



Project Management Practices and Project Performance in Rwanda A Case of Schools Construction Projects in Kicukiro District

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Abstract:

Background: Globally, building sector contributes close to 9 percent of various country's gross domestic product. The most common reason of company failure in the construction sector lacked the skills and experience. There was plenty of room for improvement in the construction business through honing project management abilities. The goal of this study was to determine how project management abilities affect the success of a school construction project in Kicukiro, Rwanda. The specific objectives were to assess how project-planning abilities affect school construction project performance in Kicukiro District, to establish the relationship between project budgeting abilities and project performance in Kicukiro District, and to assess how project communication abilities affect project performance in Kicukiro District.

Methods and Materials: A descriptive survey research approach was used for the investigation. The target population in Kicukiro district was 202 people, including 1 district engineer in charge of school building, 31 city managers, and 170 TPA members. A sample size of 134 respondents was chosen using the Yamane (1967) formula, simple random, purposive, and cluster selection procedures. An interview guide and a questionnaire was used to collect data. Descriptive statistics (mean, frequency, percentages, and standard deviation) and inferential statistics (Karl Pearson correlation and multiple regression) was utilized to determine the impacts, while a theme approach was employed to investigate qualitative results Regression analysis revealed that project planning procedures significantly improved the performance of the Kicukiro school construction project ($B=.557, p=.000$).

Results: Budgeting technique was found to be statistically significant in improving the performance of school construction projects ($B=.310, p=.015$). Regression test results also showed that project scheduling is statistically significant for enhancing project performance. It was shown to be the case ($B=0.414, p=.000$). The calculated results showed that communication had statistically significant effects on performance. The results of ($B=.657; P=.000$) supported this.

Conclusion: In addition, the researcher recommended the government and private sector to demonstrate a better project planning practices, the researcher recommended the government to improve on the budget practices, as it helped in performance. Furthermore, the researcher recommended the government and the private sector to improve in communication practices as it affected in the performance of the project. Lastly, the researcher recommended the government and private sector to schedule well the construction of schools in kicukiro District.

Key words: Project Management Practices, Project Performance, Schools Construction Projects, Kicukiro District, Rwanda.

i. Introduction

Six percent to nine percent of a country's gross domestic product can be attributed to its building sector, depending on the country (Chitkara, 2011). The primary factor contributing to the failure of construction projects is a lack of experience and expertise. As a result of the close interrelationships that exist between laborers, resources, machinery, financial resources, and management in the construction sector, there is a significant amount of room for improvement in terms of operational expertise (Hughes, 2012). One trillion dollars is the annual worth of construction projects carried out all around the world. According to estimates provided by Maylor, the total annual cost of failed projects comes to \$7.5 trillion (2009). Often these economies rely heavily on the building industry (Mbamali & Okotie, 2012). The impact of the building sector to economic growth can be calculated in terms of GDP, expenditure, and people employed. Economy create approximately 3 percentage points as well as 10 percentage points of world GDP, with poorer countries contributing less and affluent countries contributing more. The building sector has played a major part in Indonesia's economic, social, and cultural development since the early 1970s.

The share of GDP accounted for by industry climbed between 3.9 percent in 1973 to 7.9 percent in 1996. This accounts for roughly 60% of total physical capital accumulation. Due to the Asian budgetary emergency, building work was significantly curtailed from 1996 to 1999, but increased from 2000 to 2007. The growth of the construction sector to the country's overall GDP climbed from 5.5 % to 7.7 percent in 2012, with an expected increase to 7.8% in 2013.

Notwithstanding fact, thus according to Indonesian Fiscal Mid - term statistics (Financial Sector, 2009), Since mid-2008, there has been a little decline in home building; nonetheless, spending was still 6.3% greater in the first quarter of 2009 than it was in the same period in 2008. The Central Bureau of National Planning predicts that between 2010 and 2014, the country's construction market would reach about US\$180 billion (Bappenas). The Development of Public-Private Partnerships Directorate, 2009

According to Field and Ofori (2008), the construction industry makes a significant contribution to the wealth generation of a nation; it creates sources of livelihood for citizens, and as a result, the economic impacts of changes to the current industry were experienced at all levels and in practically every aspect of life. [Citation needed] This suggests that the construction industry is intricately linked to a variety of other economic activities (Rameezdeen, 2007). It also suggests that whatever happens to the construction industry will have an effect, both directly and indirectly, on other industries, and ultimately on the wealth of a nation.

This makes the industry to be seen as a vital in the growth process (Field & Ofori, 2008). Turin has underlined the building industry's importance in the national economy (2009). Turin (2009) claimed there is a strong association among building growth and economic growth associated with multi-information from a multitude of countries at varying stages of development. As a reason, output growth grows at a higher rate as economies grow, adopting a larger part of GDP (Turin, 2009).

The construction industry is why a community accomplishes both urban and rural strategic goals (Enshassi, Hallaq & Mohamed, 2016). It has a massive economic impact on all nations. An infrastructure sector is considered a success when it is completed on schedule, on budget, according to specifications, and to the satisfaction of all stakeholders. Good ideas and plans must be properly controlled due to their technical and intellectual character if they are to be effective. In the commercial sector, project management is increasingly becoming the norm (Arain & Assaf, 2013). Projects are consuming a growing amount of time and effort in most businesses. Projects' prominence and function in contributing to a company's strategic direction is predicted to rise in the future (Arain, 2005).

Cooke-Davies (2010) reports that in the field of project management, he regularly finds that well-trained teams outperform undertrained ones. Regardless of the intricacy of the job at hand, the amount of embedded talent will have an effect on the final product. The probability of a project's completion is directly proportional to the level of skill possessed by a group (International Labour Organization, 2001). To put it another way, when the project team does not have the necessary competences, there is a greater likelihood that the project will not be successful in meeting its objectives. The inherent limitations of the project are typically cited as the cause of these private companies' inability to achieve the goals they have set for themselves. Consequently, there is a need for this study, and its purpose is to bridge the gap that already exists. The primary objective that guided this research was to investigate the impact that different methods of project management had on the outcome of school construction projects in Kicukiro district of Kigali, the capital city of Rwanda. Specific objectives are:

- i. To examine the effects of project management approaches on the performance of the Kicukiro-District school construction project.
- ii. To assess the impact of project scheduling procedures on the performance of the Kicukiro District school construction project.
- iii. To establish a link between project budgeting techniques and school construction project performance in the Kicukiro district.
- iv. To determine the effect of project communication strategies on the performance of the Kicukiro District school construction project.

ii. Theoretical Literature

This section provides the meaning of key concepts of this study including project planning, project scheduling, project budgeting, project communication and project performance.

Project Planning practices

According to (Heagney, 2012), project planning methods involve a series of steps that determine how to reach a certain community or organizational goal or group of related goals. A community or strategic plan may contain this goal. He continued by saying that before to preparing and submitting your grant application, you should conduct a planning process. The process of project planning involves identifying specific community issues that stand in the way of achieving community objectives, developing a work plan to address the issues and achieve the objectives, describing the quantifiable benefits that will accrue to the community as a result of the project's implementation, and estimating the amount of resources or funding needed to complete the project.

In the view of project management association (PMI, 2008), A Plan is quite simply answering the questions like, who will do, what will be done, when must it be done, how much will it cost; why need to be done, how good does it have to be? This concept is both simple and difficult; I say difficult because answering some of these questions, like "how long will it take?" takes a crystal ball. This is a difficult question to answer for activities for which no history is available. To correctly design a project, you must consider three types of tasks that may be required throughout the project's lifespan. This is when strategy, tactics, and logistics come into play. The general technique you will use to complete the project is referred to as a "game plan" in some cases (Heagney, 2012). The project management institute (PMI, 2008) outlined the necessary procedures to effectively plan: Project planning, organizing, staffing, and regulating are among these processes.

Plan to plan, it's never easy to get people together to build a strategy. The planning session itself should be scheduled, otherwise it is devolved into the type of disorderly meeting that plagues many businesses. This means that an agenda must be developed, the meeting should be maintained on track, and the meeting should be time controlled to the greatest extent possible. If someone wanders off topic, the meeting facilitator should get them back on course as soon as feasible. There are numerous great guides available. People who are responsible for putting a plan into action should be involved in its creation. Otherwise, you risk having contributors who are unconcerned with the strategy; their estimations may be inaccurate, and important tasks may be overlooked.

The first rule of planning is to be ready to change your mind. Unexpected hurdles are inevitably arise and must be dealt with. This also means that if there is a chance that the plan will have to be revised, you should not prepare in too much detail, as this costs time, and you should always undertake a risk analysis to anticipate the most likely barriers.

Prepare a backup plan in case Plan A fails. Why not just go with Plan B from the start? Plan A is superior, but it has a few flaws. Plan B includes flaws as well, but they must be distinct from those in Plan A, otherwise Plan B will be useless as a backup.

"What could go wrong?" is a simple question to ask while conducting a risk analysis. This should be done for the project plan's timetable, work performance, and other elements. Identifying hazards can sometimes help you avoid them, but if that isn't possible, you'll at least have a backup plan. One word of caution: if you're working with highly analytical people, they may become paralyzed by analysis paralysis. You're not attempting to discover every possible risk; rather, you're looking for the ones that are most likely.

Begin by considering why you're doing whatever it is you're doing. Come up with an issue statement. In an organization, all actions should be conducted in order to attain a goal, which is another way of saying fix a problem. Make sure to figure out exactly what the end user requires to address the problem. We've seen projects where the team believes a solution is best for the customer, but it's never implemented, resulting in considerable waste for the company. Use the Task Breakdown Structure to break down the work into smaller portions so that you can make accurate time, cost, and resource estimations.

Project Scheduling Practices

The process of recording the operations, deliverables, and milestones that comprise a project is known as project scheduling (Enock, 2011). A timetable usually contains a start and finish date, as well as the length and resources assigned to each activity. Time management success is largely dependent on efficient project scheduling. People usually refer to the first six phases of time management when discussing the methods for producing a schedule. These processes are as follows: plan schedule management, characterize project activities, sequence activities, estimate resources, estimate durations, and create the project schedule (Nalianya, 2018).

The primary objective of developing a schedule for a project is to increase the likelihood that it will be finished before the allotted time. The bulk of endeavors are assigned a target date by which they must be completed. In addition, the critical path approach is beneficial to project management since it assists in identifying which activities will be responsible for determining when the project will be completed (Heagney, 2012). It is tempting, however, to get carried away with planning and spend all of your time updating, rewriting, and so on. Today's scheduling software should be considered as a tool, not a slave, and managers should not become captives to it.

It is quite easy to establish schedules that look impressive on paper but do not work in practice, according to Mutoke (2014). When it comes to schedules, the main cause is usually that resources are not accessible to accomplish the work. This is owing to the fact that timetables are nearly useless unless resource allocation is managed appropriately. Fortunately, today's scheduling software does a good job of allocating resources, but we'll leave it to the program manuals to detail the methodology (Abdul, 2014).

The scope and priorities of an organization change so frequently that it's pointless to spend time identifying essential routes. There are two things to think about here: One is that if a project's scope changes frequently, not enough work is invested up front defining and planning. The most common reason for scope shifts is that something is forgotten. Scope creep is frequently reduced by paying more attention to what is being done at the start. Second, if priorities shift frequently, management isn't on top of things (Gashuga, 2016).

Project Budgeting Practices

Making a budget entails foresight management, or the control of financial provisions. Budgeting determines how funds and obligations are allocated to each adventure park. The budgeting is a projected quantity of allocated funds and insured obligations to meet the organization's efficiency and effectiveness goals (Ahn, 2011). Efficiency refers to achieving the best feasible results with the resources available, whether they are limited or not. It's also defined as a percentage of outputs and inputs, which was afterwards finalized with the grand finale gain while retaining the same level of inputs. However, public officials use the given equations: constant performance in terms of attracting fewer resources. In general, there are two ways to think about economic efficiency: performance, as an exceptional consequence of activity, and maximal impacts of an activity in respect to resources provided and consumed. Furthermore, efficacy is defined as meeting the goals set by government officials.

It can be measured in terms of results accomplished versus objectives, as well as the impact that accomplishing objectives has on beneficiaries of public services (Siyanbola, 2013). The revenue and spending budget is a planning tool used by public financial management entities to allocate cash. It reflects the creation, management, and application of funds. As a result, the information needed to support decisions about the institution's economic and financial management based on maximum efficiency and financial balance is provided. Financial balance is determined by the relationships between receipts and payments, financing sources, and revenue and expenditure allocation (Olaoye & Adeduro, 2014). Revenue and spending budgets for the following year can be predicted based on previous year's performance, which is usually the year before the current one, and is based on known revenue and expenditure execution data.

Modern methodologies strive to validate revenue and expenditure budgets by starting with the goals and programs that must be met. The budget is divided into activity sub-budgets, with a basis of revenue and expenditure by kind of revenue and expenditure for each sub-budget. Carry out the general budget by adding the sub-budgets, as well as the revenue and costs of the institution's general activities (Kusters, 2011). The goal of budgeting performance is to match the resources, actions, and outputs of government institutions with the government's objectives in order to accomplish desirable results. Financial planning is a way of combining the revenue and spending of various organizational units into a single department, as well as budget performance, which links funds to the administration's goals and a management unit responsible for achieving the goal. A Ministry: a department within the Ministry; a geographical department under the Ministry; or a service delivery unit are examples of administrative units that are already defined as budget management units. If this is an adequate foundation for aligning resources with objectives, monitoring performance, and holding management accountable for results, no budget structure changes may be required.

Project Communication Practices

In order to guarantee that scheduled tasks are accomplished with confidence throughout the project life cycle, people in a project environment should engage with one another (Nangoli and Ahimbisibwe, 2012). Utilizing effective communication to ensure that project information is delivered to project stakeholders in the ideal setting, at the ideal moment, and with the ideal impact (Satheesh and Priyadharshini, 2015). Project communication is becoming more used as a term to describe information exchanges aimed at improving comprehension, effectiveness, and ultimately project performance (Ruuska, 1996; Nangoli, et al., 2012; Nangoli, 2010; Ramsing 2019). According to research, projects entail a unique collection of coordinated actions and resources, necessitating a project manager's unique communication skill in order to lead and oversee a unique set of activities and resources in order for the project to meet its specified performance goals (Goczol & Scoubeau, 2013; Maylor, 2015).

According to Cornelissen (2016), who also looked into information sharing and project results, effective communication is necessary for the timely and suitable gathering, disseminating, storing, and final disposal of project information among project stakeholders. Successful initiatives are those that meet the needs of the beneficiaries within the constraints of their allocated budget and time. As a result, in order to produce effective project outputs at each stage of project development, knowledge, skills, tools, and techniques must be applied to project operations (Effy & Sosik, 2000, Cella, et al., 2007). Clarifying project tasks through communication promotes cooperation and involves all project stakeholders in its success (Senyange 2011). Over time, the number of social connections between the various stakeholder's increases as the project team and other stakeholders are kept in constant communication (Nangoli & Ahimbisibwe, 2012).

Project Performance Practices

One of the most important requirements for any project's success is that it be completed within the agreed-upon time frame. Several scholars have proposed several improvement approaches to tackle time performance difficulties in project execution during the previous few decades. It is critical to take the necessary steps to increase the projected activity duration in order to complete it on time (Bharat, 2013).

Improvement procedures are things which must be undertaken in order to losses minimization. Appropriate preparation and receipt from customers one of the most crucial aspects to consider in order to avoid time overruns (Tumi, 2011). Furthermore, according to Gunduz (2013), if the causes are identified, time overruns can be prevented or controlled. Contractors with minimal abilities should also not be compensated for any work. Contractors should also spend more time and effort on effective planning and scheduling procedures. Rahman Abdul (2014) discovered the time overrun mitigation and recoupment approaches. According to the authors, the techniques to improving the project rely on the type of difficulty or problems that cause the project to be delayed. Working overtime hours or in shifts is often suggested as a way to boost productivity.

Regular site meetings involving all functional groups are also important in identifying project issues early on, allowing management to suggest a change or use new technology to improve timeliness. Making reference on the study conducted in Tanzania evinces shows that only 44 percent of projections in construction were completed on time (Kikwasi, 2012). Furthermore, the largest amount of time overrun for customers, consultants, and contractors was 78 percent, 70 percent, and 56 percent, respectively. The problem of construction project time overruns has caused frustration among all parties involved in the construction sector. As a result, effective measures to increase time performance must be proposed. As a result, the purpose of this study is to see if money management has an impact on project performance in terms of project timeliness.

iii. Empirical Literature

Effects of Project Planning practices on Project Performance

Project planning approaches on project performance has been debated on a global, regional, and local level. Using a global viewpoint as an example, the study done by Ofori (2013) concluded that the project's performance is highly dependent on the project plan. He went on to say that top management set the project's purpose and goals, as well as SMART targets to achieve them, and that their failure to do so resulted in the project's failure. Several studies have proposed various causes for project performance, yet some projects continue to fail, with the World Bank's project failure rate in Sub-Saharan Africa exceeding 50% (Lavagnon, Amadou & Denis, 2012). Lawrence (2015) found that improper architect allocation and consultation have negative effects on project planning in a study of building projects in Rwanda. According to the evidence, the majority of initiatives did not benefit from professional assistance throughout the implementation phase. According to the survey, 45.2 percent of poorly planned projects recoded low performance.

According to Umulisa (2015), 39.6 percent of Rwandan projects are delayed or fail to materialize. Furthermore, data suggest that 38.7% of MINICOM projects in various parts of the country fail to meet their goals and objectives, with the primary causes being weak project planning abilities (Gashuga, 2016). Interestingly, Waldie, Frenchie, and Tesfaye (2016) found that human, managerial, technological, and organizational elements were the most important planning input components that affected the performance of planning processes. They also discovered that the main issues in the planning process were risk, scope, human resource quality, and knowledge integration, all of which negatively impacted the country's public project performance.

Effects of Project Scheduling Practices on Project Performance

According to the findings of a study Waldie, Frenchie, conducted that and Tesfaye (2016), the influence that project scheduling techniques have on the performance of projects was also investigated. The objective of the study was to determine the impact that the order in which projects are carried out has on the criteria that determine success in Ethiopia. In order to achieve what needed to be done, data on projects that had been finished in the past was collected from 43 different organizations. To acquire information from project managers, supervisors, and other relevant respondents, a survey was conducted. The researchers used SPSS version 20 for correlation and regression analyses. The majority of poorly planned projects, according to the data, failed to accomplish their specified aims and objectives. Sureh and Sivakuma (2019) also investigated the influence of scheduling effective management on project management effectiveness. Data on the significance of schedule management planning in the project management approach of 208 personnel were gathered using a closed-ended questionnaire. The study's results showed that elements influencing the schedule management plan have a considerable and advantageous effect on project management effectiveness.

Effects of Budgeting Practices on Project performance

According to a research by Siborurema (2015) titled "The Effects of Project Funding on Project Performance in Rwanda," which featured a case study of the construction of the Bukomane-Gikoma Road in Rwanda's Gatsibo District, budgeting is one of the elements determining a project's performance. Finding out how project funding affected project performance was the study's major goal. The target audience was split into two groups: one for managing project implementation and funding, and the other for planning and funding projects. The information was gathered via a specially created questionnaire, document consultation, and interviews. The results show that technical design and cost estimation both have an adverse impact on the projected project implementation time and the project financing strategy. The purpose of this study was to determine how finances affected the execution of building projects in the Gatsibo District.

In a similar study, Kabogo and Rusibana (2021) conducted a study to examine how money affects project success in the public sector. The study used a descriptive and correlation research methodology with 119 employees who were part of a single project implementation unit under MINICOM working on the Great Lakes Trade Facilitation Project. For the purpose of data collection, we utilized both a questionnaire and an interview guide. SPSS 23rd Version was used as the data processing program that was employed. Using the statistical program for social sciences, version 23.0, and the information was formatted for presentation in tables so that it could be seen. According to the findings, there is a positive association between budget allocation and project performance in Rwanda, as well as a good link between project budgeting and project performance in Rwanda, as shown by ($r = 0.58, P > 0.05$). The results also show that there is a good link between project budgeting and project performance in Rwanda.

Effects of Project Communication Practices on Project Performance

According to Hargie & Tourish, (2009), project managers must evaluate communication techniques in order to determine whether the project is on track and advancing toward its objectives. Senyange, et al., (2017) conducted research in Uganda to investigate the link between project communication and project performance in Ugandan public universities. A cross-sectional survey approach was used to investigate the association between the factors in greater depth. A correlation design was used to discover associations between different variables in order to fulfill the objectives, and questionnaires were created on that basis. Quantitative data was gathered and evaluated, and the findings demonstrated a substantial positive association between project communication and project performance ($r = 0.577, p < 0.01$). However, the study of Ofori (2013) refutes the notion that project performance is dependent on money management. Involvement of project stakeholders, top management backing, clear project purpose and goals, and efficient communication, according to his research, are all critical variables that contribute to project performance. There have been a number of studies that have given different reasons for project performance; yet, some projects continue to fail, with the project failure rate for the World Bank in Sub-Saharan Africa topping fifty percent (Lavagnon, Amadou & Denis, 2012). Lawrence (2015) found that improper architect allocation and consultation have negative effects on project planning in a study on the performance of building projects in Rwanda. According to the evidence, the majority of initiatives did not benefit from professional assistance throughout the implementation phase. According to the survey, 45.2 percent of the projects analyzed had low performance recoded. According to Umulisa (2015), 39.6 percent of Rwandan projects are delayed or fail to materialize. Furthermore, data suggest that 38.7% of MINICOM projects in various parts of the country fail to meet their aims and objectives, owing primarily to delays in completion, and thus end up being privatized (Gashuga, 2016). The researcher is able to draw the following conclusion as a consequence of the data from multiple studies: neither employers nor academics appear to agree on what constitutes good financial management and project execution.

iv Theoretical Framework

There is not a single hypothesis that can fully explain the relationship between abilities in project management and the results of projects. According to Kothari (2012), a theory is a set of well-articulated concepts that are used to deconstruct a phenomena by assigning variables to rules, which then connect the variables. This process is known as "deconstructing" the phenomenon. A collection of well-developed concepts that, when applied to a phenomena, contribute to its deconstruction by allocating variables to rules, which then link those variables. This research was guided by three different theories: the theory of goal setting, the theory of stakeholders, and the theory of cognitive evaluation.

Resource Based Theory

Barney is credited with the conception of the idea in the year 1991. This theory states the possessions of strategically resourcing provided an organizational within gold opportunities developing competitiveness advantages overall its rival. This competitiveness advantages could help the organizational in enjoying strongly profitability compared with others. Project managers are responsible for utilizing available resources at each and every stage of the process of the project, including identifying and classifying the organization's resources; assessing the strengths and weaknesses of the organization's competitiveness.

Identifying opportunities for the most efficient use of resources identified the capabilities of the company, Assess a rental's funds and abilities in terms of their sustainability. Deciding on methods that best utilize the company's resources and capabilities in relation to external factors Identifying the gaps in resources that need to be filled (Osama & Abdulhadi, 2013). This theory investigates the importance of good planning and implementation depending on available resources. As a result, management is able to maximize performance by taking advantage of the available resources. Because it emphasizes proper money usage, the theory tackles the independent factors.

Goal Setting Theory

The idea of setting goals examines how developing goals might have an impact on an individual's performance in the future. The philosophy of creating goals was initially presented by Edwin Locke in the 1600s. According to this theory, the act of goal-setting has a direct bearing on one's level of productivity at work (Tosi and Latham, 1991). It claims that setting clear, difficult goals and receiving useful feedback improve task performance. Edwin Locke discovered that people perform better on particular, challenging goals than they do on broad, simple ones. When they have a goal, people are more driven to work. Goal setting theory, which assumes a person is dedicated to the goal, has a connection to this (Dela and Bernardo, 2013). Because productivity per day of any profession is based on a specified output of work, goal-setting theory for current study is extensively used in the building business. For instance, in order to account for the day's work and pay for the School's construction project in the Kicukiro District, masons/block layers must accomplish a defined set of task.

Theory of Constraint

According to Sethi and Philippines (2012) the constraint was well known for its conclusive mechanisms to fix problems and address a means of carrying out assessment to complement the findings. Lipsy (2011) continued that the constraint theory is a proposition in which inputs are transformed into output and this transformation can be measured by comparing the inputs and expected outputs. The theory highlights project outcomes of a given project or activities with anticipated program outcomes (Uitto, 2010). Therefore, this theory as applied in the input-output model is relevance to the study because it helps the researcher to explain how project management practices as inputs can influence the performance of schools' construction projects in Kicukiro District of Rwanda.

v. Conceptual Framework

It is a graphical depiction of the relationship between the variables that are independent and those that are dependent. In this study, the ability to manage projects is the independent variable, while the performance of a particular public project in Kicukiro is the dependent variable.

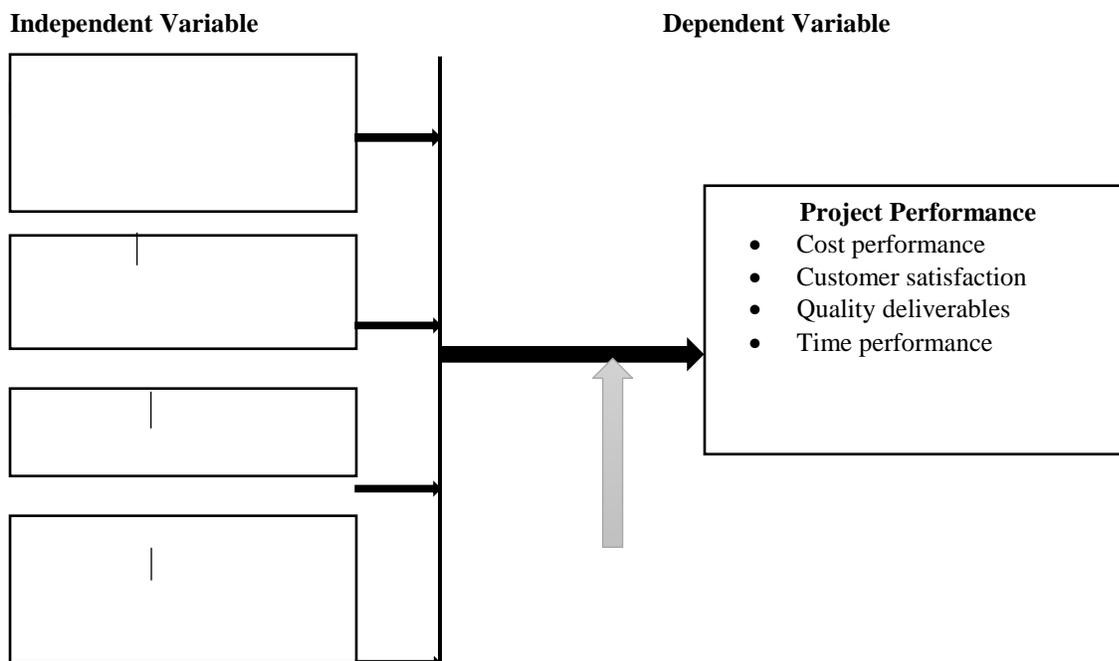


Figure 2.1 conceptual framework (Source: Researcher, 2021)

Figure 2.1 depicts the link between the study's independent and dependent variables. It shows that independent variable of this study is project management practices whereas project performance was taken as dependent variable. As long as independent variable gets considered project planning practices, scheduling practices, budgeting practices, and communication practices were taken as indicators of this variable on the other hands, project performance was taken as dependent of variable of this study and cost performance, beneficiaries' satisfaction, quality deliverables and time performance were taken as indicators of dependent variable. This shows us that there is a direct connection between variables of this study, and that there is a possibility that independent variable can influence dependent variable, and that dependent variable depend on independent variable.

vi. Methodology and Materials

Research Design

The systematic plan established to explore a scientific problem was defined as research design Onen & Oso, 2016). It's the relationship between research questions and methods. (Johnson, et al., 2017) defined a research design as "the framework that has been constructed to seek answers to study hypothesis or questions. This research endeavor made use of a combination of different research approaches.

According to Johnson et al. (2017), a mixed method design is a sort of study design in which a researcher or team of researchers utilizes both primary and secondary data sources. This type of study design can be either qualitative or quantitative in nature. In order to facilitate the application of quantitative and qualitative designs through data collection, analysis, descriptive, and inferential methods, the mean, standard deviation, correlation, and multiple regression analysis were used. This was done with the goal of achieving the broad objectives of depth and sensitive comprehension of the study findings. It is the result of multimethod research in which only numerous quantitative or qualitative methodologies are merged. Because of the nature of this investigation, a mixed method research design was appropriate and reliable.

Target Population

The targeted population for this study was schools' constructions projects implemented by the Government of Rwanda and its partners in Kicukiro District within the period between 2019-2021. According to the data given by Kicukiro District (2021), Kicukiro district has one district engineer in charge of school construction, 31 school construction sites and in Kicukiro there exist 34 public schools. From the above information researcher set the target population of 202 people including one district engineer in charge of school construction, 31 site managers and 170 members of Teachers and Parental association (TPA), this means that five (5) members are targeted in each school. They are also taken as beneficiaries in this study (Kicukiro District, 2021).

Sample Design

Sample design is made of two elements which are sampling techniques and sample size determination or estimator.

Sample size Determination

According to Bless, et al., (2013), sampling was defined as the process by which the subjects to participate in the study get selected. Solving formula help to draw the sample size needed. Solving noted that in order to get the representative sample size, researcher take total population divided by one plus target population multiplied by the square margin of errors (Yamane, 1967).

The equation was written as $n=N/ (1+N (e^2))$. This therefore giving us:

$$n= (1+202*(0.05)^2) = 202/ (1+ (202*0.0025)) = 202/ (1+0.505) =$$

$$n= 202/1.505= 134. \text{ Thus } n= 134 \text{ respondents.}$$

Whereas: **N**: represent target population,

n: represent sample size

e²: is the square of marginal error.

Sampling Techniques

The simple random sampling, purposive sampling and cluster sampling techniques were employed. Purposive sampling technique help to select District engineer in charge of school construction researcher used named above technique because she wants to select a person whom she thinks has right information. Simple random sampling was used to select site managers, This method used on this category of respondent because she wanted to give respondents equal chance to participate in the study, based on the fact that they have equal information that researcher is looking for, Last but not the least, since the TPA are grouped in different clusters (sectors) cluster sampling technic was applied to them, researcher selected TPA members allocated in Gahanga and Gatenga sectors because they have many schools and it is easy for the researcher to assess them. The detailed information was presented in the table 3.1.

Table 1 :Target Population, Sample Size and Sampling Method

Participants	Target population	Sample Size	Sampling Method
School construction engineer at District	1	1	Purposive sampling
Site managers	31	20	Simple random sampling
TPA	170	113	Cluster sampling
Total	202	134	

Source: Researcher, (2022)

For the district, a school building engineer was chosen using a purposeful sample, and 20 site managers were chosen at random to take part in the study while 134 members of the teachers' parent association were chosen using the cluster sampling method.

Data Collection Method

The processes utilized to acquire the essential data for each survey unit that has been chosen are referred to as data collection methods (Ivan, 2003). This part is divided into three major sections: data collecting instrument administration, validity and reliability, and data collection instruments.

Data collection Instruments

Onen and Oso (2016) describe research instruments as measurement tools used to gather data for a particular research question. In this study, a questionnaire and interview guide were employed. Site managers and TPA members in Gatenga and Gahanga received the questionnaire. Two sections were created for each query. The respondents' demographic information was presented in part one, and study objectives were used to guide the development of section two's questions. Structured interviews were the second type of tool used in this investigation. I was assigned to the district engineer in charge of building schools. The goal of the interview was to provide additional information to the data gathered through questionnaires. Because they have a limited amount of time and a variety of duties, the interview guide was deemed appropriate for this group of respondents. As a result, the interview schedule enabled the researcher to handle the respondent's overloaded schedule.

Administration of Data Collection Instruments

Data collection instruments in study was self-administrated by the researcher. Questionnaire and interview guide were used as research instruments for this project. Instruments were administrated to the respected respondents by research herself. There were two category of instruments which were questionnaires and interview guide. Questionnaire helped to collect quantitative data while interview guide helped to collect qualitative data. Questionnaire was preferred by the researcher to collect data from beneficial because it is suitable when collecting data on large sample.

Interview guide was the second source of information presented in this study. Researcher delivered interview to the district engineer in charge of school construction. The purpose of interview was to provide supplementing information to what have been collected from questionnaires. Interview guide was suitable to the mentioned respondents because of limited time an overwhelming responsibility.

vii. Results

Research Instruments Return Rate

The proportion of research instruments returned after administration to respondents is referred to as the research instrument return rate. The research instruments employed in this study were questionnaire, structured interview and document review schedule. Questionnaires were administrated to site managers and members of teachers' parental association (TPA), while structured interview was administrated to school construction engineer. Collected data show the respondents' views on the impacts of project management skills on performance of school construction projects in Kicukiro District.

Out of 134 questionnaires administrated to the respondents, 130 questionnaires of them were well filled and collected back. This makes questionnaire return rate of 97 percent, and 1 respondents selected for interview was successful done this indicated 100 percent of return rate. In summary, findings of research instrument return rates were presented in the table 4.1.

Table 2: Research Instruments Return Rate

Types of instruments	Number administrated	Number returned	% of return rate
Interview guide	1	1	100 %
Questionnaire	134	130	97 %
Total	135	131	98%

Table 2 reveals that the return rate for questionnaires was 97 percent, while the return rate for interviews was 100 percent. This means that the average rate of research instruments was 98 percent. Mugenda & Mugenda (2008) proposed that any research instrument with a return rate greater than 70% be considered representative enough for future investigation. The researcher was then permitted to continue with further analysis because the research instrument return rate in this study met the condition.

Reliability of the Questionnaire

The Cronbach's Alpha statistic was computed in order to evaluate the research instruments' level of internal consistency. The results of the computation of the data are shown in the table 4.2 below.

Table 3 Reliability of the Questionnaire

Reliability statistics	
Cronbach's Alpha	N of Items
.088	30

The Table 3 shows that the questionnaire for this study was made of 30 items and it was administrated to 10 respondents, the computed Cronbach 'Alpha coefficient of internal consistency was 0.88. This implies that the questionnaire was valid at 88 percent. The results of the computation of Cronbach Alpha indicated that 88% of the research instruments had a reliability coefficient. According to Mugenda and Mugenda (2008), Swerdilik (2010), and Nunnally et al. (1978), the minimum acceptable reliability coefficient will be 70 percent. The instruments that were used in the above study fulfilled the eligibility requirements, and as a result, they were considered to be highly credible and relevant for data gathering.

Demographic characteristics of the Respondents

Respondents were asked to provide general and demographic information about themselves. This was done based on the recommendations given by Salkind (2010), who said that demographic information provide data regarding research participants. This was necessary because they helped to determine whether individuals in the given study were real representative sample of the target population for generalization. In many researches, general and demographic information are taken as independent variables and they are used to test other variables known as dependent variables. Thus, general and demographic information considered in this study were gender of the respondents, age group, educational levels, professional qualifications and working experience.

Distribution of the respondents by Gender

The research sought to provide information on gender profile of respondents for compliance with gender sensitivity and promotion within local government sector. Results are presented in table 4.

Table 4. Gender of Respondents

Gender of the Respondents	Frequency	Percentage
Male	78	60
Female	52	40
Total	130	100.0

Source: Primary Data (2022)

According to the statistics, male respondents made up sixty percent of the total, while 40% were female. The study sought to assess the gender respect in Kicukiro district as it was advised in the research of Awuondo (2016) on financial services in Kenya who advanced that the practical lessons from commercial institutions indicated that if gender balance occurred in any institution, it leads to the performance. Distribution by gender of respondents made the researcher come to a realization that the views given was a representation of both male and female and could therefore be given much consideration in making important and relevant views related concerns.

Distribution of the Respondents by Age

When determining the degree of satisfaction with the functioning of the school project in the Kicukiro district, the age of the individuals interviewed is an essential factor to consider. The information that was obtained is described in Table 5

Table 5: Age of Respondents

Age of the Respondents	Frequency	Percentage
Less than 30 Years	26	20%
Between 31-40 Years	65	50%
Between 41-50 Years	26	20%
Above 40 Years	13	10%
Total	130	100.0

Source: Primary data (2022)

It is clear that majority of the respondents are aged between 31- 40, this was indicated by 50% of the respondents. This tells us that the respondents of this study were mature.

Education Profile of the Respondents

The study analyzed respondents' educational levels since education is more likely to influence an individual's perspective of various areas of life. The educational level of the respondents was taken into account in this regard, as evidenced by the data presented in Table 6.

Table 6: Educational Levels of the Respondents

Levels of Education	Frequency	Percentage
Primary	13	10%
Secondary	39	30%
University	65	50%
Others	13	10%
Total	130	100%

Source: Primary Data (2022)

According to the results, majority of the respondents have bachelor degree. This was indicated by 50 percent of the respondents. This is true due to the fact that, referring to the recommendations given by MINEDUC, basic degree for being head teacher of secondary school is to hold a bachelor degree. This tells us that participants in this study had relevant degree to provided relevant information which is very useful for the conclusion of this study.

Professional working experiences of the Respondents

The researcher attempted to determine the respondents' professional working experience. This is because professional work experience boosts researchers' trust in the data collected. Table 4.6 displays the information gathered.

Table 7: Professional-working Experience of the Respondents

Period	Frequencies	Percentages
Less than five years	26	20%
6-10 Years	52	50%
11-15 Yrs	39	30%
Above 15years	13	10%
Total	130	100.00%

Majority of the respondents have between 6-10years of working experiences. This was indicated by 52 (40%) of the respondents. This tells us that respondents in this study have adequate professional working experiences to provide relevant data for this study. This was due to the recommendation given by Duade and Akingbade (2011) who conducted a study on equity and bond portfolio analyst at asset Management Corporation in Nigeria revealed that work experience helped to increase the quality of services given, which resulted in customer satisfaction. In this regard, the researcher concluded that respondents are knowledgeable enough and are able to know problems related to raised concern.

viii. Presentation of the Findings

The research conclusions were presented in line with the research goals, which were to ascertain the relationship between project budgeting practices and the performance of school construction projects in Kicukiro District, to evaluate the effects of project scheduling practices on the performance of school construction projects in Kicukiro District, and to assess the effects of project planning practices on the performance of school construction projects in general. After data from 130 respondents was collected, the results were presented in tables.

Effects of Project Planning Practices on the Performance of Schools' Construction project

This study's primary objective was to examine how project planning techniques affected the success of a school construction project in the Kicukiro District. Following data collection, the researcher gave out 130 questionnaires to respondents in order to reach this aim. Analyzed data was presented in tables. During data collection, questionnaires were formatted using a Likert scale. The extent to which respondents agreed or disagreed with the assertions was requested. Karl Pearson correlational coefficients were used to establish the link, and regression analysis was used to assess the effects. This study's objective was to ascertain how well respondents understood the implications that proper project planning methods had on the overall success of the schools' building project in the Kicukiro-District. Table 4.7 contains the presentation of the data that was obtained.

Table 8 : Effects of Project Planning Practices on the Performance of Schools' Construction project

STATEMENTS	SD		D		N		A		SA		\bar{x}	σ
	F	%	F	%	F	%	F	%	F	%		
Effective project planning influence project performance.	14	10.8	1	0.8	13	10.0	64	49.2	38	28.2	3.8	1.1
Involvement of stakeholders in project planning influence project performance.	13	10.0	13	10.0	0	00	65	50.0	39	30	3.8	1.2
Donors and partners participation in project planning influence project performance.	16	12.3	0	00	0	00	39	30.0	75	57.7	4.2	1.2
Planning for human sources required and resources appropriately influence project performance	0	00	15	11.5	0	00	78	60.0	37	28.5	4.0	0.8
Average	11	8.4	7	5.4	3	2.3	62	47.9	47	36	3.9	1.0

Source: Primary Data, 2022 N= 130

Table 8 shows the effects of project planning practices on the performance of school construction project. The findings analysis and presentation were in terms of statement. It was discovered that 64 people, or 49.2%, agreed with the first claim that Kicukiro's schools' projection projects function better when there is good project planning. Regarding the second claim, it was found that 65 people (50.0%) in the majority believed that including stakeholders in the project planning process had an impact on how well Kicukiro's school building projects performed. A majority of 75 respondents (57.70%) responded on the third statement that the performance of project planning in the Kicukiro area has been impacted by the engagement of funders and partners. Additionally, it was discovered in the fourth statement that project planning had an impact on how well district-wide school projects performed.

In a nutshell, it was discovered that in many instances many of the respondent 62 (47.9%) agreed that project planning practices affect the performance of schools' construction projects in the Kicukiro district, and it was also supported by a high score of 3.9 with 1.0 as heterogeneous of responses. In addition, it was revealed that in many cases many of the respondent 62 (47.9%) agreed that project planning practices affect the performance of schools' construction projects in other districts. These findings are in agreement with those reported by Mc Hill (2011), who confirmed that impacts planning approaches affect the performance of projects. These findings were also in line with the findings reported by Tola Data (2019), which stated that careful planning is an essential tool for the success of any project, and that it enables the project staff to think clearly prior to engaging in the process of implementation. In a similar fashion, the United States Navy (1992) found that the majority of unsuccessful Navy projects failed due in large part to inadequate monitoring and evaluation.

Effects of Project Budgeting Practices on the Performance of Schools' Construction Project in Kicukiro District

It was necessary to ascertain the impact of project budgeting on the performance of a school construction project in the Kicukiro district. In order to do so, the researcher had to investigate the values that budgeting had on performance. The findings are summarized in the Table below:

Table 9: Effects of Project Budgeting Practices on the Performance of Schools' Construction Project in Kicukiro District

STATEMENTS	SD		D		N		A		SA		\bar{x}	σ
	F	%	F	%	F	%	F	%	F	%		
School constructed in Kicukiro were adequately budgeted	63	48.5	50	38.5	14	10.8	1	0.8	2	1.5	4.3	0.8
Allocated budget was released regularly this influence the performance of the project.	64	49.2	15	11.5	0	00	0	00	51	39.2	4.1	1.2
Appropriate budgeting helps constructors to pay human personals on regular basis.	75	57.7	14	10.8	14	10.8	2	1.5	25	19.2	3.8	0.9
Appropriate budgeting helps constructors to order quality materials at right time this stimulate project performance.	65	50	0	00	0	00	14	10.8	51	39.2	4.0	1.1
Overage	67	51.5	20	13.4	7	5.4	4	3.1	32	24.6	4.0	1.0

Source: Primary Data, 2022
N= 130

The figures above depict the effects of project budgeting procedures on the performance of school construction projects. Following the specified statement, the acquired data was processed and presented. On the first statement, the majority 63 (48.8%) strongly disagreed that the schools built in Kicukiro were sufficiently budgeted. On the second statement, the majority 64 (49.2%) strongly disagreed that the allocated budget was released on a regular basis, which influenced the project's performance. On the third statement, the majority 75 (57.7%) strongly disagreed that effective budgeting assisted contractors in paying human personnel on a regular basis.

On the fourth statement, the majority of 65 (50%) strongly disagreed that effective budgeting allows contractors to order excellent goods at the right time, which boosts project performance. Project budgeting strategies influenced the performance of school construction projects in Kicukiro district by an average of 67 (51.5%), a high of 4.0, and a standard deviation of 1.0. These findings were consistent with those of a study conducted by Singh, Chandurkar, and Dutt (2017), which found that the application of monitoring and evaluation procedures is a crucial driving force in any development initiative. To the same degree, Mackay (2007) concluded in a research done on the recommendation of the World Bank group that effectively planned projects are more likely to succeed than unplanned projects. The use of monitoring and evaluation tools was critical in enhancing the performance of government initiatives.

Effects of Project Scheduling on the performance of schools' construction projects in Kicukiro district

Finding out how project scheduling methods affected the success of school construction projects in the Kicukiro district was the third objective of this study. Following data collection, the researcher gave out 130 questionnaires to respondents with the intention of achieving this aim. Analyzed data was presented in tables. During data collection, questionnaires were formatted using a Likert scale. The degree to which each respondent agreed or disagreed with the stated opinion was requested. Karl Pearson correlational coefficients were used to establish the link, and regression analysis was used to assess the effects. The information obtained is summarized in Table 10.

Table 10: Effects of projects Scheduling practices on the performance of schools' construction projects in Kicukiro district

STATEMENTS	SD		D		N		A		SA		\bar{x}	σ
	F	%	F	%	F	%	F	%	F	%		

Activities involved in constructions of schools in Kicuro district were well scheduled, this influenced the project performance.	0	00	2	1.5	0	00	77	59.2	38	29.2	3.8	1.1
Project managers employed by Kicukiro district to look after the progress of schools' construction projects have adequate skills in project scheduling, this influenced the project performance of this project.	15	11.5	0	00	2	1.5	87	66.9	26	20.0	3.8	1.2
Constructors of schools in Kicukiro use appropriate techniques which fit Rwandese context, this influences the performance of the project.	2	1.5	5	3.8	3	2.3	85	65.4	35	26.9	4.2	1.2
Project contractors involved all direct stakeholders in project scheduling, this influenced the performance of the project.	2	1.5	9	6.9	1	0.8	93	71.5	25	19.2	4.0	0.8
Average	5	3.9	4	3.1	2	1.5	85	65.6	31	23.9	3.9	1.0

Source: Primary Data (2022)
N= 130

Results from Table 10 demonstrate how project budgeting procedures affect the effectiveness of building projects for schools. The gathered information was examined and presented in accordance with the given statement. On the first statement, the majority of those polled 77 (59.2%) stated that activities included in school construction in Kicuro district were effectively planned, which influenced project performance. As long as the second statement get considered, it was revealed majority 87 (66.9%) agreed that Project managers employed by Kicukiro district to look after the progress of schools' construction projects have adequate skills in project scheduling, this influenced the project performance of this project. On the third statement, it was revealed that majority of the respondents 85 (64.4%) agreed that constructors of schools in Kicukiro use appropriate techniques, which fit Rwandese context, this influences the performance of the project.

Last but not the least on the fourth statement, majority of the participants 93 (71.5%) indicated that project contractors involved all direct stakeholders in project scheduling, this influenced the performance of the project. On the average, majority 85 (65.6%) agreed that project scheduling practice affect the performance of school construction project in Kicukiro district, also a high mean of 3.9 supported the statements. These findings were consistent with Sureh and Sivakuma's (2019) findings, which revealed that a schedule management plan has a significant and favorable impact on project management efficiencies.

Effects of Project Communication Practices on the Performance of schools' construction project in Kicukiro District

Investigating the impact of project communication methods on the success of a school building project in the Kicukiro District was the fourth objective of this study. Following data collection, the researcher gave out 130 questionnaires to respondents in order to reach this aim. Analyzed data was presented in tables. During data collection, questionnaires were formatted using a Likert scale. The strength of the respondents' agreement or disagreement with the stated opinion was requested. Karl Pearson correlational coefficients were used to establish the link, and regression analysis was used to assess the effects. The data gathered is shown in Table 11.

Table 11: Effects of Project Communication practices on the performance of schools' construction project in Kicukiro District

STATEMENTS	SD		D		N		A		SA		\bar{X}	σ
	F	%	F	%	F	%	F	%	F	%		
Effective communication between project sponsors, project managers and contractors have school constructs project in Kicukiro district influence its performance.	0	00	4	3.1	0	00	64	49.2	62	47.7	4.4	0.6
Project activities adequately commutated between stakeholders this influence the performance.	13	10.0	1	0.8	13	10.0	65	50.0	38	29.2	3.8	1.1

There was a clear line of communication within employees as well as project owner and constructors, this helps to complete the project within time and cost.	1	0.8	4	3.1	2	1.5	85	65.4	38	29.2	4.1	0.6
Projects budget, expected completion time as well qualities of outputs were well communicated within stakeholders of school construction project in Kicukiro district.	1	0.8	9	6.9	1	0.8	59	45.4	60	46.2	4.2	0.8
AVERAGE	4	3.1	5	3.8	4	3.1	68	52.3	49	37.7	4.1	0.7

Source: Primary Data, 2022
N= 2022

Results demonstrating the impact of project communication procedures on the success of school construction projects are shown in Table 11. The gathered information was examined and presented in accordance with the given statement. The majority of the 64 respondents (49.2%) agreed with the first claim that the performance of the Kicukiro district's school construction project was influenced by excellent communication between sponsors, project managers, and contractors. Regarding the second claim, 65 out of 100 respondents (or 50.0%) agreed that project activities were effectively distributed among stakeholders, which affected performance. A majority of 85 respondents (65.40%) agreed with the third claim, which states that good communication between team members, the project owner, and contractors is essential to finishing the project on schedule and within budget. The majority of the respondents, 60 (46.2%) strongly agreed with the fourth statement that there was a clear line of communication between the workers, the project owner, and the contractors, which aided in completing the project on schedule and within budget. While the majority of the study's participants, 68 (52.3%), agreed that there is good communication with the school development projects in the Kicukiro area, the statement was also supported by a high of 4.1 and responses from a variety of respondents. These findings are consistent with those made by Ofori (2013), who confirmed that senior management's good communication has a major impact on a project's success. These findings concurred with those made by Lavagnon, Amaddou, and Denis (2012), who found that inadequate stakeholder communication is to blame for the failure of more than 50% of global bank projects in sub-Saharan Africa.

Relationship between Project management practices and project Performance in Kicukiro District

The researcher found a connection between project management strategies and the accomplishment of the school construction projects in the Kicukiro District. To determine if there was a significant, positive, or negative link between the dependent and independent variables in this respect, a correlation analysis was carried out. The Karl Pearson correlational coefficient was created to look at how the variables related to one another. The decision rule was built using the p-value method. A decision about whether to accept or reject the null hypothesis would be made in accordance with the P-value approach if the level of significance was 5% or 0.05, which equates to a 95% level of confidence. The p-value is the probability of obtaining a sample mean if the null hypothesis' value were true. If the p-value is less than 5% (P= 0.05), the null hypothesis will be accepted, and the alternative hypothesis will be rejected.

Table 12: Relationship between Project management practices and the performance of school construction project

Project management practices		Performance of schools' construction projects		
		Delivered within Cost	Delivery in Time	delivery within quality
Project Planning	Pearson Correlation	.148	.750	.348**
	Sig. (2-tailed)	.004	.002	.001
Project Budgeting	Pearson Correlation	.456	.812	.147
	Sig. (2-tailed)	.001	.012	.046
Project Scheduling	Pearson Correlation	.321	.663	.228
	Sig. (2-tailed)	.007	.030	.009
Project Communication	Pearson Correlation	.889	.789	.414

Sig. (2-tailed)	.000	.005	.003
N	130	130	130

*. Correlation is significant at the 0.01 level (2-tailed).

**. Correlation is significant at the 0.02 level (2-tailed).

Source: Primary Data (2022)

The summary of the results demonstrating the association between the two variables under consideration is shown in Table 12. It demonstrates that there is a weak positive association with on-time delivery ($r=.750, p=.002$), a strong positive correlation with project planning and project delivery within cost ($r=.148, p=.004$), and a weak positive correlation with project delivery with quality. This demonstrates that better project planning will result in projects that are completed on schedule, within budget, and with the intended quality.

Table 12 also showed that there is a low positive association within quality delivery ($r=.147, p=.046$) and a moderate link between project budgeting techniques and cost delivery ($r=.456, p=.001$); strong correlation with time delivery ($r=.812, p=.012$) This indicates that improving project budgeting procedures will enhance project performance in terms of cost, timeliness, and deliverable quality.

The chart also shows the relationship between project scheduling practices and project results. Table 12 shows correlations with time and quality ($r=.663, p=.030$), as well as a marginally positive correlation between project scheduling and cost performance ($r=.321, p=.007$). This shows that more effective project scheduling techniques will increase the project's efficiency in terms of time, cost, and deliverables. The performance of the project was also shown in Table 12, which isn't the least important factor. Project cost efficiency ($r=.889, p=.000$), timely delivery ($r=.789, p=.005$), and quality ($r=.414, p=.003$) were shown to have strong positive correlations with project communication approaches. This proves that improved project communication leads to improved project performance.

Regression Analysis Model

A regression analysis was performed to determine the impact of project management practices on the success of school construction projects in the Kicukiro District. Tables 4.12, 4.13, and 14 reveal the outcomes of the computations.

Table 13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.852 ^a	.727	.722	.57890

a. Predictors: (Constant), project planning, budgeting, scheduling and communication

Source: Primary (2022)

According to the results shown in Table 13 on the model summary, R is equal to 0.825, R square is equal to 0.727, modified R square is equal to 0.722, and SE is equal to 0.57890. The R square, or coefficient of determination, is 0.727. This indicates that the independent variables' combined impact (project planning, budgeting, scheduling, and communication) accounts for 72.7% of the project performance (on time, within budget, and of high quality) of the schools built in the Kicukiro district. This suggests that altering independent variables has a significant and advantageous impact on the success of a project.

Table 14 Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	203.884	3	67.961	71.728	.000 ^a
	Residual	164.863	126	.947		
	Total	368.747	129			

a. Predictors: (Constant), project planning, budgeting, scheduling and communication

b. Dependent Variable: project performance

Source: Primary data (2022)

The regression model's statistical significance was assessed using the analysis of variance (ANOVA). Table 14 displays the examination's results. Additionally, the regression model indicated that it was significant ($p = .000$), proving that it had not been calculated by accident. This was because the significance value, which occurs when the significance value is less than 0.000, is less than 0.05. As a result, the regression model's results were credible and trustworthy.

ix. Summary of the Study findings

This section provides a summary of the effects that project planning, budgeting, scheduling, and communications had on the success of the building project in Rwanda's Kicukiro area. 60% of the data showed that the majority of respondents were men, and around 50% of them were between the ages of 30 and 40. Around 50% of people hold a bachelor's degree.

Effects of Project Planning practices on the Performance

The research's initial goal was to investigate how project-planning procedures affected the effectiveness of school construction projects in the Kicukiro district. The majority of respondents (62, or 47.9%) agreed, according to the study's findings, that project-planning procedures have an impact on how well schools construction projects in the Kicukiro area perform. Regarding correlation, it was discovered that there is a weak positive association with delivery on time ($r=.750$, $p=.002$), a high positive correlation with project planning and project delivery within cost ($r=.148$, $p=.004$), and a low positive correlation with project delivery with quality.

This demonstrates that better project planning will result in projects that are completed on schedule, within budget, and with the intended quality. Regression analysis revealed that project planning procedures significantly improved the performance of the Kicukiro school construction project ($B=.557$, $p=.000$). This suggests that a one-unit increase in planning results in a 0.557-unit gain in performance.

Effects of project budgeting on project Performance

The study's second goal was to investigate the effects of project budgeting on the performance of a school construction project in the Kicukiro district. Throughout the findings, the majority of 67 (51.5%) strongly disagreed that project budgeting techniques influenced the performance of Kicukiro district school construction projects. According to the correlation test, there is a moderate association between project budgeting techniques and cost delivery ($r=.456$, $p=.001$), a strong correlation with time delivery ($r=.812$, $p=.012$), and a low positive correlation within quality delivery ($r=.147$, $p=.046$). This means that improving project budgeting methods will lead to better project performance in terms of cost, time, and output quality. Furthermore, budgeting technique was found to be statistically significant in improving the performance of school construction projects ($B=.310$, $p=.015$). This means that a one-unit increase in budgeting will result in a 0.310-unit increase in project performance.

Effects of Project Scheduling on Project Performance

Examining the influence of project scheduling procedures on the effectiveness of the building project in the Kicukiro district was the third goal of this study. The majority of respondents, 85 (65.6%), agreed that project scheduling practices have an impact on how well schools are constructed in the Kicukiro district. It was also found that there is a weakly positive correlation between project scheduling and cost performance ($r=.321$, $p=.007$), within time ($r=.663$, $p=.030$), and within quality ($r=.228$, $p=.009$). This demonstrates that better project scheduling procedures will enhance project efficiency in terms of time, expense, and deliverables. Regression test results also showed that project scheduling is statistically significant for enhancing project performance. It was shown to be the case ($B=0.414$, $p=.000$). This suggests that a one-unit improvement in scheduling procedures results in a 0.414 unit improvement in project performance.

Effects of Projects Communication Practices on Project Performance

Examining the effects of project communication on the execution of the school construction project in the Kicukiro district was the study's fourth goal. The majority of the respondents who took part in this study, 68 (52.3%) felt that there is good communication among staff within the school construction projects in the Kicukiro region, according to the findings. It was discovered that there is a high positive correlation between project communication techniques and the following factors: project cost effectiveness ($r=.889$, $p=.000$); timely delivery ($r=.789$, $p=.005$); and quality

($r=.414$ $p=.003$). This demonstrates that better project communication will translate to better project performance. The calculated results showed that communication had statistically significant effects on performance. The results of ($B=.657$; $P=.000$) supported this. This suggests that a one-unit improvement in project communication will result in a 0.657 unit improvement in the performance of the school construction project in the Kicukiro district.

x. Conclusion

Based on the study findings reported in chapter four of this study, it was established that project management techniques are statistically significant in explaining the performance of school construction projects in the Kicukiro area. This was demonstrated by ($r^2=0.727$). It was also discovered that there is a link between project management methods and project performance ($r=.812$, $p=.012$). Improvements in project management methods will also increase project performance, as predicted by the equation:

$$Y = 0.569 + 0.557X_1 + 0.310X_2 + 0.414X_3 + 0.657X_4.$$

xi. Recommendation

The researcher recommended that the government and private sector federation put into place measures to improve the workers' project management skills based on the conclusion of this study. This recommendation was based on the findings presented in section 5.2 of this study. In addition, the researcher recommend the government and private sector to demonstrate a better project planning practices, as it will show the results after completed, the researcher recommend to improve on the budget practices, as it will help in performance in terms of time, cost and output. Furthermore, the researcher recommends the government and the private sector to improve in communication practices as it effects on the performance of the project. Lastly, the researcher recommends the government and private sector to schedule well the construction of schools in Kicukiro District.

xii. References

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