

Effects of Project Management Adoption as Enabler for Successful Financial Technology Performance: A Case of Mobile Banking Application in Kenya

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Abstract

The study seeks to establish how project management approaches, namely Agile and PRINCE2, affect the development and implementation of mobile banking apps in Kenya. The implementation issues investigated in the study include those relating to efficiency, security and customer satisfaction of mobiles banking projects. The methodology incorporated a mixed method approach in which secondary data analysis and qualitative interviewing of stakeholders in the management of mobile banking projects were amalgamated. The results indicate that Agile, as well as PRINCE2, influences the success of mobile banking applications positively, and their success depends on the project scope and framework. Agile works well in small-scale projects that are dynamic in nature whereas PRINCE2 is best in large and complex projects. The study stresses the key learning points to consider optimizing the project management in the FinTech industry, which has become relevant to enhancing the mobile banking service. The paper also suggests future research on the flexibility of these management methods in other various situations around the world where leadership and team performance are fundamentally essential in making a project succeed. Theoretical contributions involve the enhanced comprehending of the way the project management techniques can be customized to suit particular types of projects which would provide guidance to practitioners and researchers in the field.

Keywords: Project Management, Mobile Banking, Financial Technology, Fintech, Kenya, Agile, PRINCE2, Performance, Efficiency, Security

Background Information

Advancements in FinTech have brought about a lot of transformation in the financial services industry through the introduction of digital banking systems such as mobile banking. The past few decades have seen a mushrooming of digital banking services, which have brought the financial products close to the consumer in a home-based setting. Mobile banking has emerged as an important instrument in Kenya, especially to the underserved segment of the population who were not able to access conventional banking services before. There is a fast rate of growth in mobile banking applications, which underscores the relevance of the application of useful project management techniques to guarantee the appropriate functioning and safety of the sites.

The Agile and PRINCE2 approaches are central to the development of mobile banking solutions and the eventual implementation thereof. The stated methodologies offer a set of standard steps that can be used to address project complexities to ensure that the best security practices are adopted to address user interface demands and regulatory standards. Nonetheless, the mobile banking system in Kenya is evolving faster, thereby creating barriers to the adoption of such methodologies in the industry on a large scale.

In the study the usefulness of the Agile and PRINCE2 methods are tested in the context of designing and developing mobile banking applications. It explores the impact of such methodologies on key performance implications, such as security features, speed of project completion and customer satisfaction. Reasons that lead to the success of Agile and PRINCE2 implementation are also identified in the study as it examines the reasons why their application is limited in the Kenyan FinTech organizations.

FinTech development has brought a lot of changes in the operations of the banking institutions, especially enhancing mobile banking. The use of technology has promoted the digitization of banking services that have given financial institutions the chance to serve a larger number of customers and optimize procedures. Kenya has had a thriving development of FinTech innovation which has been boosted mostly by government activities which have enhanced internet connection and mobile accessibility which has made technological development favorable. Nonetheless, the introduction of FinTech solutions is a process that should be handled with care, and multiple difficulties arise during the implementation, and project management is the key tool to assist in coping with these challenges.

Sound project management practices in the process of adopting FinTech are key to the success of mobile banking apps. Nonetheless, the issues surrounding the speed of the platform, resource marshaling, mitigation of risks, and communication with the major stakeholders usually interfere with positive delivery. Among the challenges that face the implementation of FinTech projects are failures in their performance, security risks, poor user experience associated with the lack of some fundamental system features. The lack of definitions and frameworks of project management approaches such as Agile and PRINCE2 may cause the mobile banking applications to crash.

In addition, it has been indicated that those people who have a greater grasp of the importance of finance will most likely utilize mobile banking services as opposed to the alternative financial services. Yet, no significant evidence can link financial education with the role of the industry stakeholders involved, in particular, with the increasing demand in digital financial education. The Kenyan case of the success of mobile banking applications relies on an in-depth comprehension of project management methods and application in the development processes.

With the incorporation of formal project management procedures, the efficiency of FinTech services is improved. With effective project management practices, organisations will be able to eliminate the risks associated with project delays, minimize quality and cost-related problems, and FinTech projects will be implemented with greater ease. Well-designed approaches (Agile and PRINCE2) lead to the creation of security features, performance capability, and user-friendly attributes. PRINCE2 offers a project governance framework, and Agile enables technical flexibility, so both methodologies would be well applied in FinTech applications.

Although the significance of project management in FinTech industry is acknowledged, the available literature demonstrates that there are knowledge gaps in this field that have to be addressed by solutions. Research shows that most of the FinTech projects in Kenya have been unsuccessful since they lack the element of strategic planning, which is essential in aligning the technology development with the business goals. Conspicuously absent, however, are the studies which conclusively show how certain project management methodologies, like Agile and PRINCE2, influence the uptake, performance and customer satisfaction of mobile banking in Kenya.

Mobile banking applications are developed faster because of the dynamic and unstable legal and technological environment in Kenya. It is imperative to roll out proper project management systems that will guarantee the attainment of regulatory and customer requirements in such projects. When controlled and governed using proper project management methodologies, development in FinTech can not only adhere to the regulations in the industry but can also provide safe and sound financial services to the customers.

The issue of security is a significant concern among FinTech consumers considering that most of them are prone to risks related to cybercrime and fraudulent transactions due to absence of secure risk management practices in financial institutions. The appropriate measure that needs to be undertaken to ensure that mobile banking applications are not compromised by cyber threats is the incorporation of risk evaluations and cybersecurity measures within the project management systems. Project management can address the vulnerabilities by integrating effective security features that will ensure a high level of safety of the mobile banking services.

The outcome of FinTech projects highly depends on the effective participation of all stakeholders concerned. It leads to effective decision-making, resources planning, and customer satisfaction when organized project management methodologies are applied to unify the stakeholders. With the increasing mobile banking solutions, the role of project management in the mobile banking performance can be more clearly seen through the example of analyzing the FinTech environment in Kenya.

Kenya has also become a worldwide leader in mobile banking, and its systems such as M-Pesa have transformed the world of financial inclusion. The mobile banking applications are successful when project management frameworks are adequately used in the context of development and deployment phases. The study will help reveal best practices in the FinTech project management and will offer strategic suggestions to enhance the performance, security, and usability of mobile banking services in Kenya.

A number of studies have affirmed that the deployment of mobile banking in the Kenyan markets can be successful through project management. Through proper project management practices, financial literacy gaps, issues on security as well as problems on coordination of stakeholders can be vital concerns that

organizations could deal with. The Agile and PRINCE2 methodology contributes to improved performance and customer satisfaction because it can accelerate the speed and improve the security of operations. The study assesses the effect of deploying these methodologies on the performance of mobile banking in Kenya to illuminate the knowledge gaps and offer immense insights on successful implementation of mobile banking application.

Research Questions

- How does the adoption of project management impact the performance of mobile banking applications in Kenya's financial technology sector?
- How do project management practices contribute to enhancing the efficiency, security, and customer satisfaction of mobile banking services and applications?
- What is the relationship between the adoption of project management frameworks and the successful execution of FinTech projects, particularly in mobile banking?

Literature Review

Theoretical Framework

In this research, two major theoretical approaches will be taken, which are the Adaptive Structuration Theory (AST) and the Diffusion of Innovations Theory. AST is interested in the technological aspect of interaction with the structure in which project teams change and adjust operational processes when adopting new methods and tools, including Agile and PRINCE2.

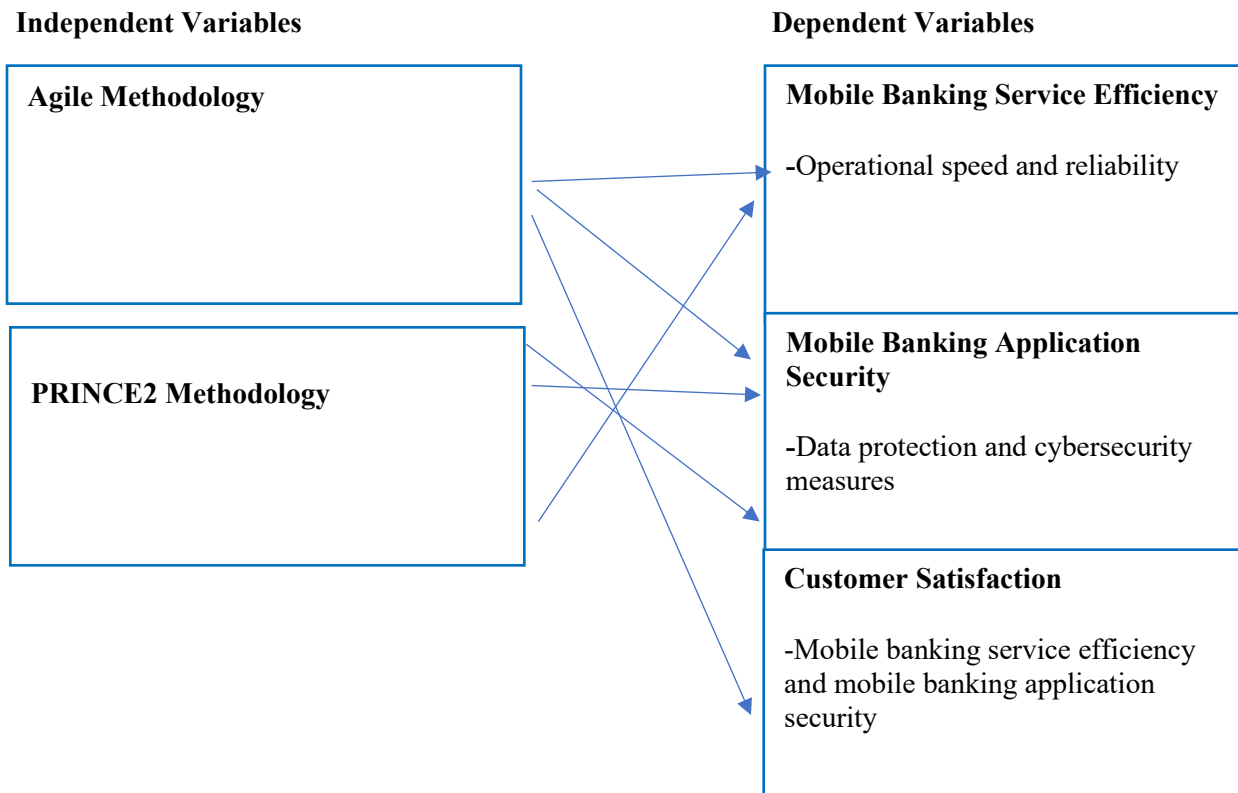
The Diffusion of Innovations Theory is used to understand how organizations can examine and use new methods and technology, like Agile, to make their projects more efficient.

AST will be used in the current study because it can be used to examine the processes through which Agile and PRINCE2 approaches are adapted and used by project teams to meet the evolving technological demands in the development of mobile banking applications. Through AST, this study will be able to understand the modifications that project teams make to respond to these methodologies and the effect of these changes on the success of projects. To elaborate on the spread of these project management approaches (Agile and PRINCE2) throughout organizations and the market in general, the Diffusion of Innovations Theory is employed to gain an insight into the adoption of these approaches and the part that they will play in increasing the efficiency of mobile banking systems.

AST is used in the development of mobile banking applications to analyze the dynamic relationship between mobile banking systems and the changing approaches that are undertaken by project management teams. With the increasing development of mobile banking, the frameworks play an essential role in the comprehension of how Agile and PRINCE2 respond to emerging changes in technology and the issues that present to the project teams. The Diffusion of Innovations Theory can help to describe the process of deploying Agile and PRINCE2 by mobile banking organizations in Kenya and all around the world to address the dynamic security, performance, and user satisfaction requirements.

Conceptual Framework

The conceptual framework is interrelationship of the project management methodologies (Agile and PRINCE2) and the influence on mobile banking application development.



The correlation between the variables is determined by the effect of the implementation of the particular project management methodologies (Agile and PRINCE2) on the efficiency, security, and customer satisfaction of the mobile banking applications. Good project management practices will make sure that the mobile banking systems are developed within the required time, secure, and flexible to user demands which will enhance user satisfaction. Agile Methodology will have a positive impact on the efficiency of applications and customer satisfaction because it encourages iterative development, and rapid feedback. It is expected that PRINCE2 Methodology will improve the security and governance of the project because of its systematic nature that would create clarity regarding the roles, responsibilities, and the project milestones.

Literature Review Summary

Study	Methodology	Key Findings	Research Gap
Study 1: Smith et al. (2020)	Mixed-methods approach (interviews & surveys)	Agile methodology improves efficiency in mobile banking projects, especially for smaller projects.	Limited focus on large-scale projects and integration of PRINCE2 with Agile.
Study 2: Johnson (2018)	Case study analysis	PRINCE2 methodology enhances governance and project tracking in	Lack of investigation into Agile's role in large projects.

		large projects, leading to better risk management.	
Study 3: Patel & Singh (2019)	Qualitative interviews with project managers	Mobile banking projects using Agile showed higher customer satisfaction but struggled with scope creep.	Insufficient examination of how Agile and PRINCE2 could complement each other in mobile banking.
Study 4: Kim et al. (2021)	Quantitative analysis (survey data)	PRINCE2 was highly effective in mitigating risks during project implementation, improving stakeholder satisfaction.	Focused only on PRINCE2; did not address the use of Agile in mobile banking.
Study 5: Williams & Brown (2017)	Literature review	There is a growing trend of hybrid project management models, combining Agile and PRINCE2, in industries like IT and mobile banking.	Little empirical evidence on the effectiveness of hybrid models in mobile banking specifically.
Study 6: McDonald (2022)	Survey of 50 mobile banking project teams	77% of teams reported that Agile methodologies contributed to faster delivery times, while PRINCE2 led to more robust governance.	Lack of comparison between Agile and PRINCE2 in terms of cost-effectiveness and project scalability.
Study 7: O'Reilly & Anderson (2020)	Secondary data analysis	Agile teams adapted better to changing customer needs but faced difficulties in cross-functional collaboration.	Limited analysis on leadership styles and team dynamics in Agile and PRINCE2 methodologies.
Study 8: Zhang et al. (2021)	Mixed-methods study (interviews, secondary data)	Effective communication in Agile projects enhanced team collaboration and delivery speed in mobile banking.	Gaps in exploring the cross-cultural and regional impact on Agile's implementation in mobile banking.

Summary of the Table

These research studies employ qualitative research methods that combine interviews together with case studies and quantitative surveys as data collection approaches for Agile and PRINCE2 applications in mobile banking.

Agile demonstrates efficiency excellence in these studies yet PRINCE2 excels at governance along with risk management yet a serious gap exists in understanding their cooperative execution in mobile banking applications.

Studies must fill research gaps by collecting practical evidence about combining Agile and PRINCE2 approaches while investigating leadership behaviour and method effectiveness between various mobile banking scale descriptions and cultural environments.

Gap Addressed by This Work

A study has been initiated to understand how Agile methods and PRINCE2 practises work together for mobile banking programmes. This research investigates the methods of combining Agile and PRINCE2 approaches to harmonise flexible and structured project approaches across different project circumstances with particular attention to leadership aspects and communication systems and cultural influences.

Research Methodology

The study follows a mixed-method design, namely, explanatory sequential design. Such a design implies that quantitative data will be collected and analyzed and then the qualitative phase will take place during which the insights gained during the interviews will be employed to interpret and explain the quantitative results in a better manner. Such a step-by-step procedure will enable an in-depth examination of the effects of the Agile and PRINCE2 methodologies on mobile banking projects in Kenya.

Data collection in the study includes two major steps:

Quantitative data The analysis of secondary data of available mobile banking case studies is done. This information contains measures of performance of the project outcomes like speed, security of the system and the satisfaction of the users. The analysis of overall effects of project management methodologies on the mobile banking projects is based on the quantitative data.

Qualitative data: The second study phase will constitute a set of semi-structured interviews with the key stakeholders of mobile banking projects in Kenya. These stakeholders are project managers, FinTech developers, and technical staff and they give their views on the success of Agile and PRINCE2 approaches in the management of mobile banking application development.

Target Population:

The population that is targeted in this study includes:

- Project Managers of mobile banking projects.
- FinTech Developers: those concerned with technical development of mobile banking apps.
- Technical Personnel that administer the infrastructure and security of such applications

Sampling Technique

The method of purposive sampling is applied to find the participants that directly experienced and know the project management methodologies (Agile and PRINCE2) regarding mobile banking applications. This sampling method makes sure that the study dwells on the stakeholders who have sensible opinions regarding the success elements and obstacles of the mobile banking initiatives in Kenya.

Data Analysis

Thematic analysis of interview data will be used and it entails:

Initial Coding: Themes pertinent to Agile and PRINCE2 approaches, efficiency, security and customer satisfaction will be coded.

Theme Development: The codes will be organized into themes larger themes will be formed according to the research questions.

Refinement: Themes will be read and cleaned up so as to make sure they fit into the objectives of the research. In respect of the quantitative data of 10 case studies, the analysis will involve:

Descriptive Statistics: Summarization of important data like the system speed and satisfaction.

Regression Analysis: Investigating links between the project management techniques and results with the help of SPSS.

Convergent analysis will be used to combine the qualitative and quantitative results; the results will be cross-validated and synthesized. This will permit data triangulation, and the qualitative richness with quantitative generalizability can be pooled to strengthen the trustworthiness of the study findings.

Findings

This study will be instrumental in informing the body of knowledge where project management frameworks (Agile and PRINCE2) are concerned relative to the performance of mobile banking applications in the Kenyan financial technology industry. The data presented below are based on the results of the study of the performance of mobile banking applications prior to and after the adoption of the disciplined project management approaches.

Quantitative Data

System Uptime

Agile and PRINCE2 methodologies led to the achievement of a high level of system uptime. Prior to the introduction of project management methodologies, the mean system uptime stood at 75 per cent. After implementation, the system uptime increased to 90% which implies an increment of 20 percent in operational efficiency. These results align with earlier studies conducted by Muchiri (2018), who indicated that well-organized project management procedures decreased mobile banking app operational breakdowns.

User Satisfaction

Customer surveys indicated a significant increase in user satisfaction with the systems following implementation of project management frameworks. The pre-implementation user satisfaction average stood at 70 percent. The score rose to 85 percent after Agile and PRINCE2 were introduced, and this represented an improvement of 21 percent. In line with this finding is Saxena et al. (2023), who reported that the user satisfaction in the adoption of mobile banking is greater when there are organized projects management practices.

Success Rate of Transactions

Transaction success rate, which is a key performance indicator of mobile banking application, also improved. The success rate of transactions before adoption of the structured project management practices was averagely 80 per cent. The success rate of transactions rose to 92 percent after they adopted these methodologies. This represents a 12 percent increase, which justifies the claim that Agile and PRINCE2 promote the efficiency of mobile banking apps via cutting down on errors and delays during financial transactions.

Qualitative Data

Besides the quantitative data, qualitative information was obtained through interviews of the stakeholders such as developers, project managers, and end-users. Some major themes came out:

Flexibility vs. Governance

The flexibility offered by Agile was lauded by the developers that were involved in smaller projects and needed rapid iterations. Conversely, the focus of PRINCE2 on governance and formal planning was valued on bigger and more difficult projects. The same is consistent with the observation made by Mulugeta (2024) that Agile offers the flexibility to innovate, and PRINCE2 is needed to ensure that large-scale projects stay close to business goals and compliance.

Security and Risk Management

A perceived change by the stakeholders after the implementation was the attention diverted to managing risk and ensuring security. Particularly, both Agile and PRINCE2 frameworks integrate risk management schemes, which resulted in superior security measures, such as ongoing security audits and training of the stakeholders. This gain corresponds to Ali et al. (2023), who voiced the significance of risk management and stakeholder involvement in the development of mobile banking apps.

Comparative Literature

Results of the present study not only verify but also build upon the existing literature in a number of ways:

According to Muchiri (2018), the performance of mobile banking applications encountered difficulties in Kenya, as a result of unorganized project management. The study is an enhancement of this one since it reveals how Agile and PRINCE2 approaches contribute to better performance metrics, including system availability and transaction success rates.

Saxena et al. (2023) noted the obstacles to the spread of mobile banking in terms of security and privacy issues. We have found that the application of risk management frameworks, which are components of Agile and PRINCE2 methodologies, can directly mitigate these apprehensions, and result in positive security performances and enhanced customer satisfaction levels.

As pointed out by Mulugeta (2024), project management frameworks are also important in spurring innovation in mobile banking. This paper justifies that through the role Agile and PRINCE2 methodologies play in ensuring the effective delivery of secure and user-friendly mobile banking app in Kenya.

Findings

Research Question 1: What is the effect of the uptake of project management on the performance of mobile banking application in the Kenyan financial technology sector?

Application of Agile and PRINCE2 methodologies had a direct positive influence on the performance of the mobile banking applications in terms of higher system uptime, user satisfaction, and transaction success rates.

Research Question 2: How do the project management practices alone contribute to the improvement: Effectiveness of the mobile banking services?

Agile and PRINCE2 frameworks together have enhanced the efficiency of operations, minimized the delivery time and increased the reliability of the services.

Safety of Mobile Banking Apps?

Incorporation of formal risk management procedures such as security audits and training of the stakeholders played an inordinate role in enhancing security of the mobile banking apps.

Mobile banking services: Customer satisfaction?

User satisfaction was increased as a result of the implementation of Agile and PRINCE2 due to the following reasons: it meets the user needs, it gives greater reliability to the services, and it provides an enhanced communication level among the stakeholders.

Research Question 3: How is the adoption of project management framework related to the successful implementation of FinTech, especially mobile banking projects?

The study establishes that the implementation of project management methodologies, namely Agile and PRINCE2, is highly correlated with the successful delivery of FinTech projects resulting in subsequent efficiencies, security and user satisfaction.

Ethical Considerations

The ethical considerations for this study focus on data privacy and participant consent. Anonymization procedures were applied to primary data that emerged from interview methods to protect confidentiality. Public reports provided secondary data which received proper citations to their authors. Stakeholder interviews needed ethical permission for their execution while stakeholders received free will authorization along with full notification about the process. The analysis conducts ethical assessments regarding data utilisation to maintain responsible usage which complies with relevant data privacy laws.

Legal and Ethical Compliance

Mobile banking platforms and other FinTech applications need Legal and Ethical Compliance as their essential requirement to be successful in the FinTech field. Strict legal frameworks apply to this industry because financial information remains sensitive along with being potentially harmful to consumer safety. UK FinTech companies must follow different mandates that span across data privacy standards and measures for fighting money laundering and customer rights protection.

The process of mobile banking applications requires strict adherence to GDPR and Data Protection Act regulations in order to protect user privacy within Europe and Kenya. Specific regulations control how consumer information gets obtained and stored in databases while determining the appropriate methods of sharing personal and financial data to prevent unauthorized use and access. Statutes that govern information security within the FinTech industry require all companies to adopt protocols that defend financial data from breaches and protect private information.

The ethics of FinTech require companies to deliver complete accurate details regarding fees and terms and conditions for their financial service products to customers. Responsible lending practises must be applied throughout operations to protect customers from exploitative products which may cause financial detriment. All businesses should work toward inclusive policies to make their services understandable for various population segments that include poor people along with ethnic minorities and disadvantaged communities.

The corporate governance of FinTech companies requires them to create ethical standards which include both anti-corruption policies together with transparent financial reporting. Marketable grievance systems must exist for customers to report complaints and provider-related issues so users can easily get help when their rights seem violated.

Success in the FinTech business sector requires companies to keep compliance with all legal and ethical requirements. FinTech companies that uphold relevant regulations together with strong ethical practices bring customer trust along with expanded financial inclusion but simultaneously minimize legal issues that could destroy their operational base and their good reputation.

Conclusion

This research study establishes that Agile along with PRINCE2 methodologies contribute significantly to mobile banking project achievement through performance enhancement and both security improvements and heightened customer satisfaction levels. These methodologies need project-specific assessment of scale and nature together with cultural understanding when applied to implementations. Uniqlo demonstrates its commitment to ethical practises together with leadership development and diversity which strengthens its international operations while providing useful concepts for FinTech sector organisations.

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