Int Journal of Social Sciences Management and Entrepreneurship 8(2): 125-137 2024

ISSN 2411-7323

www.sagepublishers.com

PROJECT MANAGEMENT APPROACHES AND SERVICE DELIVERY OF NATIONAL LAND INFORMATION MANAGEMENT SYSTEM IN KENYA

[1] Gacheru Grace Wangari, [2] Dr. Gichana James Ongwae

[1] Master of Science in Project Management, Jomo Kenyatta University of Agriculture and Technology

[2] Lecturer, Jomo Kenyatta University of Agriculture and Technology

ABSTRACT

The general objective was to examine of effect of project management approaches and service delivery of National Land Information Management System in Kenya. The specific objectives were to examine effect of project management approaches; hybrid approach, and agile approach and service delivery of National Land Information Management System in Kenya. The study used a descriptive research design. The study targeted the services offered under the National Land Information Management implemented by the State Department for Lands and Physical Planning. The study unit of observation was 134 key informants who are involved in the lands records management system. Census sampling was used to sample 134 key informants who are involved in the lands records management system. A questionnaire was used to gather data for the study. A pilot study was carried out on 10% of the sample size hence 13 key informants. In this study content and construct validity was used. In this study, Cronbach's Alpha Coefficient method was used to measure the reliability of questionnaires. The data was keyed into SPSS Version 28 and analysed. Data was tabulated. The study's regression analysis revealed significant coefficients for each variable: Hybrid Approach ($\beta = 0.359$, $p = 0.000$), and Agile Approach ($\beta = 0.322$, $p = 0.003$), all indicating a positive influence on the service delivery of National Land Information Management System in Kenya. These findings underscore the importance of employing diverse project management approaches to enhance service delivery within the system. Consequently, the study recommends the adoption of a hybrid approach that integrates elements of both traditional and agile methodologies, alongside robust monitoring and evaluation mechanisms, to optimize project outcomes and meet stakeholders' needs effectively.

Key Words: Project Management Approaches, Hybrid Approach, Agile Approach, Service Delivery, National Land Information Management System

Background of the Study

Different types of project management approaches have been developed to satisfy the specific needs of organisations or types of projects (LaBarre, 2019). Some of these approaches are predictive, adaptive, hybrid and agile approaches. The key benefits of project management approaches are; flexibility for project member during their work, mitigation of rework due to data transparency, increase of performance aspects such as commitment, leadership, and information accuracy, higher success rates and reduction of costs, and efficiency and responsiveness to change results in flexibility (Imani et al., 2017). Bhavsar (2016) found that many firms are now using different project management approaches for information systems projects and suggests that such approaches provide better support for both explorative and exploitive capabilities. According to PMBOK Guide (2021), project management approaches covers predictive, traditional, adaptive, agile and hybrid. Miranda and Hardy (2023) identified 8 project management approaches which include; waterfall, lean, kanban, agile, scrum, srumban, and structured agile. According to Tarver and Lauren (2024) the common project management methodologies are; Waterfall model, Lean project management, Kanban, Agile, hybrid, Six Sigma, and Critical path method.

Objectives of the Study

1. To determine the relationship between hybrid approach and service delivery of National Land Information Management System in Kenya.
2. To explore the relationship between agile approach and service delivery of National Land Information Management System in Kenya

LITERATURE REVIEW

Theoretical Review

Program Theory

The program theory was developed by Huey Chen, Peter Rossi, Michael Quinn Patton, and Carol Weiss (Patton, 2002). The core of the theory focuses on the approaches used in bringing about change and the individuals responsible to ensure change. The proponents of the theory grounded its application on how to associate program theories to assessment for several years. The theory was first known for its conclusive technique in fixing problems and addressing the need to conduct assessments that complement the results. Sethi and Philippines (2016) argue that the theory provides a tool for the control of influential areas in project management. Different transactions of project management involve programs designed to establish the needs of the society. These programs are subject and dynamic to change on the grounds of a prearranged phenomenon (Larsson, 2018). The theory offers information on the way the planned activities for programs enhance service delivery and beneficiary's satisfaction. A program manager need mixed different project methodologies in the different phases of a project to enhance project performance.

Contingency Theory

The theory was developed by Fielder in the mid-1960s. The scholar studied the personality and characteristics of leaders. The model states that there is no one best style of leadership. Instead, a leader's effectiveness is based on the situation. According to Betts (2003), the basic assertion of contingency theory is that the environment is a determining factor in the way in which an organization organizes itself. Likewise, the position of organizational theorists in contingency theory holds the view that "the best way to organize depends on the nature of the environment to which the organization relates" (Betts, 2003 as cited in Scott, 1992, p.89). The agile organization has a greater likelihood of responding to external demands from the environment. This theory enables organizational leaders to flexibly respond and based their decisions on the external

information that shape and direct the organization to its success trajectory. According to contingency theory, organization is defined as a social system consisting of subsystems that are interdependent. According to Luthans and Stewart (1977), constituents of the social system in terms of relevant environmental and resource constraints define organizational goals and objectives. Organizations must be agile from top management in order for employees to buy-in and embrace agile practices, sufficient resources whether human or non-human should be made available to support agility, and subsequently, the organization can easily and quickly renew itself, adapt, change, and succeed in a turbulent, rapidly changing environment.

Conceptual Framework

Mugenda and Mugenda (2015) describe conceptual framework as a hypothesized model that shows the topic being studied and the connections between the dependent and independent variables. It demonstrates the link between the project management approaches and service delivery at national land information management system as shown in Figure 2.1.

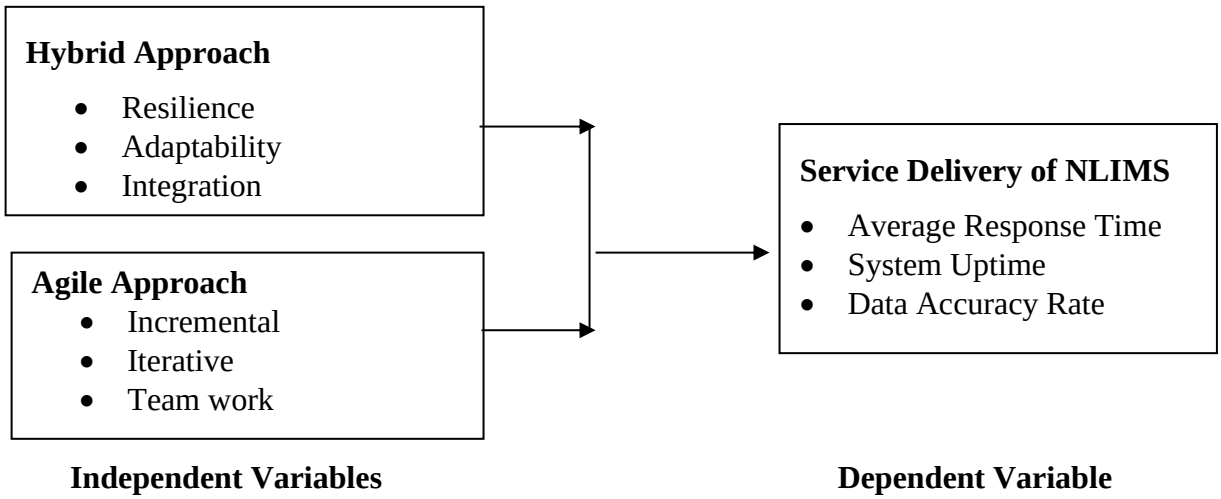

Figure 2. 1: Conceptual Framework

Hybrid Approach

Hybrid project management is defined as "the borrowing, mixing, and blending of processes from both agile and plan-driven methods to tailor project specific methodologies" (Schmitz, Mahapatra, & Nerur, 2018). Hybrid project management combines elements of traditional project management and agile methodologies to make the project successful. The goal is to benefit from the strengths of each approach, and, at the same time avoid the weaknesses (Reiff, & Schlegel, 2022). One of the key characteristics of traditional project management is that it seeks to minimize changes during the course of the project through requirements gathering, analysis, and design up front to achieve higher quality result (Papadakis & Tsironis, 2020). The aim of the hybrid project management approach is to bring together the best of the agile and traditional approaches leading to achieving flexibility without changing project planning and to avoid the challenges of one approach with the help of positive elements from the opposite approach (Gemino, Horner Reich, & Serrado 2021).

Project managers are adopting hybrid project approaches due to the continuously changing customer expectation and project requirements. Hybrid project management approaches are more flexible and tailored to use for different projects and organizations (Hassani et al., 2018). The key benefits of hybrid project management are; flexibility for project member during their work,

mitigation of rework due to data transparency, increase of performance aspects such as commitment, leadership, and information accuracy, higher success rates and reduction of costs, and efficiency and responsiveness to change results in flexibility (Imani et al., 2017). Flexibility reduces rework and allows responsiveness to changes in project management. Reduced rework results in efficiency and responsiveness to change results in flexibility, which are the major benefits of hybrid project management methodology (Serrador & Pinto, 2015). Allocation of appropriate work by knowing their strengths to project team members can increase work efficiency and reduce iteration time. Due to good understanding and communication within the team members helps in attaining the deliverables within the period. Hybrid approaches to project management have also proved to be appropriate for projects that need a higher speed and flexibility in the development phases but also need to maintain greater rigor and control in the initial and final phases because of the characteristics of the project and its environment, allowing projects to absorb changes considering the pace of market innovation, without disregarding the technical and financial viability planning of the projects (Binfire, 2016).

Agile Approach

Agile approach in project management is a style of project management that focuses on early delivery of value, continuous improvement, flexibility, team efforts, and delivering well-tested products that reflect customer needs. The primary objective or agile project management is to break the entire project in a different set of tasks that can be completed in short iterations or sprints. The adoption of the strategy is focused on enabling the organizational team to quickly adapt to the dynamically changing environment and deliver projects on time (Layton & Ostermiller, 2020). Agile life cycles fulfil the main principles of customer satisfaction, early and continuous delivery. They combine both iterative and incremental approaches to adapt to high degree of change and deliver project value more often.

Larson and Gray (2018) noted that the primary advantage of adopting agile methodology over the traditional approach is that the agile approach can be implemented even with lesser people in the team. However, in order to implement an agile approach for project management on a larger scale it is important that they are applied through a condition called “scaling” in order to reap fruitful results in terms of profitability and growth for the organization. Agile Project Management provides new opportunities for management based on the acceptance of change as an unavoidable ingredient of the project management process in the construction sector. Agile project management is characterized by rapid iterative cycles of planning and development that allow a project team to constantly evaluate its work and receive immediate feedback from other team members and, if possible, from stakeholders. Iterations are based on simple planning, on defining requirements and designing solutions that are continuously implemented throughout project implementation. This approach is similar to cyclic waves. It allows immediate adjustments to work (Bogdanova, Parashkevova, & Stoyanova, 2020).

Empirical Review

Hybrid Approach and Service Delivery

Satpute (2022) sought to find out the effect of hybrid project management on project success. The study was conducted using a case study method where eight project management professionals from four different organizations were interviewed. The interviews were structured under three main themes, project management methods used in case companies, project success criteria used in case companies, and the role and perception of each of the three enablers in the case company. The analysed data revealed that the project managers preferred to use the project success criteria of cost, quality and time, but with addition of customer satisfaction and value generation. It was also found that with the use of traditional project management methods, only three of the five

success criteria can be achieved, and a customized hybrid project management method will be more beneficial to reach all the five project success criteria.

Chandrababu and Muddangula (2019) investigated the implementation of hybrid methodology in various software organizations and adoption of hybrid methodology in various projects at different phases by conducting nine semi-structured interviews with three different software organizations. This thesis concluded that there are various benefits derived from adoption of hybrid project management approach, which included business value, time and costs, customizing the project management methodology to the problem rather than using a single approach and enhancing the quality on complex projects. Azenha, Reis, and Fleury (2021) analyzed how organizations that develop technology-based products and services apply hybrid approaches to project management, their characteristics, advantages, and disadvantages. The study was conducted through reviewing literature. Results reveal that hybrid approaches to project management are currently fundamental for companies in order to deal with distinct organizational cultures, specific processes, customer contractual requirements, and project specificities.

Hellerstedt (2021) investigated project managers' experiences and perceptions of factors that influence hybrid project success in physical product development. Exploratory and inductive study was carried out through semi-structured interviews with experienced project managers. This research successfully identified a range of various factors that influence hybrid projects' success. Based upon this, a model exhibiting the factors influencing hybrid projects in physical product development. It was found that there is a constant tension between the TPM and APM when merging the two. Instead of identifying one way to optimize the hybrid project, it is more or less about managing this balance between APM and TPM practices. It was also found that project success is a dynamic and subjective concept, rather than the static and additive concept that is often illustrated by contemporary research.

Jitesh Amin (2021) sought to draw a comparison between traditional, agile and hybrid project management methodologies in terms of their suitability and applicability in Information Technology (IT) organizations. The study aimed at finding the strengths, weaknesses and perceptions of each of the methodologies. Primary data was collected from the market or rather from individuals who are exposed to these methodologies on a daily basis in the Indian and the Irish marketplace. Results showed that the hybrid methodology is a new concept that includes using specific features of two or more methodologies in order to derive a better output from the project and eliminate the shortcomings of the individual methodologies in play.

Agile Approach and Service Delivery

Bergmann (2018) intended to determine the impact of the adoption of APM on project success as perceived by project managers. The study was conducted through an analysis of the existing literature, critical success factors and success criteria were identified to develop a model that can be used to assess current APM practice. The results showed a significant positive relationship between APM and project success. Furthermore, a weak negative association is identified between project complexity and project success, suggesting a need for further research into and refinement of the project complexity construct. Nisa (2015) sought to examine the relationship between project design, monitoring and evaluation, and project success in NGOs in Pakistan. The results showed that M&E practices are frequently used in NGO projects in Pakistan, key considerations have been taken while designing the projects, and both variables have a positive relationship with project success. M&E showed a significant impact compared to project design on project success

Laic, Lalic, and Stefanovic (2022) explored whether agile project management affects project performance. The study sampled 227 project professionals. The authors evidenced that the agile approach has a more significant positive impact concerning the two out of five dimensions of

project success. Ashiokai (2016) studied the effect of implementation of total quality management practices in the Ghanaian Construction Industry. The study employed a deductive approach. Primary data was collected through questionnaires. Secondary information was collected from books, articles, journals and periodicals. The population was 250 contractors. Findings revealed that the benefits gained from implementing TQM comprise reduction in rework and waste, reduction in construction cycle time, reduction in client's complaints and savings on cost incurred.

Gamba (2016) investigated the factors affecting the utilization of M&E outcomes in the implementation of health programs in Uganda. The employed a descriptive survey design. The sample size was 120 staff involved in the program implementation. Questionnaires were used to collect data. Findings showed that M&E results were rarely used as a knowledge repository regarding the execution of health programs in Uganda. The use of monitoring results influenced the implementation of programs. M&E findings were rarely used for decision-making regarding the implementation of health programs. Mbogo and Mirara (2022) sought to investigate the influence of budgetary allocation on the monitoring and evaluation of humanitarian project planning. This study was a descriptive survey. Data were collected using questionnaires in a census targeting 46 employees of the International Rescue Committee. The results revealed that budgetary allocation positively affected humanitarian project planning.

Amina and Ngugi (2022) studied impact of utilization of monitoring, and evaluation results on the service delivery at drought resilience projects by the National Drought Management Authority (NDMA) in Mandera County. The study employed census to sample 60 members of the project team. Data was collected from both secondary and primary sources using questionnaires. Findings showed that utilization of monitoring and evaluation results significantly influences project performance. Bii and Kamaara (2018) study on effect of agile project management techniques on service delivery at public funded projects in Kenya revealed that resource mobilization, stakeholder's participation and project team competence had a positive and significant relationship with project performance.

RESEARCH METHODOLOGY

The study used a descriptive research design. The study targeted the services offered under the National Land Information Management implemented by the State Department for Lands and Physical Planning. The unit of analysis was 16 services offered under the National Land Information Management (Ministry of Lands, Public Works, Housing and Urban Development, 2023). The study unit of observation was 134 key informants who are involved in the lands records management system. Therefore, the sampling frame for the study was 134 staff from 16 services offered under the National Land Information Management implemented by the State Department for Lands and Physical Planning. A questionnaire is an instrument that was used to gather data for the study. According to Lancaster, Dodd, and Williamson (2019), the sample size for high precision pilot studies should ideally fall within the range of 1% to 10% of the total population. Therefore, a pilot study was carried out on 10% of the sample size hence 13 staff. The data was keyed into SPSS Version 28 and analysed. The data will be analysed using both descriptive (frequency, percentage, and mean) and inferential statistics (regression and correlation). Correlation shows the strength of the relationship between the study variables.

RESEARCH FINDINGS AND DISCUSSION

The study selected a sample of 134 staffs who are involved in the lands records management system. A pilot study was carried out on 10% of the sample size hence 13 staff leaving 121 respondents for the actual study. Out of the 121 questionnaires distributed, 107 were completed and returned, representing a response rate of 88.4%. As indicated by Metsamuuronen (2017), a

response rate that is above 50% is considered adequate for data analysis and reporting while a response rate that is above 70% is classified as excellent. Hence, the response rate of this study was within the acceptable limits for drawing conclusions and making recommendations.

Descriptive Statistics Analysis

In this section, the study presents descriptive statistics analysis based on the data collected for the study. The study requested respondents to indicate the extent to which they agreed or disagreed with various statements that examine the relationship between project management approaches and service delivery of National Land Information Management System in Kenya. The descriptive statistics included mean and standard deviation. They used the scale of 1-5 where 1= Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree. The means and standard deviations were used to interpret the findings where 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. Standard deviation greater than 2 was considered large meaning responses were widely spread out and not tightly clustered around the mean.

Hybrid Approach

The first objective of the study was to determine the relationship between hybrid approach and service delivery of National Land Information Management System in Kenya. Respondents were therefore asked to rate statements on hybrid approach strategy. Table 1 presents summary of the findings obtained.

Table 1: Descriptive Analysis for Hybrid Approach

Statement	Mean	Std. Dev.
While using Traditional Project Management Methodology the overall quality of the project is much higher leading to a higher client satisfaction	3.983	0.058
Use of Hybrid Project Management help to minimize risks and address them effectively	3.873	0.379
There is effective utilization of all the available resources using hybrid approach	3.842	0.939
Traditional Project Management Methodology enables team to be aware of the project status	3.658	0.422
Hybrid approach ensures that the specified budget targets are met and are able to see an increased productivity	3.548	0.37
Aggregate Score	**3.781**	**0.434**

The findings show that respondents were in agreement that while using traditional project management methodology the overall quality of the project is much higher leading to a higher client satisfaction (M= 3.983, SD= 0.058); that use of hybrid project management help to minimize risks and address them effectively (M= 3.873, SD= 0.379); and that there is effective utilization of all the available resources using hybrid approach (M= 3.842, SD= 0.939). Respondents further agreed that traditional project management methodology enables team to be aware of the project status (M= 3.658, SD= 0.422); and that hybrid approach ensures that the specified budget targets are met and are able to see an increased productivity (M= 3.548, SD= 0.37).

The findings of the study are consistent with the research conducted by Satpute (2022) and Chandrababu and Muddangula (2019), which investigated the effectiveness of hybrid project management approaches in achieving project success. Satpute (2022) explored the effect of hybrid project management on project success, highlighting the benefits of combining traditional and agile approaches to achieve project success criteria. Chandrababu and Muddangula (2019)

examined the implementation of hybrid methodologies in software organizations, identifying benefits such as business value, time and cost savings, and enhanced quality. In the context of the National Land Information Management System in Kenya, the findings supported by an aggregate mean of 3.781 (SD= 0.434) suggest that respondents perceive a positive association between hybrid project management approaches and service delivery. This implies that leveraging a combination of traditional and agile methods, as emphasized by the hybrid approach, may contribute to more effective service delivery within the system.

Agile Approach

The fourth objective of the study was to establish the relationship between agile approach and service delivery of National Land Information Management System in Kenya. Respondents were therefore asked to indicate the extent to which they agreed or disagreed with statements on agile approach. Table 2 presents summary of the findings obtained.

Table 2: Descriptive Analysis for Agile Approach

Statement	Mean	Std. Dev.
The project managers have a clear Work Breakdown Structure	4.003	0.099
There is effective and efficient cost control of project resources	3.889	0.463
We make changes to project plans and implementation depending on M&E feedback	3.824	0.734
Estimation of project budget helps in easier facilitation of project activities.	3.793	0.530
Baseline surveys are frequently conducted for all projects	3.704	0.421
Utilization of M&E results helps to reduce project risks	3.562	0.579
Aggregate Score	**3.796**	**0.471**

From the findings, the respondents agreed on average that the project managers have a clear Work Breakdown Structure (M= 4.003, SD= 0.099); that there is effective and efficient cost control of project resources (M= 3.889, SD= 0.463); and that they make changes to project plans and implementation depending on M&E feedback (M= 3.824, SD= 0.734). Respondents further agreed that estimation of project budget helps in easier facilitation of project activities (M= 3.793, SD= 0.53); that baseline surveys are frequently conducted for all projects (M= 3.704, SD= 0.421); and that utilization of M&E results helps to reduce project risks (M= 3.562, SD= 0.579).

The findings of the study are in line with the research conducted by Bergmann (2018) and Laic, Lalic, and Stefanovic (2022), which examined the impact of agile project management on project success. Bergmann (2018) investigated the adoption of agile methodology and its perceived impact on project success, revealing a significant positive relationship between agile practices and project success. Similarly, Laic, Lalic, and Stefanovic (2022) explored the effects of agile project management on project performance, highlighting its positive influence on project success dimensions. In the context of the National Land Information Management System in Kenya, the findings supported by an aggregate mean of 3.796 (SD= 0.471) indicate that respondents perceive a strong association between agile project management approaches and service delivery. This suggests that embracing agile principles, as emphasized by the agile approach, may lead to more efficient and effective service delivery within the system, aligning with the dynamic nature of land information management.

Service Delivery

The main objective of the study was to examine the relationship between project management approaches and service delivery of National Land Information Management System in Kenya. On a scale of 1-5 respondents ranked incremental strategy aspects. Table 3 presents summary of findings obtained.

Table 3: Descriptive Analysis for Service Delivery

Statement	Mean	Std. Dev.
NLIMS demonstrates a commitment to continuous improvement in its service delivery.	3.966	0.274
The information systems are reliable	3.922	0.264
Users of NLIMS experience minimal downtime or disruptions in accessing the system.	3.905	0.313
The data provided by NLIMS is accurate and reliable for users' needs.	3.864	0.406
NLIMS effectively addresses user inquiries or issues in a timely manner.	3.847	0.376
Citizens consulting on land issues are satisfied	3.772	0.215
There is efficiency in service delivery	3.696	0.661
The systems have helped to clear files log in the offices	3.686	0.887
NLIMS consistently meets or exceeds agreed-upon service level agreements (SLAs) with its users.	3.659	0.244
Aggregate Score	**3.813**	**0.404**

The findings show that the respondents agreed on average that NLIMS demonstrates a commitment to continuous improvement in its service delivery (M= 3.966, SD= 0.274); that the information systems are reliable (M= 3.922, SD= 0.264); that users of NLIMS experience minimal downtime or disruptions in accessing the system (M= 3.905, SD= 0.313); and that the data provided by NLIMS is accurate and reliable for users' needs (M= 3.864, SD= 0.406). Respondents further agreed that NLIMS effectively addresses user inquiries or issues in a timely manner (M= 3.847, SD= 0.376); that citizens consulting on land issues are satisfied (M= 3.772, SD= 0.215); that there is efficiency in service delivery (M= 3.696, SD= 0.661); that the systems have helped to clear files log in the offices (M= 3.686, SD= 0.887); and that NLIMS consistently meets or exceeds agreed-upon service level agreements (SLAs) with its users (M= 3.659, SD= 0.244).

The findings of the study resonate with the research conducted by Wu et al. (2015) who investigated the causes of design changes and their influence on service delivery in highway projects, emphasizing the importance of effective project management in addressing challenges and ensuring successful outcomes. Similarly, Satpute (2022) explored the effect of hybrid project management on project success, highlighting the benefits of combining traditional and agile approaches to achieve project success criteria. In the context of the National Land Information Management System in Kenya, the findings supported by an aggregate mean of 3.813 (SD= 0.404) suggest that respondents perceive a significant association between various project management approaches and service delivery. This implies that adopting appropriate project management methodologies may contribute to improved service delivery within the system by addressing challenges and enhancing overall project performance.

Correlation Analysis

The study computed correlation analysis to test the strength and the direction of the relationship that exists between the dependent and the independent variables. The correlation values range from 0 to 1; if the correlation values are r = ±0.1 to ±0.29 then the relationship between the two variables is small, if it is r = ±0.3 to ±0.49 the relationship is medium, and when r= ±0.5 and above there is a strong relationship between the two variables under consideration. Table 4 presents correlation analysis findings for this study.

Table 4: Correlation Analysis

		Service Delivery	Hybrid Approach	Agile Approach
Service delivery of National Land Information Management System	Pearson Correlation	1		
	Sig. (1-tailed)			
	N	107		
Hybrid Approach	Pearson Correlation	.795**	1	
	Sig. (1-tailed)	.000		
	N	107	107	
Agile Approach	Pearson Correlation	.749**	.296	1
	Sig. (1-tailed)	.000	.129	
	N	107	107	107

The service delivery of the National Land Information Management System exhibits a strong positive correlation with the hybrid approach ($r = 0.795$, $p < 0.05$). This suggests that integrating hybrid project management methodologies leads to improved service delivery of the system. The statistically significant association underscores the benefits of combining traditional and agile methods or adopting agile principles in enhancing service delivery and optimizing performance outcomes within the National Land Information Management System. These findings are consistent with the research of Hellerstedt (2021), who investigated factors influencing hybrid project success, emphasizing the importance of balancing traditional and agile practices for project success.

Finally, the service delivery of the National Land Information Management System exhibits a significant positive correlation with the agile approach ($r = 0.749$, $p < 0.05$), indicating that greater emphasis on agile project management principles corresponds to improved system's service delivery.This finding underscores the importance of iterative development, customer collaboration, and adaptability inherent in agile methodologies for enhancing service delivery and overall system efficiency. The strong positive correlation aligns with the research of Laic, Lalic, and Stefanovic (2022), who explored the impact of agile project management on project performance, emphasizing the positive influence of agile practices on project success criteria.

Regression Analysis

Model Summary

Model summary was used to test the amount of variation in service delivery of National Land Information Management System in Kenya as a result of changes in project management approaches. Table 5 presents the findings.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.842[a]	.709	.703	.35111

a. Predictors: (Constant), Agile Approach, Hybrid Approach

The regression model exhibits a strong overall fit with an R-squared value of 0.709, indicating that approximately 70.9% of the variance in the dependent variable (the model) can be explained by the independent variables (Agile Approach, Hybrid Approach,). The adjusted R-squared value of 0.703 suggests that this model accounts for the variance in the dependent variable while adjusting for the number of predictors included. Therefore, the significant R-squared value indicates that the combination of agile approach, hybrid approach, as predictors significantly contributes to explaining the variation in the model.

Analysis of Variance

The ANOVA table was used to determine whether the fitted model was significant. In this study, the significance of the model was tested at 5% confidence interval.

Table 6: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.159	4	6.540	53.047	.000[b]
	Residual	12.575	102	.123		
	Total	38.733	106			

a. Dependent Variable: Service Delivery of National Land Information Management System
b. Predictors: (Constant), Agile Approach , Hybrid Approach

The analysis of variance (ANOVA) conducted on the service delivery of the National Land Information Management System reveals a significant overall model fit ($F(4, 102) = 53.047$, $p < 0.05$), indicating that the predictors collectively explain a substantial amount of variance in systems service delivery. This suggests that the combined influence of these project management approaches significantly impacts the service delivery of the National Land Information Management System. The significant F-value indicates that the regression model is a better fit to the data than a model with no predictors. Therefore, the predictors - agile approach, hybrid approach, - collectively contribute to explaining the variation in system service delivery.

Beta Coefficients

Table 6: Beta Coefficients of Study Variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.236	.246		0.959	.339
	Hybrid Approach	.359	.107	.307	3.355	.000
	Agile Approach	.322	.105	.316	3.067	.003

a. Dependent Variable: Service Delivery of National Land Information Management System

The fitted regression model was as follows:

$$Y = 0.236 + 0.359 X_1 + 0.322 X_2$$

The beta coefficient for the Hybrid Approach predictor variable is 0.359, with a p-value of 0.000, indicating a statistically significant positive relationship with service delivery of National Land Information Management System. This suggests that for every one-unit increase in the Hybrid Approach score, the performance of the system is expected to increase by 0.359 units. This finding implies that adopting hybrid project management methodologies, which combine elements of traditional and agile approaches, is associated with improved system performance. The statistically significant p-value indicates that this relationship is unlikely to have occurred by chance. This aligns with the research by Satpute (2022), which investigated the effect of hybrid project management on project success. The study revealed that a customized hybrid project management method is more beneficial for achieving project success criteria compared to traditional project management methods alone. This supports the positive impact of the Hybrid Approach on service delivery of National Land Information Management System observed in this study.

The beta coefficient for the Agile Approach predictor variable is 0.322, with a p-value of 0.003, indicating a statistically significant positive relationship with the service delivery of National Land Information Management System. This suggests that for every one-unit increase in the Agile Approach score, the performance of the system is expected to increase by 0.322 units. This finding

implies that embracing agile project management principles, which focus on early delivery of value, continuous improvement, and adaptability, is associated with enhanced system service delivery. The statistically significant p-value suggests that this relationship is unlikely to have occurred by chance. This corresponds to the research by Bergmann (2018), which investigated the impact of adopting agile methodologies on project success. The study found a significant positive relationship between agile approaches and project success, supporting the positive impact of the Agile Approach on the service delivery of National Land Information Management System observed in this study.

Conclusions

The study concludes that implementing a hybrid approach has a substantial influence on service delivery of National Land Information Management System in Kenya. By combining traditional and agile project management methodologies, organizations can minimize risks, optimize resource utilization, and ensure project success. The findings highlight the importance of leveraging the strengths of different approaches to achieve better service delivery outcomes.

In conclusion, the study suggests that embracing an agile approach positively impacts service delivery of National Land Information Management System in Kenya. The iterative development, stakeholder collaboration, and adaptability inherent in agile methodologies contribute to improved service delivery outcomes. Organizations that prioritize agile project management practices are better equipped to respond to changing project requirements and deliver value to stakeholders efficiently.

Recommendations

The State Department for Lands and Physical Planning is encouraged to consider adopting a hybrid project management approach to optimize service delivery of the National Land Information Management System. This involves integrating traditional and agile methodologies to leverage their respective strengths. To implement a hybrid approach effectively, tailored frameworks should be developed that combine elements of both approaches while aligning with project objectives and stakeholder needs. Training programs should be provided to ensure that project teams within the State Department for Lands and Physical Planning understand how to navigate the complexities of hybrid project management effectively. Additionally, promoting a collaborative work environment that encourages cross-functional communication and cooperation is essential. By embracing a hybrid approach, the State Department for Lands and Physical Planning can maximize resource utilization, minimize risks, and enhance service delivery outcomes of the National Land Information Management System.

Agile Approach

To enhance service delivery of National Land Information Management System, the State Department for Lands and Physical Planning should adopt agile project management principles. This involves promoting iterative development, stakeholder collaboration, and adaptability throughout the project lifecycle. Investing in training and development initiatives is crucial to equip project teams within the State Department for Lands and Physical Planning with the necessary skills and knowledge to implement agile methodologies effectively. Fostering a culture of experimentation and continuous improvement is also important to embrace agile values and principles more effectively. Moreover, establishing clear communication channels and feedback mechanisms to facilitate stakeholder engagement and collaboration is essential. By prioritizing agile project management practices, the State Department for Lands and Physical Planning can improve service delivery outcomes and adapt more efficiently to changing project requirements of National Land Information Management System.

Suggestions for Further Studies

Further studies in the realm of project management approaches and service delivery of National Land Information Management System in Kenya could delve deeper into the comparative analysis of various methodologies, such as hybrid, and agile approaches, to identify their specific impacts on different facets of service delivery. Additionally, qualitative research methodologies, including interviews and case studies, could offer a more nuanced understanding of the contextual factors influencing the implementation and outcomes of project management approaches of National Land Information Management System.

REFERENCES

Adek, R. T. (2016). *Determinants of successful projects implementation of infrastructure projects in devolved units; a case study of Mombasa County, Kenya* (Doctoral dissertation, University of Nairobi).

Amina, M. & Ngugi, L.(2022). Effects of Utilization of Monitoring and Evaluation Results on Service Delivery. *European Journal of Social Sciences Studies,* 7(5)104-114

Ayieko, E., & Gitonga, E. (2020). Police Reform Practices and Service Delivery in the Kenya

Azenha, C., Reis, A.& Fleury,L. (2021). The Role and Characteristics of Hybrid Approaches to Project Management in the Development of Technology-Based Products and Services. *Project Management Journal*, 52(1) 90–110

Berg, M. E., & Karlsen, J. T. (2017). Mental models in project management coaching. *Engineering Management Journal*, *19*(3), 3-13.

Bii, M. K., & Kamaara, D. M. (2018). Effect of Agile Project Management Techniques on Performance of Public Funded Projects: A Case of Kenya Urban Roads Authority. *Journal of Entrepreneurship & Project Management*, *2*(1).

Bogdanova, M., Parashkevova, E. & Stoyanova,M. (2020). Agile Project Management in Governmental Organizations – Methodological Issues. *International E-Journal of Advances in Social Sciences*, 6(16)262-275

Chandrababu, A. & Muddangula, A. (2019). Adoption of hybrid methodology in projects. Uppsala

Chelangat, N., & Karanja, P.N. (2019). Agile Project Management and Project Success in the Construction of Commercial Properties in Nairobi County, Kenya. *Strategic Journal of Business & Change Management, 5*.

Ciri´c, D., & Graˇcanin, D. (2017). Agile project management beyond software ´ industry. In Proceedings of the XV *International Scientific Conference on Industrial Systems* (pp. 332-337).

Ciric Lalic, D., Lalic, B., &Stefanovic, D. (2022). How project management approach impact project success? From traditional to agile. *International Journal of Managing Projects in Business*,15(3). 494-52

Cobar, L., Kaimo, N., Savella, S., & Daag, A. (2020) Development of a Monitoring, Evaluation, Accountability and Learning Framework for Early Warning System for Landslides.

Cram, W.A. & Marabelli, M. (2017). Have your cake and eat it too? Simultaneously pursuing the knowledge-sharing benefits of agile and traditional development approaches

Gamba P. (2016). *Factors affecting the utilization of monitoring and evaluation Findings in Implementation of Malaria Control Programmes in Mukono District, Uganda*, Masters Dissertation, Uganda Technology and Management University

Gbahabo, P. T., & Ajuwon, O. S. (2017). Effects of project cost overruns and schedule delays in sub-saharan Africa. *European Journal of Interdisciplinary Studies*, 46-59.

Gemino, B., Reich, H. & Serrado, S. (2021). Agile, Traditional, and Hybrid Approaches to Project Success: Is Hybrid a Poor Second Choice?," *Project Management Journal*, 52(2) 161–175

Hassani, R., Bouzekri, E., Idrissi, Y., & Abouabdellah, A. (2018). "Digital Project Management in the Era of Digital Transformation: Hybrid Method." In Proceedings of the 2018 International Conference on Software Engineering and Information Management (ICSIM2018)

Hellerstedt, K. (2021). Hybrid Projects' Success Factors in Physical Product Development. Jonkoping University

Imani, T., Nakano, M., & Anantatmula, V. (2017). Does a Hybrid Approach of Agile and Plan-Driven Methods Work Better for IT System Development Projects? *International Journal Engineering Researching* 7, 39–46

Layton, M. C. & Ostermiller, S. J., 2020. Agile Project Management. 2nd ed. Hoboken: John Wiley & Sons.

Lemma, Y. (2017). Practices and challenges of monitoring and evaluation (M&E) of primary healthcare projects. The case of CCRDA-Ethiopian Civil Society Health Forum members (Master´s dissertation). Addis Ababa University, Ethiopia.

Maqsood, M. (2021). Impact of Agile Response to Change on Service Delivery with the Mediating Role of Project Complexity and Moderating Role of Team Creativity. Capital University, Islamand

Mendez, A. H. (2018). Improving project performance through implementation of agile methodologies in the renewable energy construction industry (Doctoral dissertation, The George Washington University).

Musau, K. (2020). *Project Management Practices Influence Levels on Successful Implementation of Borehole Water Projects In Makueni County, Kenya*. Unpublished Doctorate Dissertation, Jomo Kenyatta University of Agriculture And Technology

Nibyiza, F. (2015). *Analysis of project scope change management as a tool for project success* (Doctoral dissertation, Doctoral dissertation, Jomo Kenyatta university of agriculture and technology

Omena, K. & Sang, P. (2018). Project Management and Performance of Public Sector Construction Projects: A Case of Constituency Development Funds Projects in Migori East, Kenya. *International Journal of Current Aspects in Project Management*, 1(1) 13-26

Onoh, U. & Okon, U. (2021). An Empirical Evaluation of Budget Implementation on Economic Growth in Nigeria. I*nternational Journal of Auditing and Accounting Studies,*3(2) 109-12.

Papadakis, E. & Tsironis, L. (2020). Towards a hybrid project management framework: A systematic literature review on traditional, agile and hybrid techniques. *The Journal of Modern Project Management*, 8(2) 124–139

Ravichandran, T. (2018). Exploring the relationships between IT competence, innovation capacity and organizational agility. *The Journal of Strategic Information Systems*, 27(1), 22-42.

Reiff, J. & Schlegel, D. (2022). Hybrid project management – a systematic literature review. *International Journal of Information Systems and Project Management*, 10(2)45-63

Satpute, S. (2022). Hybrid Project Management and Project Success. Vaasan Ammattikorkeakoulu University of Applied Sciences

Serrador, P. & Pinto, J. (2015). Does Agile work? — A quantitative analysis of agile project success. JPMA 33, 1040–1051