Application of Digital Technique for Project Management and Operational Effectiveness of FinTech Firms in Port Harcourt, Rivers State

Opuwari, Precious U.
precious.opuwari@iaue.edu.ng, 09095945011
Department of Business Administration
Faculty of Administration and Management
Ignatius Ajuru University of Education, Rivers State
https://doi.org/10.56201/ijebm.vol.12.no10.2026.pg381.389

Abstract
This study examined the relationship between digital technique and the operational effectiveness of FinTech firms in Port Harcourt. It specifically assessed how hybrid technique, the main predictor variable, relates to cost reduction and task completion rate. A cross-sectional survey design was employed, and 81 respondents were selected through judgmental sampling technique. Data were collected using a structured questionnaire based on a modified four-point Likert scale, with reliability confirmed through a Cronbach's alpha of 0.70. Descriptive statistics and Spearman's Rank Correlation were used for analysis. Finding revealed a strong and statistically significant positive relationship between the hybrid project management technique and cost reduction, task completion rate. The conclusion was that, hybrid project management serves as a strategic tool for improving efficiency and competitiveness in FinTech firms

Keywords: *Cost reduction, Digital technique, Hybrid technique, Operational Effectiveness, Task completion rate*

Background of the Study

The increasing complexity of business operations and the rapid pace of technological change have made effective project management a critical success factor for organizations, particularly in the financial technology (FinTech) sector. FinTech firms operate in highly dynamic environments characterized by intense competition, regulatory pressures, innovation demands, and evolving customer expectations. In response to these challenges, organizations have increasingly adopted digital techniques for managing projects, with the hybrid project management method emerging as a prominent approach. The hybrid method integrates traditional (predictive) project management practices with agile techniques, enabling organizations to balance structured planning and control with flexibility and adaptability (Project Management Institute, 2021; Kerzner, 2022). Digital techniques, including cloud-based project management systems, data analytics, automation tools, and collaborative platforms, support the effective implementation of hybrid project management methods. These digital tools enhance planning accuracy, coordination, monitoring, and real-time decision-making throughout the project life cycle. For FinTech firms, whose projects often involve software development, digital payment systems, cybersecurity solutions, and customer-facing platforms, the hybrid method allows stable components of projects to be managed using predictive techniques, while uncertain or innovative components are handled through agile

iterations (Schwalbe, 2021). This digital–hybrid approach is particularly suitable for FinTech firms operating in urban and emerging markets such as Port Harcourt, Rivers State.

Operational effectiveness refers to an organization's ability to achieve its objectives by efficiently utilizing resources to deliver products and services with minimal waste and delays. Two critical indicators of operational effectiveness are cost reduction and task completion rate. Cost reduction enables firms to minimize operational expenses through efficient resource allocation, automation, and process optimization, while task completion rate reflects the ability of an organization to execute project activities within specified time, scope, and quality standards (Slack et al., 2022). In FinTech firms, effective project execution directly influences operational costs, service delivery speed, and customer satisfaction, making these indicators particularly relevant.

In Port Harcourt, FinTech firms play a growing role in financial inclusion, digital payments, investment platforms, and technology-driven financial services. However, many of these firms face operational challenges such as high operating costs, project delays, skill gaps, and infrastructural constraints. Ineffective project management approaches can lead to cost overruns, missed deadlines, and low task completion rates, thereby reducing operational effectiveness. The adoption of digital techniques such as the hybrid project management method offers a strategic solution to these challenges by improving coordination, reducing inefficiencies, and enhancing execution speed (Marnewick & Marnewick, 2020).

Despite the growing relevance of hybrid project management and digital techniques in improving operational outcomes, empirical evidence on their application within FinTech firms in Port Harcourt remains limited. Most existing studies focus on developed economies or large organizations, with insufficient attention given to local FinTech firms in emerging Nigerian cities. Therefore, this study seeks to examine the effect of digital techniques, specifically the hybrid method of project management, on the operational effectiveness of FinTech firms in Port Harcourt, Rivers State, using cost reduction and task completion rate as key measures. The findings are expected to contribute to academic knowledge and provide practical insights for managers, policymakers, and stakeholders in the FinTech ecosystem.

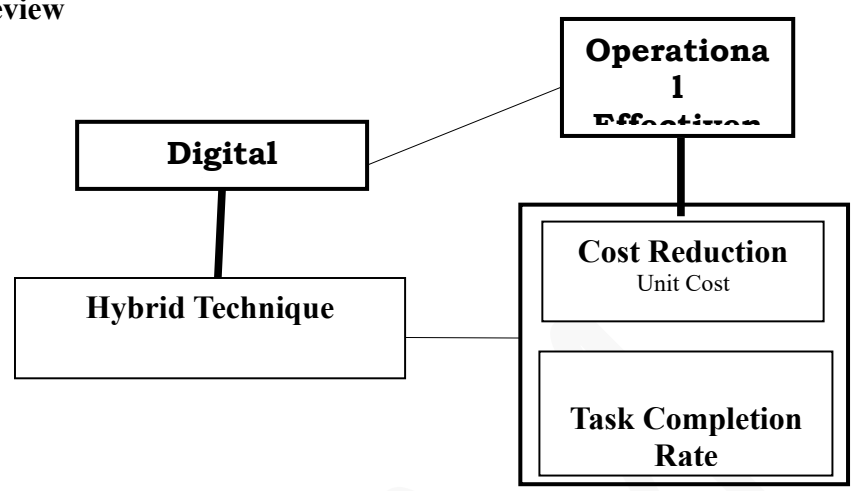
Problem of the Study

The operational effectiveness of fintech firms in Port Harcourt, Rivers State, is increasingly compromised by escalating operational costs and inefficiencies in task completion. These challenges have led to diminished profitability, reduced market share, and hindered growth within the sector. Rising operational expenses, including technology infrastructure, regulatory compliance, and skilled personnel, have placed significant financial strain on fintech firms. However, the high implementation costs has deter adoption, potentially leaving firms vulnerable to security threats and operational inefficiencies. Additionally, currency volatility and inflation in Nigeria have led to increased costs for imported materials and services, further impacting the operational expenses of fintech firms. This financial strain has hindered the firms' ability to invest in innovation and expansion, affecting their competitiveness in the market.

Ineffective task completion, stemming from factors such as inadequate project management, insufficient staff training, or poor infrastructure, has led to delays, errors, and reduced service quality. In the fintech sector, where timely and accurate service delivery is crucial, such inefficiencies have eroded customer trust and satisfaction. For example, delays in processing transactions or implementing new financial products have resulted in customer attrition and diminished market share. Moreover, the lack of effective financial management practices has exacerbated these issues, leading to cash flow problems that hinder growth and investment opportunities. However, addressing the problem posed by increased operational costs and task completion inefficiencies is vital for enhancing the operational effectiveness of fintech firms in Port Harcourt. Strategic investments in technology, staff development, and process

optimization are essential to mitigate these issues and ensure sustained growth and competitiveness in the dynamic fintech landscape.

Conceptual Review



Aim and objectives of the study

1. To determine the relationship between hybrid method and cost reduction of Fintech firms in Port Harcourt
2. To determine the relationship between hybrid and task completion of Fintech firms in Port Harcourt

Research questions

1. What is the relationship between hybrid method and cost reduction of Fintech firms in Port Harcourt
2. What relationship exist between hybrid and task completion of Fintech firms in Port Harcourt

Research hypotheses

Ho_1: There is no significant relationship between hybrid method and cost reduction of Fintech firms in Port Harcourt

Ho_2: There is no significant relationship between hybrid and task completion rate of Fintech firms in Port Harcourt

Conceptual Reviewed

The use of digital techniques in project management has transformed how projects are planned, executed, monitored, and controlled. Digital project management tools such as project management software, cloud-based platforms, and collaboration applications enable managers to plan tasks, allocate resources, and set timelines more efficiently than traditional manual methods. Tools like Gantt charts, dashboards, and scheduling software help project managers visualize project activities, dependencies, and milestones in real time. This improves decision-making, reduces errors, and enhances the overall efficiency and accuracy of project planning (Kerzner, 2022). Another important use of digital techniques in project management is enhanced communication and collaboration among project stakeholders. Digital platforms such as Microsoft Teams, Slack, Zoom, and cloud-based document-sharing systems allow team members to communicate instantly regardless of geographical location. These tools support real-time updates, virtual meetings, file sharing, and version control, which reduce communication gaps and delays. Effective digital communication promotes teamwork,

transparency, and faster problem resolution, thereby increasing the likelihood of project success (Schwalbe, 2021). Digital techniques also play a critical role in monitoring, control, and performance evaluation in project management. Project management information systems (PMIS) enable managers to track project progress, costs, timelines, and risks continuously. Performance metrics and key performance indicators (KPIs) can be automatically generated and displayed through dashboards, allowing early detection of deviations from project plans. This proactive monitoring helps project managers take corrective actions promptly, manage risks effectively, and ensure that project objectives are achieved within scope, time, and budget constraints (PMI, 2021). Furthermore, digital technologies such as data analytics, artificial intelligence (AI), and automation are increasingly being integrated into modern project management practices. Data analytics helps project managers forecast project outcomes, assess risks, and optimize resource utilization based on historical data. AI-powered tools can assist in scheduling, risk prediction, and decision support, while automation reduces repetitive administrative tasks, allowing managers to focus on strategic issues. Overall, the adoption of digital techniques enhances project efficiency, accountability, and adaptability in today's dynamic and technology-driven business environment (Marnewick et al., 2020)

Hybrid Method

The hybrid method in project management combines elements of traditional (predictive or waterfall) and agile approaches to provide greater flexibility and control in managing projects. This method is particularly useful for projects that have clearly defined objectives and constraints but also require adaptability to changing requirements. By blending structured planning, documentation, and stage-gate controls with iterative development and continuous feedback, the hybrid approach allows project managers to balance stability with responsiveness, thereby improving project outcomes (Kerzner, 2022).

Another key use of the hybrid method is its ability to enhance stakeholder engagement and risk management. In hybrid project management, high-level plans and milestones are established early, while execution is carried out in iterative cycles that encourage regular stakeholder reviews and feedback. This reduces uncertainty and allows potential risks to be identified and addressed early in the project lifecycle. As a result, organizations can maintain governance and compliance requirements while still benefiting from the adaptability and customer-focused nature of agile practices (PMI, 2021).

Furthermore, the hybrid method supports improved resource utilization and performance delivery across diverse project environments. It is especially effective in complex projects involving multiple teams, technologies, or regulatory requirements. By applying predictive methods to stable project components and agile techniques to innovative or uncertain elements, project managers can optimize time, cost, and quality. Overall, the hybrid approach enables organizations to tailor project management practices to their specific needs, increasing efficiency and the likelihood of project success in dynamic business environments (Schwalbe, 2021). Digital techniques significantly improve the operational effectiveness of fintech firms in Port Harcourt by enhancing process efficiency, speed, and accuracy in service delivery. Through the use of digital platforms such as cloud computing, mobile applications, and automated transaction systems, fintech firms can process large volumes of financial transactions in real time with minimal errors. Automation of core operations such as payments, fund transfers, account management, and customer onboarding reduces manual intervention, lowers operational costs, and shortens service turnaround time. This efficiency is critical for fintech firms operating in a competitive urban market like Port Harcourt, where customers demand fast, reliable, and convenient financial services (Gomber et al., 2018).

Digital techniques also strengthen data management, decision-making, and risk control within fintech operations. Fintech firms leverage data analytics, artificial intelligence (AI), and

machine learning tools to analyze customer behavior, detect fraud, assess credit risk, and forecast market trends. These technologies enable firms to make data-driven decisions, improve risk management, and personalize financial products for customers. For instance, real-time fraud detection systems and biometric authentication enhance transaction security and reduce financial losses, thereby improving operational reliability and customer trust (Bunea et al., 2016; Arner et al., 2020). Furthermore, digital techniques enhance collaboration, scalability, and customer engagement for fintech firms in Port Harcourt. Cloud-based systems and digital collaboration tools allow teams to work efficiently across departments and locations, supporting business continuity and scalability as firms grow. Digital customer interfaces such as mobile apps, chatbots, and social media platforms improve customer interaction, feedback collection, and service support. This leads to higher customer satisfaction, retention, and market reach. Overall, the adoption of digital techniques enables fintech firms in Port Harcourt to operate more effectively by improving efficiency, security, innovation, and responsiveness in a dynamic financial environment (PMI, 2021; Schueffel, 2016).

Operational Dimension

Cost reduction is a key means of achieving operational effectiveness because it allows organizations to utilize resources more efficiently while maintaining the quality of outputs. By reducing unnecessary expenses in areas such as labor, materials, energy, and administrative processes, firms can streamline operations and eliminate waste. Techniques such as process reengineering, automation, lean management, and effective cost control systems help organizations lower operating costs without compromising service standards. When costs are reduced strategically, organizations can achieve higher productivity and improved operational performance, which enhances overall effectiveness (Slack et al., 2022; Heizer et al., 2020).

Task completion rate is another important indicator of operational effectiveness, as it measures the extent to which assigned tasks or activities are completed within the specified time, scope, and quality standards. A high task completion rate indicates that operational processes are well coordinated, employees are productive, and resources are efficiently allocated. Organizations with effective planning, clear workflows, and supportive technologies are more likely to achieve timely task execution. Improved task completion rates reduce delays, minimize rework, and ensure that operational goals are consistently met, thereby strengthening overall effectiveness (Kerzner, 2022). Together, cost reduction and task completion rate provide a balanced view of operational effectiveness by linking efficiency with performance outcomes. While cost reduction focuses on minimizing input costs, task completion rate emphasizes the successful execution of operational activities. Organizations that reduce costs but fail to complete tasks efficiently may experience service failures, whereas those with high task completion rates but poor cost control may suffer financial inefficiencies. Therefore, aligning cost management strategies with effective task execution ensures sustainable operational effectiveness, improved service delivery, and long-term competitiveness (Porter, 1985; Slack et al., 2022).

Empirical Review

Joslin and Müller (2015) conducted an empirical study across multiple industries and found that organizations that align their project management methodology with organizational strategy achieve higher operational efficiency, improved resource utilization, and better project performance outcomes. Their findings showed that structured methodologies enhance consistency, coordination, and control, which directly contribute to operational effectiveness.

Serrador and Pinto (2015) empirically examined over 1,000 projects and found a strong positive relationship between the use of agile project management methodologies and operational effectiveness indicators such as speed, flexibility, and customer satisfaction. The study revealed that agile practices improve task completion rates and reduce operational waste through continuous feedback, iterative execution, and adaptive planning. These findings demonstrate that agile methodologies enhance operational responsiveness and efficiency, particularly in dynamic environments.

Papke-Shields, Beise, and Quan (2010) studied the impact of formal project management practices on operational performance. Using survey data from project-based organizations, the authors found that firms with higher levels of project management maturity recorded better cost control, schedule adherence, and productivity. The study concluded that standardized project management methodologies positively influence operational effectiveness by improving planning accuracy and execution discipline.

Marnewick and Marnewick (2020) empirically examined the role of hybrid project management methodologies in digital and IT-driven projects. Their findings indicated that hybrid approaches, which combine predictive and agile practices, significantly enhance operational effectiveness by balancing governance with flexibility. Organizations using hybrid methodologies reported improved efficiency, reduced rework, and higher task completion rates, especially in complex project environments.

Too and Weaver (2014) analyzed project management practices in relation to organizational performance and operational outcomes. Their empirical evidence showed that effective project management methodologies contribute to operational effectiveness through improved coordination of activities, better decision-making, and efficient use of organizational resources. The study emphasized that project management methodologies serve as a critical operational capability that supports organizational performance

Methodology

This study adopted a cross-sectional survey research design. The population comprised 20 fintech firms in Port Harcourt, while the sample size consisted of 100 respondents. The study adopted a judgmental approach in selecting 5 respondents from each firm. Data were collected using a structured questionnaire designed on a modified four-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (4). The instrument's content validity was confirmed through expert review, while reliability was established using Cronbach's alpha, achieving the acceptable benchmark of 0.70. Descriptive statistics were used to summarize the data, and Spearman's Rank Correlation Coefficient served as the analytical technique for testing the relationship between variables.

List of Fintech Firms in Port Harcourt

1.BlueLoop, 2. Ceflog Capital Limited, 3. Dantown, 4. Duxflux Engineering Limited. 5.Finafrica Investment, 6.Flipeet, 8.Flitbase, 9.Fintrad Citadel, 9.Hometown Fintech Limited, 10.JCCFunimport Financial House, 11.Lexdu Technologies, 12.Netflux Technologies Limited, 13.New Horizon Payment Technologies Limited, 14.Payfric, 15.Paylign, 16.Reapvest, 17.Slourish, 18.Thriivo Capital, 19.Unicorn.ng, 20.Ziver

Table 1. Correlation Analysis of Hybrid technique and Cost Reduction

			Hybrid Technique	Cost Reduction
Spearman's rho	Hybrid Technique	Correlation Coefficient	1	.724*
		Sig. (2-tailed)	.	0.005
		N	81	81
	Cost Reduction	Correlation Coefficient	.724*	1
		Sig. (2-tailed)	0.005	.
		N	81	81

*. Correlation is significant at the 0.05 level (2-tailed).

Table 1 shows the Spearman's rho correlation between hybrid project management technique and cost reduction. The result reveals a strong positive correlation between the two variables (r = 0.724), indicating that increased use of hybrid techniques is associated with greater cost reduction. The relationship is statistically significant at the 0.05 level (p = 0.005), suggesting that the association did not occur by chance. With a sample size of 81 respondents, the finding implies that effective application of hybrid project management techniques contributes significantly to cost reduction, thereby enhancing operational effectiveness.

Table 2. Correlation Analysis between Hybrid Technique and Task Completion Rate

			Hybrid Technique	Task Completion
Spearman's rho	Hybrid Technique	Correlation Coefficient	1	.535*
		Sig. (2-tailed)	.	0.005
		N	81	81
	Task Completion	Correlation Coefficient	.535*	1
		Sig. (2-tailed)	0.005	.
		N	61	81

*. Correlation is significant at the 0.05 level (2-tailed).

Table 2 presents the Spearman's rho correlation analysis examining the relationship between hybrid project management technique and task completion rate. The results show a moderate positive correlation between the two variables (r = 0.535), indicating that increased use of hybrid techniques is associated with higher levels of task completion. The relationship is statistically significant at the 0.05 level (p = 0.005), implying that the observed association is not due to chance. With a sample size of 81 respondents, the finding suggests that the application of hybrid project management techniques improves the timely and effective completion of tasks, thereby contributing to enhanced operational effectiveness

Discussion of Findings

The finding of a strong and statistically significant positive relationship between the hybrid project management technique and cost reduction indicates that the adoption of hybrid methods substantially enhances the operational effectiveness of FinTech firms in Port Harcourt. By combining the structured planning and control of traditional project management with the flexibility and speed of agile practices, hybrid techniques help FinTech firms minimize project delays, reduce rework, and optimize the use of financial and human resources. This cost efficiency is particularly important for FinTech firms operating in Port Harcourt, where firms often face high operating costs, infrastructural challenges, and intense competition. Effective cost reduction enables these firms to deliver digital financial services more efficiently, improve profitability, and sustain competitive advantage, thereby strengthening overall operational effectiveness (Kerzner, 2022; PMI, 2021; Slack et al., 2022).

The finding of a moderate but statistically significant positive relationship between the hybrid project management technique and task completion rate indicates that the adoption of hybrid methods enhances the operational effectiveness of FinTech firms in Port Harcourt. By integrating the structured planning and control of traditional project management with the flexibility and iterative execution of agile practices, hybrid techniques enable FinTech firms to manage project tasks more efficiently, reduce delays, and improve coordination among teams. This improved task completion rate ensures that projects such as software development, digital payment platforms, and system upgrades are delivered on time and within scope, which is essential for maintaining service reliability and customer satisfaction in the highly competitive FinTech environment. Consequently, effective task execution through hybrid project management strengthens operational efficiency, responsiveness, and overall performance of FinTech firms operating in Port Harcourt (Kerzner, 2022; PMI, 2021; Schwalbe, 2021).

Conclusion

This study concludes that the adoption of hybrid project management techniques has a significant positive influence on the operational effectiveness of FinTech firms in Port Harcourt, Rivers State. The findings show that hybrid techniques contribute to cost reduction and improved task completion rates, leading to more efficient project execution. By balancing structure and flexibility, hybrid methods enhance resource utilization and operational performance. Overall, hybrid project management serves as a strategic tool for improving efficiency and competitiveness in FinTech firms.

Recommendations

1. FinTech firms in Port Harcourt should adopt and strengthen hybrid project management techniques to reduce cost and improving task completion rates.
2. FinTech firms in Port Harcourt are recommended to implement hybrid project management techniques to improve task coordination and timely completion of projects.

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