in the United States and concentrated on chemical refineries, creating a contextual gap that the current research seeks to overcome by focusing on construction projects in Kenya.

In Pakistan, Huang (2019) investigated the impact of HRM methods on employees' performance, including job satisfaction, departure intent, and commitment. Workers in the building business were the subject of the investigation. The research claims that a company's methods of human resource management improve performance, which aids in the growth and acquisition of a long-lasting competitive advantage. The above studies made an effort to clarify the relationship among both human resource management strategies and business ratios as well as the preservation of a chance to compete in a changing situation, but they did not take into account the quality requirements of highway projects, a disparity that the latest research will fill.

The factors influencing project outcomes in China were examined by Belout and Gauvreau in 2017. The research, which used a data study, had as its subject matter employees on several initiatives. The study

found a helpful connection between HR scheduling and project productivity. According to the report, businesses should undertake personnel management initiatives that would give workers the chance to consider their own professional experiences, attitudes, and goals for the future. In the research, only people's contributions were factored into the equation; quasi-input, such as preparation for funds and materials, were not factored.

Werner and DeSimone (2016) studied how the management of human resources impacts a company's efficiency in the USA. Managers of human resources were the target audience for the study's inference research design. Understanding their needs for human resources allows firms to anticipate how changes in their strategy will affect the demands placed on their HR. Based on the survey, because the outside market requires continuously shifting swiftly, it is imperative for any company to plan for its personnel needs. The study concentrated on the demands for human capital and how they influence the organization, but it ignored the issue of resource development, especially in the execution of highway projects. This research utilized a descriptive design, and the findings were examined using descriptive, correlational, and interpretive techniques. The focus of the study was on the general organizational performance and did not consider the project performance, which prompts the current research on construction projects.

Objectives of the Study

The general objective of this study was to assess the project planning processes and their impact on the performance of construction projects in International Schools in Nairobi, Kenya. The specific objectives guiding this study included:

- To analyze the impact of human resource planning on the performance of construction projects in International Schools in Nairobi City County, Kenya.
- To determine the impact of financial resource planning on the performance of construction

projects in International Schools in Nairobi City County, Kenya.

- To identify the effects of material resource planning on the performance of construction projects in International Schools in Nairobi City County, Kenya.
- To analyze the impact of time resource planning on the performance of construction projects in International Schools in Nairobi City County, Kenya.

The research questions guiding this study included:

- What is the impact of human resource planning on the performance of construction projects in International Schools in Nairobi City County, Kenya?
- What is the impact of financial resource planning on the performance of construction projects in International Schools in Nairobi City County, Kenya?
- What are the effects of material resource planning on the performance of construction projects in International Schools in Nairobi City County, Kenya?
- How does time resource planning affect the performance of construction projects in International Schools in Nairobi City County, Kenya?

LITERATURE REVIEW

Theoretical Review

Theory of Constraints

Goldratt proposed the theory of limitations as an overarching management framework (1984). It attempts to assist businesses in continuously achieving their objectives, namely, an improvement in the efficiency of their initiatives. It describes four primary restrictions that impede the execution of initiatives. The Project's budget, competence, and time frame are the restrictions, together with the Project's overall scope. The core tenet of TOC is that limitations have a detrimental impact on any performance of companies. According to the notion of limitations, project leaders should concentrate on handling these constraints well.

According to research by Klein, Debruine, and Lehman (2016), these constraints affected over 40% of the constructions projects in Europe. In spite of project restrictions, the idea pushes managers to be innovative in coming up with solutions that will help

the company complete high-quality infrastructure projects. According to Linhares (2015), policies and insufficient material resources are the leading causes of the restraints that businesses encounter. The best performance within the restrictions at hand is a vital component of the theory of constraints. It provides a framework for the duties managers must perform when managing projects. The constraints theory is a body of ideas, precepts, and metrics that concentrate on the logistical equipment that makes project work run smoothly (William, 2013).

Stewardship Theory

Another way to comprehend the present relationship between company ownership and management is through the Stewardship Theory, which Donaldson and Davis (1991 and 1993) developed. Managers diligently pursue high company profit levels and shareholder returns as competent business stewards (Donaldson & Davis, 1994). This approach emphasizes the Board's function in providing plans or advice and regards Managers as Reliable Persons. The fundamentals of the stewardship idea are founded on social neuroscience, which emphasizes executive behavior. Directors must uphold a fiduciary obligation to shareholders in order to earn their trust and operate as good stewards of the organization's assets.

The stewardship theory's proponents concur that managers prioritize exceptional performance over maximizing shareholder profits. The reason for this is that managers, who run the firm on a daily basis, have a greater understanding of it and make better judgments than directors, who are more outsiders (Donaldson & Davis, 1994). Because organization performance will satisfy the majority's needs and the stewards will have a defined goal, it has been observed that where a company's wealth is increased, the utility of stewards is also maximized (Smallman, 2004). Stewardship theory, therefore, refers to a claim made in the performance of enterprises that meets the needs of the interested parties, leading

to a system dynamic balance for balanced governance. Sustainability theorists have suggested, according to Donaldson & Davis (1994), that top officials inside a firm won't disadvantage shareholders out of concern for harming their reputation. According to this theory, managers and staff members of construction enterprises should receive a significant the right amount of guidance to promote enhanced and more effective judgment calls.

Project Management Competency Theory

McClelland and McBer developed this hypothesis (1980). According to the writers, competency refers to a person's fundamental qualities that enable them to achieve excellent performance in a given task or circumstance. According to the project management competence development platform, a competency is a group of connected abilities, information, attitudes, and other characteristics that affect how someone approaches a particular task. Competence and project success are correlated, and workforce training and development can increase competency (PMI, 2011).

The idea describes how program management skills are essential, how development projects are monitored and evaluated, and how team dynamics affect how well infrastructure investments perform. Gladder (2010) stated that in order to deliver as promised, be able to accomplish the Project's objectives, and optimize the combined cost, time, and effort, technical project leaders, must be able to apply knowledge, skills, tools, and procedures successfully. The analysis discovered that two of the essential standards—the Project management institute (PMI and the Australian National Competency Standards—focus primarily on the knowledge side of competence, while the third standard—the PMBOK—focuses on proven performance. The survey also revealed that certain project managers lacked the expertise needed to carry out road-building projects.

Resource Based View Theory

Wernerfelt and Rumelt (1984) proposed this theory. This theory is based on how a company can use a variety of priceless intangible and tangible resources

at its disposal to get a strategic advantage over rival companies. It explains how vital actual and intangible resources help the company complete projects on time, on budget, and to the intended quality (Barney, 1986). According to the RBV theory, a company with sufficient resources is more likely to perform better than other companies and have a competitive advantage. It makes the case that every project manager aspires to boost the effectiveness of the projects they manage continually. However, small businesses have limited funds and time to devote to implementing the necessary improvements.

The company's resources can be either physical, like machinery, or intangible, like trademarks, proprietary information, and procedures. Making good use of modern tools like excavators, tippers, rollers, and graders can help a company finish an infrastructure plan within the allotted time frame and also cut down on cost overruns (Gimeno, 2011). According to Robert & Bradley (2013), in order for a firm can perform better, it must first evaluate the resources it already has, values them, and determine how best to use them to provide the firm a competitive edge. Robert and Bradley also stated that a firm's ability to incorporate new technologies depends on its access to resources, including the capital, machinery, workers' talents, and copyrights.

Empirical Literature

Wright et al., (2019) investigated the relationship between 190 US chemical refineries' work performance participation as well as other Human resources practices (recruitment, education, engineering skills, management, and style of management). Overall outcomes of this research endorsed the notion that staff choice, instruction, leadership, and methodology are all directly related to employee enthusiasm. However, the study's findings show that Human resource practices (such as selection, training, administration, and scientific methods) are only strongly related to a company's project performance when those processes are integrated

with the step-by-step process. The study was conducted in the United States and concentrated on chemical refineries, creating a contextual gap that the current research seeks to overcome by focusing on construction projects in Kenya.

In Pakistan, Huang (2019) investigated the impact of HRM methods on employees' performance, including job satisfaction, departure intent, and commitment. Workers in the building business were the subject of the investigation. The research claims that a company's methods of human resource management improve performance, which aids in the growth and acquisition of a long-lasting competitive advantage. The above studies made an effort to clarify the relationship among both human resource management strategies and business ratios as well as the preservation of a chance to compete in a changing situation, but they did not take into account the quality requirements of highway projects, a disparity that the latest research will fill.

Guoli (2018) investigated in India the influence of financial management on construction projects. The study employed a descriptive methodology and concentrated on the stalled initiatives. The study came to the conclusion that a feature-rich budget controls project costs and promotes cash flow. The research also revealed that because there is a substantial danger that the program as a whole would be momentarily discontinued, the implications of a project's inadequate cash inflow are typically tied to delayed and considerable extra costs. The current study is intended to focus on how financial planning affects project outcomes, which was not thoroughly explored in the previous study.

In Sweden, Karlsson (2017) investigated how budgeting affected the success of projects. The study has projects in Sweden as its focus and used a descriptive survey. The analysis argued that training, society, and personal finances are backdrop factors that influence project planning techniques and procedures. Many corporate executives, meanwhile, lack any formal power. This occurs because supervisors are responsible for a particular area inside which they can make decisions, which is

troublesome since it was not considered in this study. Many building companies have a far more streamlined structure, and managers are granted a lot more authority. This has something to do with the greater extent of power inside this organization and could affect how revenue is used. The study did not take into account the metrics relating to road project performance because it was primarily focused on project performance in Sweden. By concentrating on the implementation of road projects in Kenya, the present study closed the gap.

Telsang (2019) examined the materials strategic plan and its effects on construction projects in Australia. The design of the study was descriptive. This investigation was concentrated on Indian projects. The study found that planning identifies the activities, sets the time and budgetary objectives, and establishes performance standards, all of which are necessary for a project to be executed successfully and its goals to be met. The study came to the additional conclusion that now the strategy must incorporate all essential facilities, equipment, materials, and workforce in order to assure the success of the complete operation. The achievement of an intended outcome is not always guaranteed by timely planning and allocation. It rarely occurs in this manner since unforeseen circumstances sometimes arise irrespective of timely planning. The study was done in Australia presenting a contextual gap.

In the UK, Plenrt and Best's (2018) research looked at how material utilization planning affected the performance of the Project. Again for the study, a survey of building companies was done. They found that the majority of the expenses and advantages of JIT happened whenever prices went up, leading to considerable raises in the cost of holding inventory. This was revealed using descriptive analysis. Companies ought to be able to restrict their planning to only the items they will need at what moment, according to the research. The research was

unable to show how building projects or material use are related clearly. The study was conducted in UK construction firms, which raises the prospect of a contextual gap.

The factors influencing time preparing systems in Nigerian construction enterprises were investigated by Akpan and Chizea in 2017. Nigerian failing projects were used as a case study. The study discovered that time planning systems require the practical assessment of implementation using pre-established criteria, and if execution deviates from the usual organization's mission, then corrective measures are quickly implemented. In contrast, a successful Project is the actualization of a planning process while also monitoring the plan's efficacy in achieving the desired goals. But the research did not determine how time management impacts project outcomes, which is the present study's primary objective.

In Japan, Lloyd (2016) investigated the effects of time preparation functions on construction projects. The research involved a survey of building initiatives. The participants for this study were management consultants and funders, and it was focused on initiatives that were not finished on time. According to the study, a function can be defined as the program's forethought and planning anywhere at the moment based on current certainties and revised possibilities. The study also discovered that this is appropriate because the Project's limits and even aims can change as it is being implemented. Detection of deviation from plans is complex and occasionally not even possible. It may be stated in this introduction that detailed preparation is necessary for control to be possible because it loses.

METHODOLOGY

This study adopted both the descriptive research design and explanatory research design methods. The target population in this study included the various projects that construction projects started in the year 2017 by the international schools in Kenya. These projects include; classroom projects, Boreholes, perimeter wall, laboratory expansion and library expansion and equipping project. The study

targeted five (5) construction projects in each of the 33 international schools in Kenya which have had projects started in the last five years (2017-2022)(CIS, 2022). The respondents were the principals, executive school committee member and project manager/contractor. The study used stratified random sampling to sample respondents into classroom projects, Boreholes, perimeter wall, laboratory expansion and library expansion and equipping project respondents.

Primary data sources were used in the study. Primary data was collected through the use of a Likert questionnaire. Questionnaires were completed by the 146 employees selected from five. The study employed questionnaire as the tool for data collection because it allowed the researcher to cover a larger area within a short period of time, and also it allowed confidentiality of information; hence prompting respondents to give accurate information on the subject matter. The questionnaire also was convenient to the respondents as they filled the questionnaire at their own free and convenient time.

After the data collection, it was cleaned, coded and input into the Excel; and analyzed with the aid of Microsoft Excel package and Statistical Package for Social Sciences (SPSS) version 25.0. Descriptive and inferential statistics was used in the analysis. Descriptive statistics was used to describe and summarize the data to enable meaningful description of the distribution of the scores or measurements. Correlation was used to assess the relationship between project planning and project performance. Multiple regressions was computed to investigate how the independent variable predicted the dependent

variable. Data was presented using frequency tables, bar graphs and pie charts. Inferential statistics was presented using regression analysis. A multiple regression model was used in the study to establish the relationship between the dependent and the independent variables. The model was in the form of:

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

Where: Y= Project Performance β_0 = Constant β_1 to β_4 =Coefficients

X1 = Human Resource Material planning

X2= Financial Resource Planning

X3 = Material Usage Planning

X4 = Time Planning

ϵ =Error term.

The final findings were presented through tables and graphs.

FINDINGS AND DISCUSSIONS

Descriptive Analysis Results

This section presents descriptive analysis on the data gotten from the respondents in connection with independent variables and dependent variable. The section describes the data using mean and standard deviation. High mean indicated that majority of the responded strongly approved the statements presented to them while standard deviation indicated the degree of dispersion from the mean.

Human Resource Planning and Project Performance

The study sought to establish the effect of human resource planning on project performance. Various statements were included in the questionnaire to indicate the level of human resource planning on the projects selected. Table 1 summarizes respondents' level of agreement on aspects relating to human resource planning on performance of construction projects.

Table 1: Human Resource Planning and Project Performance

Statements	Mean	Std. Dev
Human resource department is majorly involved in the company's planning process	4.32	0.188
The formulation and implementation of HR training are in line with overall goal	4.13	0.339
The human resource management function is accorded an important role	4.50	0.033
All resources were allocated (qualified personnel and infrastructure)	4.11	0.311
Training was done to project team members	4.48	0.007
Project managers were involved in planning stage	4.20	0.155

Source: Research Data, (2023)

The findings in table 1 indicated that most of the respondents approved that human resource management function is accorded an important role as depicted by mean score 4.50 and a low standard deviation of 0.033. It is evident that majority of the respondent agreed that training was done to project team members as shown by mean score of 4.48 and very low standard deviation of 0.007. Human resource department is majorly involved in the company's planning process as illustrated by mean score of 4.32 and a standard deviation of 0.188; respondent further agreed the formulation and implementation of human resource training are in line with overall goal as depicted by mean score of 4.13 and a standard deviation of 0.339. The respondents corresponded that all resources were allocated (qualified personnel and infrastructure) as shown by mean score of 4.11 and a standard deviation of

0.311. It is therefore clear that human resource planning practices was being done effectively by the projects through the consideration of the important role of human resource managers, allocating enough human resources and training them well. The study concurs with Batt (2018) findings that firms' puts emphasize more on high training on skills, participation of employee in decision making and incentives of human resource for instance employment security.

Financial Resource Planning and Project Performance

The researcher required the respondents to state their level of conformity on the statements in relation to how financial resource planning affects performance of construction projects. Several indicators of financial resource planning were applied, and the results were presented in table 2.

Table 2: Financial Resource Planning and Project Performance

Statements	Mean	Std. Dev
Project cost was well estimated	3.16	1.965
The budgeted funds were enough to complete the project	4.34	0.515
Budget for the project was properly determined (combining the estimated costs of individual activities or work packages to establish an authorized cost baseline)	4.37	0.998
The project manager was able to forecast expenses	4.50	0.83
Project completion was done without struggle	4.58	0.683

Source: Survey Data, (2023)

The findings in the table 2 showed that majority of the respondents strongly agreed that project completion was done without struggle and that project manager was able to forecast expenses as depicted by mean score of 4.58 and 4.50 respectively. Further respondents agreed that budget for the project was properly regulated (combining the projected costs of specific activities or work packages to ascertain an approved expenditure baseline) and that the budgeted funds were enough to complete the project as indicated by mean score of 4.37 and 4.34 respectively. Finally, respondents were neutral that project cost was well estimated as depicted by a mean of 3.16 and a standard deviation of 1.965.

Generally, it is clear from the presented study that proper financial planning was done as indicated by proper projections of the costs and completions of project phases in time without hustle. The study agrees with Guoli (2018) which found that a professional developed budget controls and the project costs creates favorable cash-flow conditions in the project. The study also found that insufficient cash flow consequence in a project is frequently associated with delays and large extra costs, since there is a great possibility for a temporary halt of the entire project.

Material Usage Planning and Project Performance

The study sought to determine the effect of material usage planning on project performance in Nairobi City County, Kenya. The researcher used a combination of

various indicators of material usage planning and presented to the respondents as statements as indicated in table 3.

Table 3: Material Usage Planning and Project Performance

Statements	Mean	Std. Dev
Appropriate material was provided	4.16	0.799
Project material and organization was well communicated during planning phase	3.92	0.745
Project Scope was well specified	4.07	0.807
Project output was well defined	4.11	0.593
Quality planning carried out	4.07	0.739
All material resources allocated were used	4.13	0.772

Source: Survey Data, (2023)

The study findings as presented in table 3 indicated majority of the respondents agreed that appropriate material was provided as depicted by mean score 4.16 and a standard deviation of 0.799, respondent also agreed that all material resources allocated were used and that project output was well defined as shown by mean score of 4.13 and 4.11 respectively. Quality planning were carried out as illustrated by mean score of 4.07, further respondent agreed that project material and organization was well communicated during planning phase as depicted by mean score of 3.92.

It is clear from the results that material usage

planning was effectively practiced as indicated quality of the material used, right materials used and the indication that all materials needed were availed to the projects. The study concurs with Plenert and Best (2019) findings that most of the JIT costs took place when inflation increases bringing about great increases in the cost of carrying inventory. The study recommended that firms must be capable of only focusing our planning on material resources needed, and when they are required.

Time management and Project Performance

The study aimed to determine the effect of time planning on project performance. The results were presented in table 4.

Table 4: Time management and Project Performance

Statements	Mean	Std. Dev
The project scope was well specified during planning phase	4.55	0.195
Schedules were well developed (prepared)	4.58	0.126
Activity duration was well estimated	4.61	0.454
The project was completed on the original(planned) schedule	3.18	0.455
All projects were to be completed on the agreed time	3.01	0.29

Source: Research Data, (2023)

The results in the table 4 indicate that majority of the respondents agreed that activity duration was well estimated as depicted by mean score of 4.61 and a standard deviation of 0.454; schedules were well developed (prepared) as shown by mean score of 4.58 and low standard deviation of 0.126. The project scope was well specified during planning phase as illustrated by mean score of 4.55 and a standard deviation of 0.195. Further respondents were neutral that the projects were

to be completed on the original (planned) schedule with a mean of and that all projects were going to be completed on the agreed time as illustrated by mean score of 3.18 and 3.01 respectively. This is an indication that on average projects are completed at the agreed time and that the project scope and activity duration were well done.

The study agrees with Lloyd (2018) findings that time planning functions effects on performance of the project. The study indicated that planning ought to be

adequately comprehensive to make management possible, since it loses promptly its convenience if deviation from it cannot be sensed as well as amended promptly. The study disagrees with Telsang (2018) findings that the devoting resources and making timely planning does not always guarantee that a desired goal will be achieved. The study found that time management

hardly works that way since the unanticipated more often take place regardless of how scrupulous the process of planning may have been.

Projects Performance

The study sought to establish the level of projects performance. Table 5 summarizes respondents' level of agreement on various statement presented to them.

Table 5: Projects Performance

Statements	Mean	Std. Dev
The output/delivered product met the specifications in the planning stage	4.66	0.167
Quality work was performed	4.56	0.240
Project cost was well estimated	4.33	0.053

Source: Survey Data, (2023)

Findings in table 5 illustrates that greater part of the respondents agreed that the output/delivered product met the specifications in the planning stage as depicted by mean score 4.66 and a standard deviation of 0.167. Further respondent also approved that ensuring the project delivery quality is within the expectation of the clients is key for success of a project implementation as shown by mean score of 4.56 and a standard deviation of 0.240. Further respondents approved that quality work was performed as illustrated by mean score of 4.33 and standard deviation of 0.053.

It is clear from the presented data that project performance met the specifications planned for and that it was of quality and optimal costs. The findings agree with Kress (2017) findings that the project management primary objective is to meet otherwise exceed the sponsors expectations of the project. According to the study these anticipations were usually stated within 3

groupings; a given project generates preferred result with minimum defects, a given project generates preferred result for the expected cost Schedule and that a given project generates the preferred result within the expected period.

Inferential Analysis

This section investigates the correlation between variables, tests the possibility of multicollinearity, presents the model summary, analysis of variance and the coefficients of the independent variables.

Correlation Analysis

The study sought to determine the correlation between the independent variables (human resource planning, financial resource planning, material usage planning and time management) and the dependent variable (project performance). To calculate the correlation (strength) between the study variables and their findings the Survey Data used the Karl Pearson's coefficient of correlation (r). The findings were presented in table 6.

Table 6: Correlation Analysis

		Performance of construction projects	Human Resource Planning	Financial Resource Planning	Material Usage Planning	Time management
Performance of construction projects	Pearson Correlation	1				
	Sig. (2-tailed)					
Human Resource Planning	Pearson Correlation	.523	1			
	Sig. (2-tailed)	.0032				
Financial Resource Planning	Pearson Correlation	.6140	.3421	1		
	Sig. (2-tailed)	.0021	.0014			
Material Usage Planning	Pearson Correlation	.7460	.1240	.0621	1	
	Sig. (2-tailed)	.0043	.0120	.0043		
Time management	Pearson Correlation	.5210	.3420	.0000	.1660	1
	Sig. (2-tailed)	.0172	.0031	1.000	.0031	

Source: Survey Data, (2023)

From the study findings in table 6, performance of construction projects and human resource planning had a positive correlation as shown by a correlation figure of 0.523. It was also clear that there was a positive correlation between performance of construction projects and financial resource planning with a correlation figure of 0.614. The performance of construction projects and material usage planning had a positive correlation with a correlation value of 0.746 while a positive correlation was also found between performance of construction projects and time management with a correlation value of 0.521.

The results proved a positive correlation between performance of construction projects and human

resource planning, financial resource planning, material usage planning and time management. The study findings agree with Belout and Gauvreau (2017) findings there is a positive correlation between planning of HR, time planning, material resource planning, financial planning and project performance. Wright (2019) findings confirm and agree with the current study that there is a direct connection between selection of human resources, material planning, financial planning and time management with project performance.

Testing Multicollinearity

The study sought to investigate whether two or more independent variables have a high correlation with each other. The findings were presented in Table 7.

Table 7: Multicollinearity Coefficients^a

Model	Collinearity Statistics	
	Tolerance	VIF
Human Resource Planning	.878	1.012
Financial Resource Planning	.689	1.112
Material Usage Planning	.869	1.158
Time management	.655	1.321

a. Dependent variable: Project Performance

Source: Research Data (2023)

A VIF value of 5 or more and a tolerance value of less than 0.2 presents a possibility of multicollinearity. The findings in table 7 indicate that the tolerance values were above 0.2 and that the VIF values were below 5 indicating that there was no possibility of multicollinearity between variables thus regression analysis could be done to show the relationships between the dependent and independent variables.

Regression Analysis

The researcher conducted a multiple regression analysis to determine the change in the (dependent variable) performance of construction projects because of change in the four

independent variables.

Model Summary

The model summary was used to present the coefficient of determination, which explained the degree to which variations in the dependent variable can be elucidated by changes in the independent variables. It can also be explained as a percentage of variation in the dependent variable (performance of construction projects) that is described by all the four independent variables (human resource planning, financial resource planning, material usage planning and time management). The results were presented in table 8.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.780 ^a	.632	.556	.50119

a. Predictors: (Constant), Time management, Material Usage Planning , Human Resource Planning , Financial Resource Planning

Source: Survey Data, (2023)

The four independent variables (human resource planning, financial resource planning, material usage planning and time management) contributes to 55.6% on performance of construction projects as represented by the adjusted R². Consequently, the other factors not considered in this research contribute to 44.4% on

performance of projects. The coefficient of correlation value of 0.780 indicates that there was a positive strong correlation between independent and dependent variables.

Analysis of Variance

The study sought to establish the overall significance. The results were presented in the table 9.

Table 9: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	475.099	4	118.775	29.512	.000 ^b
	Residual	402.463	100	4.025		
	Total	877.562	104			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Time management, Material Usage Planning , Human Resource Planning , Financial Resource Planning

Source: Researcher (2023)

The findings in the table 9 indicated that the overall model was significant. The overall model was significant as shown by a calculated F statistic of 49.872 (p value 0.000). The calculated F statistics was large than the critical F statistic. The findings indicated that the variables: human

resource planning, financial resource planning, material usage planning and time management are good predictors of performance of construction projects.

Regression Coefficients

The study coefficients of independent variables are

presented in table 10. The coefficients indicate the direction and change of dependent variable

because of change in the independent variables.

Table 10: Regression Coefficients

Model	Coefficients ^a					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
	(Constant)	26.664	3.578	7.453	.000	
1	Human Resource Planning	.592	.131	.320	4.511	.000
	Financial Resource Planning	.949	.134	.540	7.079	.000
	Material Usage Planning	.992	.165	.626	6.002	.000
	Time management	.353	.165	.214	2.139	.035

a. Dependent Variable: Project Performance

Source: Researcher (2023)

As per the SPSS generated table 10, the equation

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$ becomes:

$$Y = 26.664 + 0.592X_1 + 0.949X_2 + 0.992X_3 + 0.353X_4 + \epsilon$$

Using the regression equation above and holding all factors constant (human resource planning, financial resource planning, material usage planning and time management) performance of building construction projects in international schools in Nairobi City County, Kenya will be 26.664. The findings indicated an increase in human resource planning will significantly increase project performance. The study findings by Armstrong and Murlis (2018) on the study of the effects of human resource planning practices on organization performance. The study found that strategies of reward are a significant and positively form part of the organizational performance. However, the findings disagreed with Bratton and Gold (2017) study on human resource planning practices on organization performance. The findings were that human resource planning does not significantly determine performance but through a good reward system might bring about a proliferation in the employees' productivity.

The results further indicate that an increase in financial resource planning will significantly lead to an increase in project performance (Sig<0.05).

The study concurs with Antvik and Sjöholm (2018) study findings on the impact of financial planning on project performance. The study found that estimation of cost ought to be grounded on the scope of the project and established that financial planning significantly and positively affects project performance. The study also agrees with PMBOK (2014) study findings on the investigation of the influence of cost planning on project performance. The study found that project cost planning practices, which includes the cost budgeting as well as cost estimating process, positively affects project performance.

The findings showed that an increase in material usage planning will lead to an increase in performance of building construction projects in international schools in Nairobi City County, Kenya (sig<0.05). The study findings agree with Plenert and Best (2019) study findings on the influence of material level on project performance. The study found that material usage planning increases the performance of project performance by bringing about large decreases in the cost of carrying and holding inventory. The study concurs also with Kress (2019) study on the effect of material planning on project performance, which found that proper material usage improves performance of projects.

The results also indicated that an increase in time management will lead to an increase in performance of building construction projects in international

schools in Nairobi City County, Kenya ($\text{Sig} < 0.05$). Lloyd (2018) agrees with this study that time planning ought to be sufficiently detailed to make control possible and this significantly increases the performance of the projects. Akpan and Chizea (2019) study agrees with the current study which found that time planning systems in the construction firms significantly affects performance of the projects.

CONCLUSIONS AND RECOMMENDATIONS

The study aimed to investigate the effect project planning practices on performance. The study was motivated by the fact that for the last five years, several plans on how the city's infrastructure projects have been presented and less than 10 projects have been actualized. The study specific objectives were determining the effect of human resource planning, financial resource planning, material usage planning, and time management on performance of building construction projects in international schools in Nairobi City County, Kenya.

From the study findings most of the firm accord human resource management function is an important role that aims to improve performance of building construction projects in international schools in Nairobi City County, Kenya. Most firms conduct training to its project team members. In most construction companies, human resource department is majorly involved in the company's planning process. Additionally, the study found that devising and application of human resource training are in line with overall goal. The study found that human resource planning positively and significantly affects performance of building construction projects in international schools in Nairobi City County, Kenya.

The study inspected the effect of financial resource planning on performance of construction projects and established that project completion was being done without much struggle and that project manager was able to forecast expenses. The study also found that there was proper

determination of the budget for the project (establishing the authorized cost baseline by combining the projected costs of specific activities or work packages) and that the budgeted funds were enough to complete the project. There was significant positive correlation between financial resource planning and project performance.

The effect of material usage planning on performance of construction projects was that appropriate material had been provided. The study further established that that all material resources allocated were in use and that project output had been well defined. The study also found that quality projects planning was being carried out effectively. There was significant positive correlation between material resource planning and project performance.

Regarding time management influence on performance of building construction projects in international schools in Nairobi City County, Kenya, the study revealed that that activity duration had been well estimated. Time schedules were well developed (prepared). The study also established that the project scope had been well specified during planning phase. It was clear that most of the projects would not be completed on the original (planned) schedule. The study found that time management positively and significantly affects performance of building construction projects in international schools in Nairobi City County, Kenya.

The study aimed at finding out effect of project planning practices on performance of building construction projects in international schools in Nairobi City County, Kenya. Based on the findings the study made the following conclusion.

The study concluded that most of the firms accord human resource management function is important role that aims to improve performance of construction projects. Most firms conduct training to its project team members. Additionally, the study concludes that formulation and implementation of human resource training are in line with overall goal. The study concluded that human resource planning positively and significantly contributes to

performance of construction projects.

The study concludes that financial resource planning has a positive and significant effect on performance of construction projects. The study concludes that budget for the project was properly determined and that the budgeted funds were enough to complete the project.

The study concludes that projects were going to be completed at the agreed time and that the project scope and activity duration had been well estimated. The study concludes that time management has a positive and significant effect on performance of building construction projects in international schools in Nairobi City County, Kenya.

Material resource planning has influence on project performance. It was clear that material usage planning was effective as it was indicated in the quality of the material used, right materials used and the indication that all materials needed were availed to the projects. The study concludes that material resources planning has a positive and significant effect on performance of building construction projects in international schools in Nairobi City County, Kenya.

Based on the objectives of the study, the following recommendations were made.

Based on the conclusion that human resource planning positively affects performance of building construction projects in international schools in Nairobi City County, Kenya, construction firms should equip the human resources in their industry through appropriate and constant training programs addressing the performance of construction projects. The study also recommends that there is need for construction firms to understand the prerequisites of the project team members in order to address them. Additionally, it is recommended that construction projects forecast the level of performance of a project before it is inaugurated.

Concerning financial resource planning, the study notes that project budget is a critical part of the budget and it has a major influence on both the planning and execution parts of a project. For efficient utilization of the resource, total costs and individual costs of the diverse work packages in the project should be kept track of. The project scope should be used to estimate the cost of the project with the WBS being connected to the project plan. Estimating the costs of individual activities based on execution conditions will assist to generate correct overall cost estimation. On the same the study recommends that for successful construction project planning, materials management should be a focus to ensure that projects are within time and budget.

The study recommended development of time schedules based on the formerly developed WBS. Likewise, to develop accurate and attainable schedules, the study recommends accurate sequencing of activities. The process of sequencing the activities encompasses distinguishing dependencies and logical relationships between the project activities. A time schedule without control is not useful to the project organization hence regular checks and controls should be conducted in order to identify deviations as early as possible. Early detection of deviations will enable necessary actions by the project team.

The study recommended that for a successful construction project planning, material usage planning should be a focus. This is because accurate material scheduling improves productivity by decreasing the necessary lead-time, giving the construction project owners a higher quality of production and service. Firms should adopt this, as it will give them a competitive advantage.

Suggestions for Further Research

This study investigated on effects of project planning practices on performance of building construction projects in international schools in Nairobi City County, Kenya. The study suggests that further research to be done on inter-organizational factors facing success of construction projects. The study

considered four independent variables (human resource planning, financial resource planning, material usage planning and time management) which according to the findings contributes to 55.6% on performance of building construction projects in international schools in Nairobi City County, Kenya as represented by the adjusted R².

The study therefore suggests further study to establish the contributors of 44.4% on performance of projects. Finally, the study recommends a similar study to be conducted in other counties to reflect the real situation across the country. Such study findings will provide a guideline that will help in coming up with government policies

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