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PROJECT MANAGEMENT INFORMATION SYSTEM INTEGRATION IN PROJECT PLANNING AND PERFORMANCE OF NATIONAL GOVERNMENT CONSTITUENCY DEVELOPMENT FUNDED BUILDING CONSTRUCTION PROJECTS IN THIKA TOWN CONSTITUENCY, KIAMBU COUNTY

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ABSTRACT

Purpose: The main objective of this study was to assess the influence of PMIS integration in project planning on the performance of NGCDF projects in Thika Town Constituency, Kiambu County, Kenya.

Methodology: This study used a mixed design of descriptive and explanatory designs to establish the relationship between PMIS integration and the performance of building construction projects in Kiambu County in Kenya. The study targeted 185 building construction projects in the last 5 financial years and 665 respondents. A sample of 250 was obtained using Slovin's formula. The study used stratified, purposive, and simple random sampling techniques. A semi-structured questionnaire was used to collect primary data. A pilot study was also done on 10% of the sample to check for validity and reliability of the questionnaire. The study used descriptive analysis, content analysis and inferential analysis.

Findings: The study found PMIS project planning had a positive ($\beta 1=0.435$) significant influence (p value= 0.000) on performance of NGCDF building construction projects.

Recommendations: The study recommends that NGCDF management should prioritize the adoption of advanced PMIS planning tools and invest in training project staff on their application to strengthen project scheduling, forecasting, and monitoring. NGCDF committees and project managers should also strengthen PMIS planning practices through trainings.

Keywords: PMIS planning, performance of projects, NGCDF building construction projects, Thika town constituency

Background of the study

Globally, governments use Constituency Development Funds (CDFs) to provide funds directly to elected members to address regional inequalities and local development needs (CPA, 2018). These funds have been implemented in various countries, including Kenya, India, Tanzania, and Uganda, with mixed outcomes. The effectiveness of CDF programs varies across the world, depending on several variables, including community engagement, governance frameworks, and supervision procedures (Mwendwa & Geoffrey, 2024). In Kenya, CDF has been successful in promoting equity and allocative efficiency by allocating funds based on district population characteristics and poverty indices. India allocates an equal amount per MP, with guidelines requiring a portion of funds to be set aside for specific development objectives. Similar to Kenya, Tanzania includes geographic size and population in its allocation formula, aiming to ensure equitable distribution (Makwai, 2023).

Projects are becoming increasingly technically complex, with more pressure to complete the project in less time and at a reduced cost. This is mainly due to increased competition and stakeholder expectations. Engineering companies manage several projects simultaneously (Micale et al, 2021). Construction projects are successful when they are done within the stipulated time, set budget, and achieve the set goals as per the desired scope. Large amounts of resources are dedicated to projects during selection and design; however, the projects must be adequately managed in those organizations to ensure objectives are met (Raymond & Bergeron, 2018). In Kenya, the construction industry faces many challenges due to poor project management practices. This includes poor or a lack of project risk management, poor planning, and a lack of stakeholder engagement. Thus, many construction projects have either stalled or been delayed, consequently economic losses to construction practitioners, consumers, and the industry at large. These challenges have proven to be costly, especially when clients are forced to procure experienced foreign contractors for major projects in the country, who are generally more expensive compared to their local counterparts (Kenya National Contractors Conference, 2019).

Project Management Information System (PMIS)

According to the PMBOK (PMI, 2021), PMIS is an information system (IS) with tools and techniques for collecting, compilation, and distributing project management process information. It is also known to be a special purpose IS that is useful for the provision of critical information to the project manager and major project stakeholders in a project to help in effective decision-making (Park, Lee, & Kim, 2021). In project planning of the project life cycle, PMIS helps in scheduling details such as tasks and critical path analysis. The PMIS also supports WBS analysis and integration of the control processes in cost management planning . Further, PMIS is beneficial to the project manager in resource planning in terms of the level and availability of the resources. To add to that, PMIS helps to establish the cost, schedule, and project scope. (Keup, 2022). According to Townsend (2021) with the data to plan and schedule, people are allocated to tasks based on their availability and skills possessed. Project managers are thus able to set high expectations with their stakeholders as they understand the timelines, priorities, workloads, and budgets.

Globally, the construction sector is increasingly using PMIS to handle complicated projects. These technologies allow for real-time communication, resource allocation, and complete project monitoring. The integration of PMIS with Building Information Modelling (BIM) has further revolutionized project management by giving comprehensive 3D models alongside project data, resulting in better coordination and fewer errors. Platforms such as Oracle Primavera Unifier, for example, bridge the gap between old project management approaches and new expectations by streamlining procedures and improving collaboration (DrMcNatty, 2024). Kamau and Pedo (2021) found that project team technology, project risk management, project monitoring and evaluation, and end-user engagement significantly affected project

performance in Kenyan commercial banks. Team members should be trained on how to use PMIS before the project start and during implementation

NGCDF Projects in Thika Town Constituency

Thika Town Constituency continues to invest in educational and infrastructural projects through NGCDF funding. However, past audits have identified areas requiring enhanced financial management and accountability to ensure that allocated funds achieve their intended developmental outcomes. According to the report of the Auditor General (2023), several concerns of misappropriation of funds were highlighted, which underscore the need for transparency in oversight of project implementations.

Statement of the Problem

The National Government Constituencies Development Fund (NGCF) projects are crucial for enhancing social infrastructure, education, and healthcare. However, many projects face challenges like delays, cost overruns, lack of transparency, poor monitoring, and resource misallocation (NGCDF, 2025). In Thika Town constituency, political patronage, limited community participation, weak management practices, insufficient monitoring and evaluation, project selection criteria, and implementing entity capacity contribute to inefficiencies and poor project outcomes. Implementing bodies often lack the necessary skills and expertise, compromising project quality (The Auditor General, 2024). The Office of the Auditor General (2023) cited the reasons for the stalling of projects, including nonpayment, unqualified contractors, tender wars, court injunctions due to irregular procurement, projects without a budget, poor planning, stakeholders' concerns, and late disbursement of funds. In the FY 2020-2021, about Ksh 4,497.354 for projects was unsupported with documentation and irregular payments to projects amounting to Kshs 5.2 million were made. To address these challenges, PMIS has been introduced as a digital tool aimed at improving the planning, monitoring, reporting, and evaluation of projects. PMIS integration is expected to enhance project performance by streamlining processes, improving accountability, and facilitating data-driven decision-making. PMIS is expected to improve project performance by providing real-time data, automated reporting, improved communication, and enhanced decision-making.

Objective of the study

The main objective of this study was to assess the influence of PMIS integration in project planning on the performance of NGCDF projects in Thika Town Constituency, Kiambu County, Kenya.

LITERATURE REVIEW

Theoretical Review

The study was anchored on System Theory. The system theory was initially proposed by biologist Ludwig Von Bertalanffy in the 1940s (Gordon, 2021). Bertalanffy emphasized that real systems interact with their environments and acquire new properties through evolution to ensure the continuity of the revolution. PMIS is complex software made up of elements, users, and their interactions. Project management can be viewed as a complex system in itself because a project is made up of individuals, has scope, and an environment that is interconnected internally and externally (Sesti, 2019). The systems thinking approach has many benefits such as not considering projects in a deterministic manner, improving cost and schedule realism, estimating potential challenges, and improving understanding of stakeholders' needs throughout the project life cycle. The systems approach is based on the idea that “everything is interconnected and interdependent” (Gleeson, 2019). Systems theory is an alternative approach to understanding management and planning organizations. Systems theory was useful in explaining how PMIS integration in Project planning affects the performance of NGCDF construction projects in Thika Town constituency, Kiambu County.

Conceptual Framework

The independent variable in the study was PMIS Project Planning and the dependent variable was performance of NGCDF building construction projects. Figure 1 shows the conceptual framework.

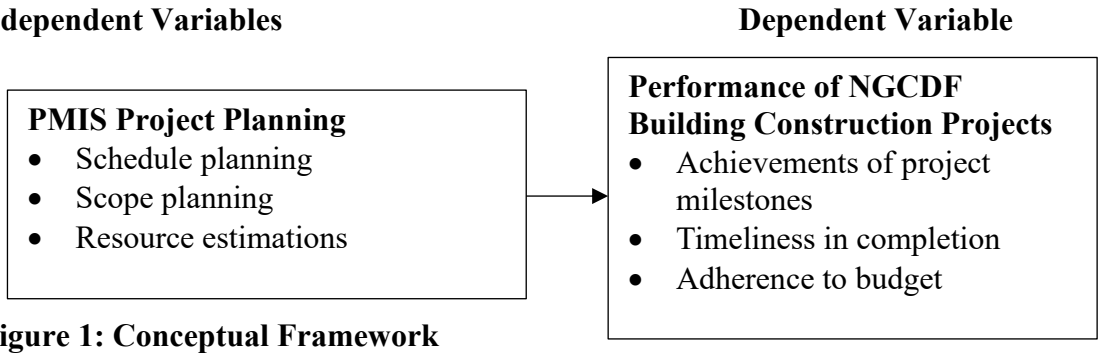


Figure 1: Conceptual Framework

PMIS Project Planning

During the planning phase, PMISs can help with detailed project scheduling and critical path analysis of tasks. It also helps with budget and expense management, which includes implementing cost controls, Key Performance Indicators (KPI) measurements, and budget analysis. The PMIS is also beneficial for executing a resource plan for the entire project and developing a contingency plan for future use. (Iyer, 2021). Project network diagrams are one of the tools used in this approach to demonstrate the priority relationships between activities in a project. They are also useful in displaying the flow of work in projects and operate as vital tools for project planning, control, and scheduling (Micale, Fata, Lombardo, & Scalia, 2021). Roseke (2019) highlights scheduling as a crucial aspect of project management, with PMISs containing scheduling tools. These tools help in task division, task duration estimation, dependencies, Gantt charts, and resource-leveling, ensuring efficient and faster scheduling functions.

Projects require many different resources to be completed and the same resources ought to have been allocated at the beginning of the project. Poor resource planning leads to delays in deadlines and delivery of a project or services due to the unavailability of resources. During project execution, the PMIS is indispensable for project execution. It supports the efficient completion of multiple project modules like material management, cost management, as well as project performance measurement (Iyer, 2021). A PMIS provides a good estimate for the availability of goods or services and should there be a delay the system automatically updates and the PMIS uses a different milestone for procurement of goods, works, or services

Performance of NGCDF Construction Projects

The project performance indicators tracking system in a PMIS is useful for storing the indicators in a database and coding the project's status as accomplished, being achieved, expressing minor problems, experiencing major problems that require rescheduling of the target date, and not yet done (Omega, 2022). As events occur, the project manager updates the state of the indicators, records the action to be performed, and includes any further comments. The reports are automatically prepared after each reporting period with all the most recent information about the project (George, 2020).

Nyandogo and Lubisi (2019) argued that PMIS is critical for providing dependable and precise information, allowing project teams to complete tasks more effectively. The quality of the information supplied by the system, as well as the user's ability to apply it for project management, are more significant than software complexity (George, 2020). Organizations

should use PMIS to improve project management since it provides excellent information for efficient task performance. Construction projects require a tool for complicated projects, and thus, PMIS has recently become a highly vital tool for current 21st-century project managers to ensure minimal delays, disappointments, and losses coming from redundant projects (Akwale & Yusuf, 2023).

Empirical Review

Mwangi and Yusuf (2023) examined the influence of PMIS on the performance of Community-Based Organizations in Nyeri County. Specifically, the study sought to investigate the influence of Quality Information Management and Project Planning on the performance of CBO projects in Nyeri County. The Technology Acceptance Theory guided the study a descriptive survey design was adopted, and 117 registered CBOs in Nyeri County were targeted. A total of 351 respondents formed the unit of observation, and a sample of 186 was drawn. The study found that PMIS influenced 51.2% performance of CBO projects in Nyeri County. PMIS Quality Information Management and Project Planning had significant correlations with CBO project performance in Nyeri County and significantly influenced performance. The study also found a direct relationship between PMIS project planning (B = 0.072, sig= 0.012) and the performance of CBO projects in Nyeri County (Mwangi & Yusuf, 2023).

Akwale and Yusuf (2023) investigated the relationship between PMIS and the performance of ECDE construction projects in Uasin Gishu County. The study sought to examine the influence of scope management and time management on ECDE construction projects. A total of 257 EDCE projects were targeted and a sample of 157 was used. The technology acceptance model guided the study. The study established that time management (B = 0.119, sig = 0.305) and scope management (B = -0.030, sig = 0.732) in PMIS were insignificant to the performance of ECDE construction projects. The study also found that PMIS integrations only explained 13.6% of performance in ECDE construction projects in Uasin Gishu County. The study recommended project managers in construction projects make use of the available tools in PMIS such as WBS and time sheets to help improve time and scope management (Akwale & Yusuf, 2023).

RESEARCH METHODOLOGY

This study used a mixed design of descriptive and explanatory designs to establish the relationship between PMIS integration and the performance of building construction projects in Kiambu County in Kenya. The descriptive study sought to obtain information that describes phenomena by asking individuals about their perceptions, attitudes, behaviour, or values.the explanatory research design goes beyond description and seeks to establish cause-and-effect relationships between PMIS integration and project performance. It helps in determining how and why PMIS influences construction project performance, including aspects such as cost efficiency, quality, and timely completion.

The unit of analysis was 185 building construction projects in the last 5 financial years, as described in the various proposal reports of NGCDF. The projects include the construction of classrooms, TVET, police posts, chief offices, and the renovation of various buildings in Thika Town constituency. The unit of observation comprised project managers (185), NGCDF project beneficiaries (185), contractors (100), Thika town NGCDF committee (10), and project team members (185). Thus, a total of 665 respondents. Purposive and simple random sampling were used. Simple random sampling was used where the respondents are homogeneous and comprised project managers, contractors, the NGCDF project committee, and NGCDF project beneficiaries. Purposive sampling was used where specific people with relevant and crucial data are selected. A semi-structured questionnaire was used to collect primary data. The study used Slovin's formula to calculate the sample size since the NG-CDF construction projects and relevant stakeholders in Thika Town Constituency.

$$n = \frac{N}{1+N(e)^2}$$

Where N = Target Population, n= Sample size, and e = error tolerance/confidence level. In the study, N= 145, e = 0.05

$$n = \frac{665}{1+665\ (0.05)^2}$$

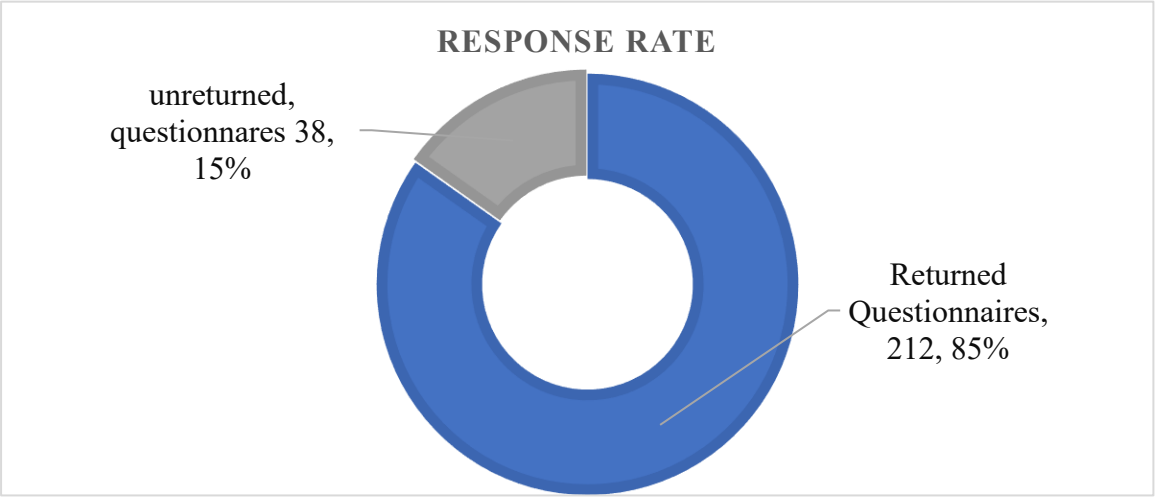
n= 250 respondents

RESEARCH FINDINGS

Response Rate

The sample size was 250 respondents who work with NGCDF building projects in Thika Town constituency in Kiambu County, Kenya. The researcher distributed 250 questionnaires to the respondents where 212 were filled and returned which accounted for 84.8% of the response rate. According to Kothari and Garg (2014), a response rate of more than 50% is adequate, and 70% is great. This means that the response rate in this study is adequate for drawing both results and suggestions. Figure 1 shows the results.

Figure 1: Respondents' Response Rate



Descriptive Statistics Analysis

The analysis utilized mean and standard deviation to gauge agreement levels based on a 5-point Likert scale. The mean values and standard deviations were calculated to interpret the findings. A mean value of 1-1.4 was strongly disagree, 1.5-2.4 disagree, 2.5-3.4 neutral, 3.5-4.4 agree and 4.5-5 strongly agree. On the other hand, a standard deviation greater than 1.5, suggests that the responses were more diverse, with a wider range of scores across the participants.

PMIS Project Planning

The objective of the study was to assess the influence of PMIS integration in project planning on the performance of NGCDF projects in Thika Town Constituency, Kiambu County, Kenya. The objective was measured by schedule planning, scope planning, and resource estimations. The descriptive findings in Table 1 indicate that respondents generally moderately agreed whether PMIS integration improves project planning in NGCDF building construction projects. The overall mean score was 3.19 (SD = 1.04), suggesting a moderate agreement among participants. The standard deviation shows some variation in opinions, which reflects differences in PMIS usage and familiarity across projects. Respondents recognize PMIS as

enhancing critical planning functions such as timeline tracking, scope definition, and resource management, which are vital for project success.

Respondents moderately agreed (41.5%) on the use PMIS in improving accuracy or project scheduling (M = 3.02, SD = 1.329). However, the standard deviation suggest some uncertainty exists. On PMIS tracking the project timelines and milestones, majority of the respondents agree (53.3%) suggesting a positive perception of PMIS improving timeline tracking (M = 3.42, SD = 1.317). Respondents agreed (51.4%) PMIS ensures clear documentation and definition of project scope (M = 3.43, SD = 1.342) suggest a positive perception of PMIS aiding clarity on project scope. Similarly, on accuracy of scope estimation and WBS development, 49.5% of respondents agrees (M = 3.35, SD = 1.258). Thus, nearly half of the respondents believed that PMIs improves scope estimation.

However, 47.6% moderately agreed that PMIS enhances resource allocation and utilization in construction projects (M = 3.25, SD = 1.326) a moderate positive suggestion on PMIS resource management. Lastly, majority of the respondents agreed (50.9%) that PMIS helps in racking labour, equipment and material usage (M = 3.29, SD = 1.362) a positive perception expressed by half of the respondents. In Summary there a strongly agreement on PMIS improving carious aspects of project planning such as timeline tracking, scope definition, and resource utilization. PMIS in improving schedule control and scope clarity was highly agreed. However, low agreement was also noticed regarding PMIS aspects of improving accuracy of project schedule thus, indicating challenges in scope accuracy.

Table 1: PMIS Project Planning

PMIS Project Planning	SD %	D %	N %	A %	SA %	Mean	Sd
The use of PMIS improves the accuracy of project scheduling in building construction projects.	15.6	24.1	18.9	25.5	16.0	3.02	1.329
PMIS enhances the efficiency of tracking project timelines and milestones.	10.4	16.5	19.8	26.9	26.4	3.42	1.317
PMIS ensures clear documentation and definition of project scope in building construction projects.	9.4	19.3	19.8	21.7	29.7	3.43	1.342
PMIS improves the accuracy of scope estimation and work breakdown structure (WBS) development.	9.4	17.5	23.6	27.8	21.7	3.35	1.258
PMIS enhances resource allocation and utilization in construction projects	11.8	21.2	19.3	25.9	21.7	3.25	1.326
PMIS helps in tracking labour, equipment, and material usage effectively.	13.7	17.9	17.5	27.8	23.1	3.29	1.362
Mean PMIS Project Planning						***3.19***	***1.04***

How does the use of PMIS influence decision-making during the planning phase of building construction projects?

Several themes were mentioned by the respondents including PMIS influences decision-making during the planning phase by improving scheduling, clarifying scope, and enabling accurate resource estimations, all of which enhance project planning and performance. However, variations in PMIS adoption and expertise create disparities in decision-making effectiveness,

highlighting the importance of training and consistent use. PMIS plays a significant role in enhancing decision-making during the planning stage by increasing the transparency and oversight of time-related tasks: schedule modules and dashboards provide planners with a unified timeline, facilitate early identification of delays, and allow for more prompt re-sequencing or reallocation of activities. This leads to fewer unexpected issues during execution and better compliance with baseline schedules (Hamilton, 2023). This capability is backed by recent systematic reviews and industry assessments that indicate that implementing PMIS in construction boosts the ability to keep projects on track with planned timelines and enhances cost and schedule predictability when utilized throughout planning and control processes (Haloul *et al* 2024).

Closely linked to scheduling, PMIS strengthens scope definition and control by centralizing deliverable lists, change logs, and document versions so that scope boundaries are explicit and change decisions are auditable. When scope items, approvals, and change requests live in the same system as the schedule and budget, decision-makers can immediately see downstream effects (time, cost, resources) of any proposed change, which reduces ad-hoc scope creep and supports more defensible choices about whether to accept, defer, or reject changes. This is supported by recent empirical work and reviews in construction reinforce that PMIS features for document management and change control materially improve scope governance (Johnson, 2024; Haloul, et al., 2024).

Performance of NGCDF Building Construction Projects

Performance of NGCDF was measured by looking at implementation within budget, timely completion of projects, and meeting the quality standards. The findings indicate that respondents moderately agreed that PMIS integration enhances the performance of NGCDF building projects. The overall mean score was 3.36 (SD = 0.699), showing moderate agreement with relatively consistent responses across indicators. This suggests that PMIS contributes positively to project performance, though its impact is not maximized in all areas.

Majority of the respondents agreed (56.6%) that PMIS integration has improved user satisfaction in managing construction projects (M = 3.45, SD = 1.266). Thus, there is perceive improved user satisfaction with PMIS integration. Respondents also agreed (50.9%) that ease of use and accessibility of PMIS contribute to overall user satisfaction (M = 3.30, SD = 1.239). An indication that PMIS is accessible and easy to use, enhancing satisfaction. It was also agreed that Project teams rely on PMIS to adjust timelines based on milestone performance (M = 3.36, SD = 1.236). This suggests a moderate agreement teams use PMIS for timeline adjustments. However, 44.4% agreed that project teams rely on PMIS to adjust timelines based on milestone performance (M = 3.36, SD = 1.236). This also suggests a slightly less agreement on timeliness of PMIS updates.

Respondents also agreed (51%) that PMIS integration has improved tracking of project timelines (M = 3.26, SD = 1.205). A moderate perception that PMIS improves timeline tracking. It was also agreed (58.9%) that PMIS helps in tracking progress and minimizing delays (M = 3.39, SD = 1.238). This suggests an agreement that PMIS reduces delays through effective tracking. Respondents also agreed (57.1%) that PMIS integration has enhanced budget tracking and control (M = 3.46, SD = 1.240). A suggestion that majority of the respondents perceive improvements in budget management thanks to PMIS. Lastly, respondents (52.8%) agreed that PMIS integration helps in monitoring expenses and reducing cost overruns (M =3.34, SD = 1.120) a positive perception that PMIS is useful in expenses monitoring and reducing cost overruns.

The results show a general positive perception that PMIS integration contributes to improved project performance in terms of user satisfaction, timeline management, monitoring of expenses and cost overruns, and budget control. There was agreement that PMIS improves user

satisfaction, facilitates timeline adjustments, and enhances tracking to minimize delays. The highest agreement relates to the PMIS's role in minimizing delays and budget tracking and control, indicating these are key areas where PMIS is perceived as impactful. However, provision of real-time milestone updates shows some room for improvement in system responsiveness or user perception of this feature.

Table II: Performance of NGCDF Building Construction Projects

Performance of NGCDF Building Construction Projects	SD %	D %	N %	A %	SA %	Mean	Sd
The integration of PMIS has improved user satisfaction in managing construction projects.	10.4	13.7	19.3	34.0	22.6	3.45	1.266
The ease of use and accessibility of the PMIS contribute to overall user satisfaction.	12.3	19.3	17.5	28.3	22.6	3.30	1.239
Project teams rely on PMIS to adjust timelines based on the performance of milestones.	11.8	16.5	21.2	25.0	25.5	3.36	1.236
PMIS provides real-time updates on project milestone progress.	17.5	19.8	18.4	30.7	13.7	3.03	1.226
PMIS integration has improved the tracking of project timelines.	16.5	15.6	17.0	27.4	23.6	3.26	1.205
PMIS integration helps in tracking project progress and minimizing delays.	18.4	9.4	13.2	32.5	26.4	3.39	1.238
The integration of the PMIS has enhanced budget tracking and control.	11.8	14.6	16.5	30.2	26.9	3.46	1.240
PMIS integration helps in monitoring expenses and reducing cost overruns.	13.2	14.2	19.8	31.1	21.7	3.34	1.120
Mean Performance of NGCDF Building Construction Projects						***3.36***	***.699***

Correlation Analysis

The study employed Pearson correlation to assess the strength of the relationship between the independent and dependent variable. The correlation coefficient of 0.646 ($p < 0.05$) indicates a strong positive relationship between PMIS project planning. From the study, PMIS project planning had a strong ($r = .646$) significant ($P < 0.05$) correlation with the performance of NGCDF building projects in Thika Town Constituency. This implies that an increase in PMIS project planning by a unit, may lead to an increase of project performance by .646 units. Thus, better PMIS project planning practices are strongly associated with improved performance of NGCDF building projects in Thika Town Constituency. PMIS project planning had the highest correlation among the variables implying that it may play a critical role in the performance of NGCDF building projects in Thika Town Constituency. The finding aligns with the PMI (2021) which emphasizes on effective project planning as the foundation of project success.

Table III: Correlation Coefficients

		Performance of NGCDF Projects	PMIS Project Planning
Performance of NGCDF Building Construction Projects	Pearson Correlation	1	.646**
	Sig. (2-tailed)		.000
	N	212	212
PMIS Project Planning	Pearson Correlation	.646**	1
	Sig. (2-tailed)	.000	
	N	212	212

**. Correlation is significant at 0.01

Regression Analysis

Regression analysis was conducted to quantify the influence of PMIS integration in Project planning and performance of NGCDF building construction projects in Thika Town constituency in Kiambu County .The analysis included model summary, ANOVA, and regression coefficients.

Model Summary

The coefficient of determination (r) was used to show the strength between the dependent variable (Performance of NGCDF building construction projects) and the independent variable (PMIS project planning). In this study the coefficient of determination (r) was 0.646 indicate a strong correlation between the independent variables (PMIS project planning) and the dependent variable (Performance of NGCDF building construction projects). The R squared was 0.417 and this implied that 41.7% of the Performance of NGCDF building construction projects could be explained by PMIS project planning. Thus, PMIS integration can only explain 41.7% of performance of NGCDF building construction projects in Thika Town Constituency. The variation of 58.3% is explained by other factors beyond PMIS project planning.

Table IV: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.646[a]	.417	.415	.53452

a. Predictors: (Constant), PMIS project planning

Analysis of Variance (ANOVA)

ANOVA was used to test the overall significance of the regression model, evaluating whether the independent variable influences performance of NGCDF building construction projects in Thika Town constituency in Kiambu County. In this study, significance was tested and 5% confidence interval.

Table V: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	42.997	1	42.997	150.492	0.000b
Residual	59.999	210	.286		
Total	102.997	211			

The F-statistic of 150.492 with a p-value of less than 0.05 indicates that the regression model is statistically significant. This means that PMIS Project Planning have a significant impact on performance of NGCDF building construction projects. The high F-value underscores the

importance of PMIS project planning in predicting project performance, suggesting that investing in PMIS project planning is essential for achieving project success.

Regression Coefficients

Regression coefficients provide detailed insights into the specific of the independent variable on performance of NGCDF projects, allowing for a deeper understanding of the variable contributes to the overall model.

Table VI: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.967	0.119		16.527	0.000
	PMIS Project Planning	0.435	0.035	0.646	12.268	0.000

PMIS Project Planning (B = 0.435, β = 0.646, t = 12.268, p = 0.000) had positive significant association with the performance NGCDF building project in Thika Town Constituency. For every one-unit increase in PMIS project planning there is improvement of performance of NGCDF building projects by 0.435 while other variables are constant. The standardized beta of 0.646 indicates this is a strong predictor for PMIS integration. It is the most influential predictor of project performance by 64.6%. The descriptive results indicate that PMIS integration moderately enhances project planning in NGCDF construction projects, particularly in improving project timelines, scope definition, and resource utilization. The variation in responses implies that while some projects benefit significantly from PMIS, others are still transitioning or face challenges in adoption. These findings support the objective by demonstrating that schedule planning, scope planning, and resource estimation are positively influenced by PMIS, though with room for improvement in consistency and uptake.

The PMI (2021), Kerzner (2022) have emphasized the role of project planning for success of projects. The findings concur with Mwangi and Yusuf (2023) that PMIS in project planning significantly influenced the performance of community based organizations in Nyeri County. Additionally, studies have also shown that project planning practices are crucial for the performance of projects. Samo et al (2024) support the finding. The regression equation derived from the analysis, representing the relationship between performance of NGCDF building construction projects and the independent variable (PMIS project planning), is as follows:

$$\mathbf{Y = 1.967 + 0.435X_1 \quad .....(i)}$$

CONCLUSION

The objective was to assess the influence of PMIS integration in project planning on the performance of NGCDF projects in Thika Town Constituency, Kiambu County, Kenya. The study found PMIS integration moderately enhances project planning in NGCDF construction projects, particularly in improving project timelines, scope definition, and resource utilization. The study therefore concludes that PMIS project planning is critical to the success of NGCDF projects, as it ensures alignment of activities, efficient use of resources, and proactive risk mitigation.

RECOMMENDATION

The objective on PMIS project planning, the study recommends that NGCDF management should prioritize the adoption of advanced PMIS planning tools and invest in training project staff on their application to strengthen project scheduling, forecasting, and monitoring. NGCDF committees and project managers should also strengthen PMIS planning practices through trainings.

REFERENCES

Ahmed, R., & Anantatmula, V. (2017). Empirical study of project manager's leadership competence and project performance. *Engineering Management Journal., 29*(3), 1-16.

Akwale, J., & Yusuf, M. (2023). "Project Management Information System and Performance of Early Childhood Development Education Construction Projects in Uasin Gishu County, Kenya". *World Journal of Innovative Research, 14*(4), 1-9.

CPA. (2018). *"Handbook on Constituency Development Funds (CDFs): Principles and Tools for Parliamentarians".* London, United Kingdom: Center for International Development.

DrMcNatty. (2024). *"Bridging the gap: How integrated PMIS systems are revolutionizing engineering and construction".* Retrieved from https://drmcnatty.com/bridging-the-gap-how-integrated-pmis-systems-are-revolutionizing-engineering-and-construction

George, C. (2020). The Use of Project Management Information Systems in the Monitoring of Projects. *International Journal of Scientific Research and Engineering Development, 3*(1).

Gleeson, P. (2019). *Importance of the System Approach Principle*. Retrieved 03 2022, from smallbusiness.chron: https://smallbusiness.chron.com/importance-system-approach-principle-81413.html

Gordon, J. (2021). *Systems Theory of Management - Explained*. Retrieved 03 2022, from the business professor: tps://thebusinessprofessor.com/en_US/management-leadership-organizational-behavior/systems-theory-of-management

Haloul, M., ariffin, M., anuar, M. k., Supeni, E. E., Ahmad, S., Bilema, M., & Ahmad, M. (2024). "A Systematic Review of the Project Management Information Systems in Different Types of Construction Projects". *Business and Society Review*, 300-355.

Hamilton, N. (2023). *"New Study: Project Management Information Systems Further Benefit Capital Building Programs When Applied to Multiple Processes".* Dodge Construction Network.

Iyer, Y. (2021). *What is a PMIS and how does it work?* Retrieved 05 2022, from wrike.com: www.wrike.com/What is a PMIS and how does it work?

Johnson, N. (2024). *"The Increasingly Important Role of PMIS in Construction".* Kahua.

Kamau, J. M., & Pedo, M. (2021). Influence of project management information system on project performance in commercial banks in Nairobi, Kenya. *International Journal of Entrepreneurship and Project Management, 6*(1), 12-31.

Keup, M. (2022). *a complete guide to PMIs*. Retrieved June 2022, from Projectmanager: www.projectmanager.com/a complete guide to PMIS

Makwai, A. I. (2023). "Benefits of the Constituency Development Catalyst Fund on Community Development: A Case of Bahi District, Tanzania". *East African Journal of Management and business Studies, 3*(1), 12-16. doi:10.46606/eajmbs2023v03i01.0016

Micale, R., Fata, o. M., Lombardo, l., & Scalia, G. L. (2021). Project Management Information Systems (PMISs):A Statistical-Based Analysis for the Evaluation of Software Packages Features. *Applied sciences, 11*, 1-21.

Mwangi, C. W., & Yusuf, M. (2023). "Project Management Information System and Performance of Community-Based Organizations Projects in Nyeri County, Kenya". *World Journal of Innovative Research, 14*(3), 9-15. Retrieved from https://doi.org/10.31871/WJIR.14.3.5.

Mwendwa, A., & Geoffrey, M. (2024). "Influence of Stakeholder Engagement on Completion of NGConstituency Development Fund Projects in South Imenti Constituency". *International Journal of Research Publication and Reviews, 5*(11), 3340-3348.

NawoseIng'ollan, D., & Roussel, J. (2019). Influence of Leadership Styles on Employees' Performance: A Study of Turkana County, Kenya. *International Journal of Business and Social Science, 8*(7), 82-98.

NG-CDF. (2023). *ngcdfkey achievements*. Retrieved from ngcdf.go.ke: https://ngcdf.go.ke/key-achievements-2017-2018-to-2021-2022/

Nyandongo, K. M., & Lubisi, J. (2019). Assessig the use of project management information systems and its impact on project outcome. *Proceedings of the International Conference on Industrial Engineering and Operations Management Pilsen, .* Czech Republic.

Omega, A. (2022). *Pims Cost Management* . Retrieved from www.environmental-expert.com: ttps://www.environmental-expert.com/software/pims-cost-management-433495

Park, S., Lee, A., & Kim, S. (2021). Examining the PMIS Impacts on the Project perormance, user satisafaction and reuse intention among the project based industries. *Journal of the society of Korea Industrial and Systems Engineering, 44*(3), 276-287.

PM4dev. (2019). *Project team management.* Project management for development organizations.

PMI. (2021). *A Guide to the Project Management Body of Knowledge: PMBOK Guide* (6th ed.). Newtown Square, PA: Project Management Institute, Inc.

Raymond, L., & Bergeron, F. (2018). Project management information systems: An empirical study of their impact on project managers and project success. *International Journal of Project Management, 26*(2), 213-220. doi:10.1016/j.ijproman.2007.06.002

Roseke, B. (2019). *Eight functions of PMIS*. Retrieved April 2022, from ProjectEngineer: http://projectenginer.net/8 funtions of project management information systems

Samo, T. B., Ngatia, P. M., Wairiuko, J. W., & Shale, N. I. (2024). "Project Planning Practices and Performance of Roads Construction Projects in Kenya". *Journal of Entrepreneurship & Project Management*, 17-33.

Sesti, C. (2019). *Systems Theory in Project Management*. Retrieved 03 2022, from apppm: http://apppm.man.dtu.dk/index.php/Systems_Theory_in_Project_Management#Systems_Theory_in_Project_Management

The Auditor General. (2024). *"Auditor-general report on county governements revenue funds 2022-2023".* Nairobi: Republic of Kenya.

Townsend, S. (2021). *What is resource management and why it is important?* Retrieved June 2022, from planview: www.planview.com