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RESOURCE PLANNING PRACTICES AND PERFORMANCE OF DONOR-FUNDED WATER PROJECTS IN VIHIGA COUNTY, KENYA

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ABSTRACT

Background: The study aimed to examine the influence of resource planning practices on the performance of donor-funded water projects in Vihiga County, Kenya. The study specifically sought: to establish the influence of financial resources planning and to determine the influence of resource scheduling planning on the performance of water projects in Vihiga County, Kenya. The Resource-based view theory guided the study.

Methodology: The study adopted a cross-sectional survey design as a research design. The study focused on 14 water projects in Vihiga County in the last 5 fiscal years. The unit of observation was 304 respondents and a sample of 172 respondents comprising project managers, project team members, and project consultants.

Findings: The study found a positive strong correlation between financial resource planning and performance of water projects. However, resource scheduling had a weak significant correlation with performance of water projects. The study also established that financial resource planning positively and significantly influences the performance of water projects in Vihiga county in Kenya and resource scheduling planning positively and significantly influences the performance of water projects in Vihiga County in Kenya.

Recommendations: The study recommends a clear and defined budgeting process for projects. The study also calls for the application of scheduling techniques in projects to help realize project milestones.

Keywords: financial resources planning, resource scheduling planning, performance of water projects, Vihiga County, resource planning

Background of the Study

Universal access to water and sanitation will be gradually achieved throughout the SDGs, with about 200,000 new water connections and 350,000 new sewer connections (for approximately 3.2 million people) required annually in urban areas to achieve universal water access by 2030. According to UNICEF, every year, four billion people, or nearly two-thirds of the global population, face acute water scarcity for at least one month. More than two billion people live in countries with inadequate water supplies. It is also believed that by 2025, half of the world's population could be living in locations with limited access to clean water. In addition to that it is estimated that by 2030, 700 million people may have been relocated as a result of severe drought (UNICEF, 2020).

Last-mile connectivity will be implemented in rural regions to guarantee that all projects provide water and sanitation to families (Water Sector Reforms, 2019). The increase in human population, as well as the corresponding demands for water resources for socio-economic development and climatic change, has resulted in water scarcity, compromising the availability and access to clean and safe water. Long-term socioeconomic goals are essentially dependent on the sustainable use, development, and management of water resources. Capital expenditure accounts for 75% of overall spending in the water sub-sector. Water supply contributed 0.7% to GDP in 2017, yet total public spending on water has remained low approximately 2% of the total national budget. The water sector is primarily donor-reliant, with the donor community accounting for around 70% of yearly capital investment, the government providing the majority of the balance, and the private sector playing a minor role (Water Fund, 2024).

Resource planning is the process where tasks are allocated to project team members based on their skill sets, capacity, and best fit for the job. Resource planning helps project teams monitor progress, track capacity, and keep projects on budget. (Dopson, 2020). Effective resource planning should be taken into consideration and plan for the availability of scarce resources. (PMI, 2017). In Tamil India, Suresh & Sivakumar (2019) found that a schedule management plan aids in the cost and time management of each project along with providing the facility for monitoring diverse tasks in a project cost. This not only provides the benefit of ideal usage of project resources, timely completion, and effective results but also supports in attracting the productivity of the project team. The investigation showed that 58.8% of the schedule management plans are related to project cost and time management. (Suresh & Sivakumar, 2019).

Statement of the Problem

In Kenya more than 20 million citizens lack access to safe drinking water thus, the government has increased the initiatives to access water and sanitation services to the citizens through prioritization of the development of water and sanitation infrastructure projects (WASREB, 2023). According to COG (2022), there are three in Vihiga County namely; Mbale, Kaimosi, and Maseno water pipes where the Belgium government funded the schemes worth Ksh 1.7 billion. The water coverage from schemes is at 60% which includes both piped and unpiped and WASREB notes the piped water is at 20%. The water schemes cater to 80% of the demand while 20% is covered by boreholes shallow wells, springs, and rivers.

For the last five years, several plans to improve the water system have been in place, but fewer projects have been actualized. Competing interests, poor planning, duplication of roles, endless planning and stakeholders' conflicts, lack of funding, poor monitoring and evaluation are the major hurdles for improved water as targeted by the Ministry of Water, Sanitation and Irrigation that 70% access to clean water and 40% for improved sanitation by the year 2022. Though there is a decrease in access to basic sanitation by 5% where more Kenya now have access to clean water than before. UNICEF also reports that 10 million drink contaminated water, and a quarter of the

population wash their hands. There are limited studies covering water projects in Vihiga County. This study sought to bridge this gap by examining project resource planning practices on the performance of donor-funded water projects in Vihiga County, Kenya.

Research Objectives

This study sought to examine the influence of resource planning practices on the performance of donor-funded water projects in Vihiga County, Kenya

The study specifically sought:

i. To establish the influence of financial resources planning on the performance of water projects in Vihiga County, Kenya.
ii. To determine the influence of resource scheduling planning on the performance of water projects in Vihiga County, Kenya.

Theoretical Review

Resource-Based View Theory

Barney (1991) coined the resource-based view theory. The theory recognizes that organizational resources are critical to the performance of an organization's functions. He proposed that a company's competitive advantage is created by its capacity to create value using tactics that are notably different from its competitors (Wernerfelt, 1995). As a result of these suspicions, the idea of RBV emphasizes that those resources that are elusive, significant, rare, uncommon, and typically tough to reproduce and have no vital perfect substitutes are the ones essential in maintaining an organization's advantage. (Barney & Ouchi, 1986).

The tangible resources in project management may include the receipt of layouts, instruments, systems, and classified processes that are readily available among the control. The undertaking of the executives' immaterial resources may include cooperation, authority, and speed, which may strengthen the association's competitive (Jugdev & Mathur, 2013). Leadership and other intangible resources that are valuable, scarce, and nearly impossible to replicate are crucial assets required to have a big impact on projects. However, in its application, Resource Based View has received some criticism for a lack of common understanding among researchers and professionals on the use of various project management vocabulary such as resources, capabilities, and abilities. Furthermore, the idea has consistently been criticized for its testability due to the failure to develop techniques to quantify intangible assets (Barney, 1991).

The theory is essential in this study of resource planning methods and the success of water projects in Vihiga County of Kenya because human, time, and money resources are critical resources in a project and are difficult to replicate. The resource recognized by the resource-based theory should be sorted out by undertaking assets to ensure project success and achieve the competitive advantage of the projects. (Doloi, 2013). Consequently, organizations with better resource planning strategies surpass at maximum efficiency and complete on time, quality, cost, risk mitigation, and other variables. (Park & Yi, 2021). The theory is appropriate for this research since it recognizes how vital human resources, time resources, and financial resources are properly planned, acquired, and motivated and can be very crucial in achieving water project outcomes expected by project participants in the Vihiga County of Kenya.

Conceptual Framework

This study's conceptual framework sought to demonstrate the relationship between project resource planning practices (Financial Resource Planning and Project Resource Scheduling) and the performance of water projects in Vihiga County.

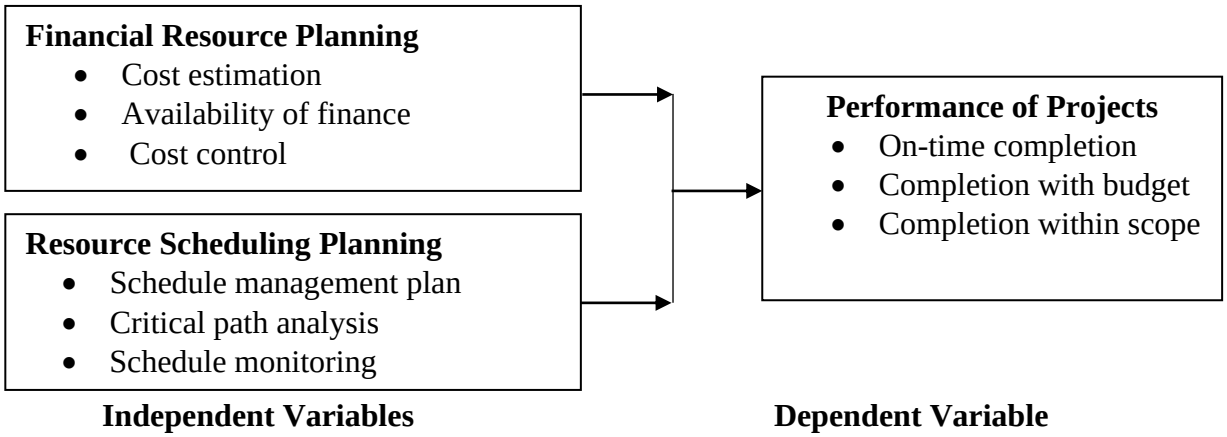

Figure 1: Conceptual Framework

Financial Resource Planning

Financial planning is the process of incorporating costs, rewards, and risks into project budgets. Investigate several strategies for cost estimation and how they are used in the various components of project budget creation (Hales, 2018). Financial planning enables a company to identify how it will fund its objectives and strategic goals. Financial planning is critical to organizational success since it complements the overall business plan, confirming that specified goals are financially realistic. The financial planning process leads to the creation of a financial plan, a financial projection, or both. This process consists of multiple well-understood processes, which may occur out of order depending on the output or project at hand. The best practices for financial planning include forecasting project revenue, budgeting expenses, projecting the cash flow, projecting the income, compiling the list of assets and liabilities, conducting break-even analysis, implementing the plan, and finally analyzing financial statements (Planful, 2024).

Project cost estimation is an important part of financial resource planning because it helps predict the financial resources needed to complete a project from start to finish. The accuracy of cost estimation has a direct impact on budgeting, financial viability, and overall success of the project (Association for Project Management, 2018). Effective project cost estimation in financial resource planning allows for better decision-making, and effective allocation of resources, lowers the risk of budget overruns, and increases the likelihood of project success. It is a dynamic process requiring collaboration among project managers, financial planners, and stakeholders (Kerzner, 2022). Cost estimation involves determining the costs of all resources required to complete a project which includes the indirect costs, (overhead, support costs, administrative costs) operational costs (recurring and ongoing expenses), direct costs (material, labour, equipment), contingency costs (scope changes, risks), and capital costs (the long-term investments). Several techniques are used in estimating cost, and they include expert judgment, analogous estimation, bottom-up estimation, three-point estimation, and parametric estimation (PMI, 2017).

Project Resource Scheduling

The process of pinpointing when project resources are needed and their allocating with consideration to factors such as resource availability or capacity planning (Westland, 2023). According to Densford et al (2018), resource entails the identification of the technical, human, physical, and financial resources and the organizing of those resources in a way that ensures the completion of a project. Understanding and operating the procedures is crucial to the overall team system. When a team member accepts their position on the team, the individual assumes certain tasks. During the project, the manager addresses team responsibilities quickly. Often individuals and teams change towards cohesion and effectiveness since, improving team effectiveness will increase project success (Ronoh & Kirui, 2020). Project cost and project schedule are two main factors that contribute to project performance (Widowati & Rachmawati, 2020).

Schedule management is a procedure that necessitates the development of policies and documentation for maintaining, developing, managing, and controlling the time and resource schedules required for project completion (Kerzner, 2022). The schedule management plan outlines how and when the project will be monitored and controlled. The schedule management plan specifies the tools and methods to be employed, as well as the person accountable for each task. Schedule control is crucial in project management because it helps the project manager manage the project stakeholders' expectations. Throughout the process, stakeholders are informed about the modifications to the projects and their overall implications for the project schedule (Aldridge, 2023). Poor resource scheduling has been established to be a leading cause of delays in the individual tasks of the project and turn, this results in a ripple effect as it delays the whole project. The delays mean that extra costs, and sometimes even modifications to the scope lead to a compromise on the project deliverables in terms of quality to save time (Toe, 2023).

Performance of Water Projects

Performance is a broad concept that covers elements like effectiveness, efficiency, quality, and timeliness. Project performance is the evaluation of how well a project is carried out and if it satisfies its predefined objectives and aims (Ahmed, 2022). Project performance can be measured by the successful execution of the project objectives such as social goals, economic goals, and environmental goals. These objectives can be determined by triple constraint. A triple constraint is a triangle of time, cost, and scope that bounds the project environment. The criteria for judging project success include considerations of time, budget specification, customer satisfaction, and maintaining the status quo within the organization (Kerzner, 2022). Project performance measurement is a comprehensive process that involves analyzing several areas of the project to ensure it is on pace to reach its goals, is finished efficiently, and meets the needs of stakeholders (PMI, 2017).

Measuring project performance entails assessing different project characteristics, such as scope, time, cost, quality, and stakeholder satisfaction (Głodziński, 2019). Effective project performance measurement ensures that the project is in line with organizational goals, performed efficiently, and meets or exceeds stakeholder expectations. There are various metrics for measuring performance which include schedule adherence, adherence to budget, resource utilization, stakeholder satisfaction, and quality performances (Zheng, et al., 2019; Maqsoom, Hamad, Ashraf, Thaheem, & Umer, 2020). By frequently monitoring important performance measures, project managers may discover difficulties early on, make data-driven decisions, and ensure project success (Kerzner, 2022).

Empirical Review

Past empirical studies are reviewed in the subsequent sections.

Financial Resource Planning and Project Performance

Umukumburwa (2024) surveyed 'local financial resources planning and performance of construction projects in Rwanda. The study specifically surveyed a construction project in Nyarugende district in Rwanda. The study used a mixture of survey, quantitative, and qualitative research design where 190 respondents were sampled from a population of 360 employees involved in construction projects in Nyarugende district. The study also used both primary and secondary data. The study found all the variables i.e. internal financial resource planning, external resource planning, and coping strategies were statistically significant in towards construction project performance. The predictor variables of coping strategies, internal financial resource planning, and external resource planning had a weak correlation (r = .383, sig = .146) with project performance and explained a 14.6 %variation in project performance. (Umukumburwa, 2024).

Another study by Andinda and Dushimimana (2023) on the effects of resource planning practices on the performance of projects in Rwanda, found a strong significant correlation between financial resource planning practices and project performance (r =.669, sig = .000). Sebasore and Dushimimana (2022) investigated the influence of planning practices and project success of education projects in Rwanda. The study targeted 355 stakeholders in education and a sample of 121 was drawn. The study also used random sampling and purposive sampling techniques. The study examined risk management practices and financial resource planning as the main planning practices. The study found a strong positive relationship between risk management practices and project success (β = .880, sig =.08). Risk management practice also explained 80% variation in project success. It was also established that resource planning had a strong correlation (r = .550) with project success and explained a 30% variation in project success (Sebasore & Dieu, 2022).

Resource scheduling planning and Project Performance

Karuga et al (20224) evaluated the influence of financial resource scheduling and performance of road construction projects in Nairobi Metropolitan Kenya. The study adopted mixed research of descriptive survey and cross-section designs targeted 39 road construction projects undertaken by Kenya Urban Roads Authority (KURA) and Kenya National Highway Authority (KeNHA). The study was also guided by the resource dependency theory. The study established that project resource schedules had a positive significant influence on the performance of road construction projects in Nairobi Metropolitan (β = .753, sig = .000). Through effective resource scheduling, the project can manage the risks resulting from the changes in project outcomes. Resource scheduling planning had a strong correlation (r = .559) with the performance of road projects though it only explained 31.2% variability of the performance of road projects in Nairobi Metropolitan (Karuga, Utuku, & Sang, 2024).

Ronoh and Kirui (2020) examined the influence of resource scheduling on the performance of construction projects in Nairobi County. The study adopted a descriptive survey design where 79 gated community construction projects were selected. The study used both purposive and random sampling. The study found that resource scheduling had a strong correlation with the project performance of gate community projects and explained 78% variation in performance. The study also found a direct significant relationship between resource scheduling and project performance (β = .714, sig = .001). Proper resource allocation prevents project activities from stalling due to a lack of equipment and facilities, resulting in successful project completion. The study suggests that project managers, contractors, and supervisors establish clear roles for individuals, teams, tasks, or departments to enhance project performance (Ronoh & Kirui, 2020).

RESEARCH METHODOLOGY

In this study, a cross-sectional survey study design was employed since the study focused on water projects specifically in the last 5 fiscal years. The study target population was 14 water projects in

Vihiga Counter in the last 5 fiscal years. The unit of observation was 304 respondents involved in water projects in Vihiga County of Kenya. Respondents comprised of project managers, project team members, project consultants, and ward administrators formed the sampling frame. A sample of 172 was used as obtained from the Yamane formula. Multi-stage sampling was adopted which included stratified sampling and purposive sampling techniques. Self-administered structured questionnaires were used to collect primary data. Both descriptive and inferential analysis were conducted.

RESEARCH FINDINGS AND DISCUSSIONS

Response Rate

The study used a questionnaire to collect data. A total of 172 questionnaires were administered and the study respondents. A total of 160 were dully filled and returned giving a response rate of 95.9% which is excellent as opined by Mugenda and Mugenda (2018).

Descriptive Statistics

The study used a measure of central tendency to describe the responses and analyze them. A Likert scale was used where the responses were coded as follows: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree. The descriptive statistics for the study variables are shown below:

Financial Resource Planning

The first objective of the study was to 'establish the influence of financial resources planning on performance of water projects in Vihiga County in Kenya'. The composite means of 3.22 indicates that the respondents were neutral on the financial resource planning in the water projects in Vihiga County in Kenya. The standard deviation of 1.00 further indicates that the responses did not vary much from their averages. Table 1 below shows how the various statements measuring financial resource planning in terms of cost estimation, availability of finances, and cost control indicators faired in the study.

Table 1: Financial Resource Planning

Financial Resource Planning	**Mean**	**Stdv**
The county has a clear and defined budgeting process for the water project	2.98	1.286
The is a thorough cost estimation process for the water project conducted for each given project.	3.25	1.332
The funds for the water projects are easily available during the implementation of the projects.	3.25	1.318
The water project funds are sufficient to ensure the successful completion of the project and therefore they are disbursed on time.	3.29	1.324
There is a clearly defined procedure of how funds should be utilized to ensure there is accountability.	3.46	1.345
The water projects also adapt various project cost control techniques to ensure the resources are effectively utilized.	3.11	1.456
Average Financial Resource Planning	**3.22**	**1.00**

The findings revealed that it wasn't clear whether the counties have a clear and defined budgeting process for the water project. This was supported by the mean of 2.98 and standard deviation of

1.286. the study also didn't clearly indicate whether there is a thorough cost estimation process for the water projects as well as the funds being available for the projects. This was represented by a mean of 3.25 and a standard deviation of 1.332, and also a mean of 3.25 and a standard deviation of 1.318 respectively. It was also not clear whether the funds were sufficient for successful implementation of the water projects as indicated by the mean of 3.29 and standard deviation of 1.324. However, respondents slightly agreed that there is a clear procedure on how the funds for the water projects should be utilized for accountability purposes. This was evident from the mean of 3.46 and standard deviation of 1.345. lastly, it wasn't clear whether the water project adopted various cost-control techniques to ensure effective utilization of resources. This was supported by the mean of 3.11 and standard deviation of 1.456.

From the findings, it was evident that financial resource planning practices are not well implemented for the water projects in the Vihiga County of Kenya. Most of the statements didn't positively influence the variable financial resource planning since they were below the composite mean of 3.22 and a standard deviation of 1.00. Only the statement on having a clear and defined procedure for funds utilization had the highest influence while cost estimation, funds availability, and sufficiency of the funds slightly influenced the variable financial resource planning positively. According to Kamau et al (2023), effective financial planning is essential for achieving project objectives. Most projects rely on financial resources to meet their strategic objectives. Project financial planning entails setting predetermined project objectives that function as standards for presenting actual findings

Project Resource Scheduling

The second objective of the study was to 'determine the influence of resource scheduling planning on the performance of water projects in Vihiga County in Kenya'. The composite means of 3.41 indicates that the respondents slightly agreed on the resource scheduling planning practices in the water projects in Vihiga County Kenya. The standard deviation of .839 further indicates that the responses did not vary much from their averages. Table 2 below shows how the various statements measuring resource scheduling planning in terms of schedule management plan, critical path analysis, and schedule monitoring indicators performance in the study.

Table 2: Project Resource Scheduling

Project Resource Scheduling	**Mean**	**Stdv**
The schedule management plan is the primary document used for ensuring the resources are well scheduled.	3.26	1.371
The water projects apply various scheduling techniques to realize the project milestones as per the plans.	3.19	1.337
The critical path analysis helps ensure the resources are allocated effectively and efficiently.	3.46	1.483
Resource leveling techniques are used to ensure that there is optimal utilization of project resources.	3.74	1.352
The schedule is continuously monitored to ensure resources are available for the completion of the water projects	3.48	1.218
There is centralized resource scheduling to ensure there is facilitation of resources across multiple projects	3.35	1.402
Average Project Resource Scheduling	**3.41**	**.839**

The study found that it was clear whether the schedule management plan was used as the primary document for scheduling resources in the water projects. This was indicated by the mean of 3.26 and standard deviation of 1.371. It was not clear also whether the various scheduling techniques were applied in the water projects to realize the project milestones. This was shown by the mean of 3.19 and standard deviation of 1.337. The respondents slightly agreed that the critical path analysis has helped ensure the resources are allocated effectively and efficiently. This was supported by the mean of 3.46 and standard deviation of 1.483. It was also revealed that resource leveling techniques were used to ensure optimal utilization of project resources. This was indicated by the mean of 3.74 and standard deviation of 1.352. The study also revealed that there was continuous monitoring to ensure resources were available for the completion of the water projects in the region. This was supported by the mean of 3.48 and standard deviation of 1.218. however, it wasn't clearly indicated whether there was centralization of resource scheduling for the facilitation of resources across multiple projects in the region. This was shown by the mean of 3.35 and standard deviation of 1.402.

The study generally indicated that respondents slightly agreed on the resource scheduling practices in the water projects in Vihiga County Kenya. About 50% of the statements had a positive influence on resource scheduling planning since the means were greater than the composite means of 3.41. The indicator on the schedule management plan didn't positively influence the variable. Thus, this indicates the water projects in Vihiga County have issues to do with the schedule management plans.

Performance of Water Projects

The main objective of the study was to 'examine the influence of project resource planning on performance of water projects in Vihiga County in Kenya'. The composite means of 3.36 indicates that the respondents were neutral on resource planning practices influencing the performance of the water projects in Vihiga County Kenya. The standard deviation of .604 further indicates that the responses did not vary much from their averages. Table 3 below shows how the various statements measure the performance of water projects in terms of completion time, budget adherence, scope adherence, and satisfaction of stakeholders.

Table 3: Performance of Water Projects

Performance of water projects	**Mean**	**Stdv**
The water projects in Vihiga County are completed within their stipulated timelines.	3.41	1.362
The water project milestones are achieved as planned in the implementation schedule.	3.46	1.310
The water projects are completed as per planned budgets.	3.36	1.327
The water projects have witnessed critical cost overruns.	3.18	1.293
The water project resources are managed effectively for the successful implementation and completion of the projects	3.34	1.294
The water projects have been completed within their agreed scope.	3.08	1.284
The progress of the water projects is regularly reviewed to keep the project on track.	3.36	1.318
The project stakeholders have been satisfied with the standard of the water projects	3.24	1.403
Stakeholders for the water projects believe there is value for money for those projects.	3.69	1.309
Average Performance of Water Projects	**3.36**	**.604**

The respondents slightly agreed that the water projects were completed within their timelines. This was indicated by the mean of 3.41 and standard deviation of 1.362. The milestones for the water projects are also achieved as planned in the implementation schedule. This was evident from the mean of 3.46 and standard deviation of 1.310. It wasn't clear whether the water projects were completed within their planned budgets as shown by the mean of 3.36 and standard deviation of 1.327. Further, it wasn't clear whether the water projects witnessed any critical cost overruns. This was evident from the mean of 3.18 and standard deviation of 1.293. It was also not clear whether the water projects were effectively managed as shown by the mean of 3.34 and standard deviation of 1.294. Whether the projects were completed within the agreed scope, the mean of 3.08 indicated that respondents were not sure about that. It wasn't clear whether the water projects were regularly reviewed to ensure they were on track. This was supported by the mean of 3.36 and standard deviation of 1.318. it was clearly greed on whether the stakeholders were satisfied with the standards of the water projects as shown by the mean of 3.24 and standard deviation of 1.403. however, the stakeholders for the water projects believe there is value for money in the projects. This is supported by the mean of 3.69 and standard deviation of 1.309.

Most of the statements negatively influenced the performance of the water projects since their means were below the average mean of 3.36. however, it is notable that funds, budgets, and effective management of resources need to be addressed in the water projects. The scope of the water projects also requires attention as well as the standards of the water projects as agreed by the stakeholders. There should be regular monitoring of the project's progress to ensure they are all on track. Further improvement needs to be done on the schedules to ensure all milestones are achieved timely.

Normality Test

The Normality P-P plot was used to show whether the data was approximately normally distributed since also the variables are approximately near the regression line as shown in Figure 2 below.

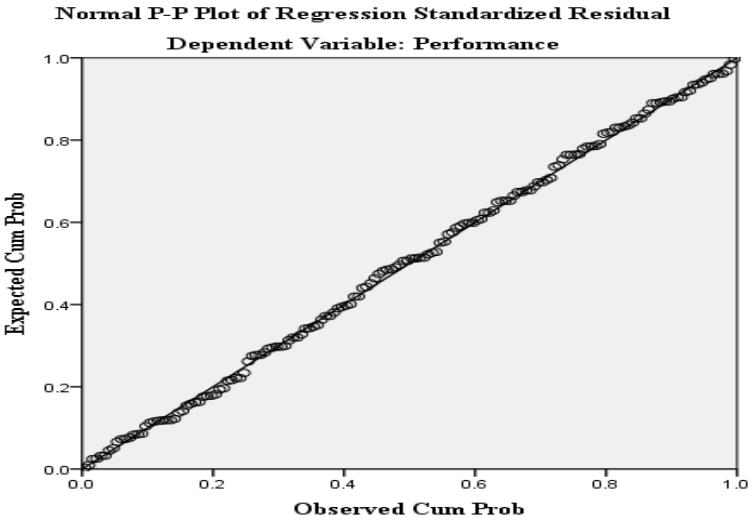

Figure 2: Normality P-P plot

Multicollinearity Test

According to Hair et al. (2010), multicollinearity occurs when there is a low tolerance (=<0.2) and greater VIF (>=10) values. In this study, all the tolerance values (.319, .826) were greater than 0.2 and the VIF (3.139, 1.211) were less than 10 indicating the absence of multicollinearity.

Table 4: Multicollinearity

Model (Variables)	**Collinearity Statistics**	
	Tolerance	**VIF**
Financial Resource Planning	.319	3.139
Resource Scheduling Planning	.826	1.211

Correlation Test

The study determined the correlation that existed among the predictor variables using the Pearson correlation coefficient test and it was tested at 0.05 level of significance. The correlation analysis assisted in establishing the linearity of the existing variables in the data as shown in Table 5.

Table 5: Coefficient of Correlation

		Performance of Water Projects
Financial Resource Planning	Pearson Correlation	.644**
	Sig. (2-tailed)	.000
	N	160
Resource Scheduling Planning	Pearson Correlation	.278**
	Sig. (2-tailed)	.000
	N	160

Based on the findings shown in Table 5 there is a significant positive correlation between Financial Resource Planning and the performance of water projects as depicted by a correlation value (r = .644, Sig = .000). The association is strong since r = .644 < 1. This implies that a unit change in financial resource planning may lead to an increase in the performance of water projects by .644 units. The findings are supported by the study by Andinda and Dushimimana (2023) who found a strong correlation (r = .669) between financial resource planning and project performance in Rwanda. Similarly, Akuno and Wanyoike (2020) found a very strong significant correlation (r = .961, sig = .000) between resource planning and project performance of elephant conversation projects at the Tsavo National Park.

The study also found a significant positive correlation between Resource scheduling planning and the performance of water projects though the correlation is weak (r= .278, Sig = .000). However, the association is weak since the r (.278) < 0.5. Thus, a unit increase in resource scheduling planning may lead to an increase in the performance of water projects by .278 units. The findings correspond with Karuga et al (2024) who found a strong correlation (r = .559) between resource scheduling and the performance of road projects in Nairobi Metropolitan.

Regression Analysis

The study variables were regressed to identify the relationship between the independent and dependent variables. The regression results show that the constant for the study model the constant for the model was 1.271 and also significant (Sig = .000< 0.05) as supported by t-calculated (6.318) which was found to be greater than the t-critical (± 1.955).

Table 6: Regression Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	B		
1	(Constant)	1.271	.201		6.318	.000
	Financial Resource Planning	.144	.060	.239	2.395	.018
	Resource scheduling planning	.148	.045	.205	3.312	.001

For the first objective of the study which was to 'establish the influence of financial resources planning on performance of water projects in Vihiga county in Kenya' the variable Financial Resource Planning (β = .144, Sig = .018) shows a significantly strong positive significant relationship with performance of water projects in Vihiga county Kenya. This indicates that Financial Resource Planning has a direct relationship with the performance of water since (β = .144) is positive implying that an increase in performance by a unit needs a .144 of financial resource planning. In addition, Financial Resource Planning in project resource planning influences the performance of water projects by .239 or 23.9%. The significance is also supported by the t-calculated (2.395) > than the t-critical (±1.655). Thus, Financial Resource Planning positively and significantly influences the performance of water projects in Vihiga county in Kenya. The findings are supported by Umukumburwa (2024), Andinda and Dushimimana (2023), and Sebasore and Dushimimana (2022) who found a significant positive influence between financial resource planning and project performance.

The second objective of the study was to 'determine the influence of resource scheduling planning on the performance of water projects in Vihiga county Kenya'. Resource scheduling planning (β = .148, Sig = .001) has a significant relationship with the performance of water projects in Vihiga County Kenya. There is a direct relationship between resource scheduling planning and the performance of water projects in Vihiga county since (β = .148) indicating that an increase in project resource planning activities by .148 units leads to an increase in the performance of water projects by a unit. Resource scheduling planning in project resource planning influences the performance of water projects by .205 or 20.5%. The t-calculated (3.312) < than the t-critical (±1.655). Thus, resource scheduling planning positively and significantly influences the performance of water projects in Vihiga County in Kenya. The findings coincided with Karuga et al (2024) who found project resource schedule had a positive significant influence on the performance of road construction projects in Nairobi Metropolitan (β = .753, sig = .000). Through effective resource scheduling, the projects can be managing the risks resulting from the changes in project outcomes. In another study, Muute and James (2019) found time management to have a positive significant influence on the performance of construction projects (β = .620, sig = .0249). Activity duration estimates, time scheduling, and project scope are well specified in the planning phase.

The following regression model was used;

$$\gamma = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots \text{(i)}$$

Whereby;
$\beta 0$: Constant (coefficient of intercept) X_1: Financial Resource Planning n X_2 : Resource scheduling planning ε : the error term

$$Water\ projects\ performance = 1.271 + 0.144X_1 + 0.148X_2 \ldots\ldots\ldots\ldots\ldots\ldots \text{(i)}$$

CONCLUSION OF THE STUDY

The first objective of the study was to 'establish the influence of financial resources planning on performance of water projects in Vihiga County in Kenya'. The study found a strong positive correlation between Financial Resource Planning and the performance of water projects. It was also established that Financial Resource Planning has a positive significant relationship with project performance. The study therefore concludes that Financial Resource Planning positively and significantly influences project performance. The second objective of the study was to 'determine the influence of resource scheduling planning on the performance of water projects in Vihiga County in Kenya'. Resource scheduling planning had a weak correlation with the performance of water projects. The study also found that Resource scheduling planning positively and significantly influenced the performance of water projects in Vihiga County Kenya. The study therefore concludes that Resource scheduling planning positively and significantly influences project performance.

RECOMMENDATIONS

For the first objective in establishing the influence of financial resources planning on the performance of water projects in the Western region of Kenya, the study found that financial resources planning significantly influenced the performance of water projects. The study recommends a clear and defined budgeting process for projects. This also entails a thorough cost estimation process, funds availability, funding adequacy, and effective cost control techniques to ensure the funds are effectively utilized in the projects.

The second objective of the study was to 'determine the influence of resource scheduling planning on the performance of water projects in Vihiga County in Kenya'. The study found a positive significant relationship between resource scheduling planning and the performance of water projects in Vihiga County. The study therefore calls for the application of scheduling techniques in projects to help realize project milestones. The project team should also make use of the schedule management plan in scheduling project resources. The project should also ensure there is continuous monitoring of the project schedule to ensure the availability of resources for completion of the projects. Lastly, the project leadership needs to have a centralized resource scheduling process to enable ease of facilitation of resources across multiple projects.

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