ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
SCHOOL OF BUSINESS

ASSESMENT OF PROJECT MANAGEMENT PRACTICES IN THE DEVELOPMENT OF DIGITAL LENDING PLATFORMS - A CASE STUDY OF MICHU

BY
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A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS IN PROJECT MANAGEMENT

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LIST OF ACRONYMS

BPASS	Banking Platform as a Service

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ABSTRACT

This study examines the project management practices employed in developing digital lending platforms, focusing on the Michu platform, a leading fintech solution in Ethiopia. Amidst rapid technological advancements, digital lending platforms require robust project management to succeed. The research employs a qualitative and quantitative methodology, analyzing the effectiveness of various project management approaches, particularly the Scrum framework, within Michu's development. Results indicate that Scrum's adaptability and iterative process significantly enhance project execution, aligning well with dynamic project requirements and contributing to successful outcomes. Discussions explore the implications of these findings for future digital platform developments, suggesting that integrating agile methodologies like Scrum can substantially improve project management practices in similar contexts. This study contributes to the literature by detailing practical applications of project management techniques in a burgeoning sector and setting a benchmark for future research in digital lending platform development.

Keywords: *Project management, Project management knowledge areas, Project management practice, Michu*

CHAPTER ONE

1. INTRODUCTION

This chapter is dedicated to providing insight into the general objective of the study, the problem leading to the study, and a review of existing literature relevant to the problem and its deficiencies in addressing the issues at hand. It also asserts the significance and purpose of this particular study in the context of enhancing the effectiveness of project management practices in the development of digital lending platforms, specifically focusing on the Michu platform.

1.1. Background of the Study

Project management has become an indispensable tool for the success of various ventures, including the digital lending industry. It serves as a means of bridging the gap between failure and success in the implementation of projects (Project Management Institute, 2013). Project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements (Project Management Institute, 2013). A project is a temporary endeavor designed to produce a unique product, service, or result within a finite timeframe. Additionally, the importance of project management capabilities for sustainable business process management is underscored, indicating that programs executed in project form require proficient project management capabilities (Plattfaut, 2022).

Digital lending platforms like Michu, an innovative fintech solution that has transformed traditional lending procedures, have experienced significant growth in recent years. By employing a user-friendly, efficient, and flexible approach to lending, these platforms have attracted a substantial number of customers, particularly in urban areas (Vala et al., 2022).

Patanakul et al. (2010) conducted an empirical study highlighting that project management aids organizations in reducing product development time to market, optimizing resource utilization, managing technological complexity, meeting stakeholder expectations, and enhancing competitiveness in the global market.

Despite growing awareness and utilization of project management in various sectors, including the financial industry, the failure rate of projects, particularly IT-related, remains high (Millhollan, C., & Kaarst-Brown, M., 2016). This is often attributed to factors like the complexity of technology, rapid technological advancements, and the intricacies of managing human resources within a technical environment (Millhollan, C., & Kaarst-Brown, M., 2016).

IT projects, which involve the use of hardware, software, and networks to create a product, service, or result, have become increasingly important and complex. To succeed in these projects, it is crucial to employ modern project management techniques, especially in the realm of IT. By doing so, they enhance their chances of achieving success in IT projects (Schwalbe, 2015).

The literature on project management, while extensive, often places a significant emphasis on the role of the project manager in driving the success of a project (Millhollan, C., & Kaarst-Brown, M., 2016). This encompasses their leadership style, effective communication skills, and technical expertise. However, project success extends beyond these traditional parameters of time, cost, and quality. It includes achieving project management objectives and realizing benefits for the organization and its stakeholders (Millhollan & Kaarst-Brown, 2016).

Factors contributing to the success of IT projects include clear objectives, executive support, user involvement, an experienced project manager, and effective communication. According to Zhang (2024), a thorough understanding and implementation of stakeholder management, benefits management, risk management, and change management are crucial. Ayat et al. (2020) highlight the significance of user participation, stakeholder relationships, project manager emotional intelligence, communication skills, leadership skills, and top management support as critical factors for success in ICT projects. Lang and Müller (2021) discuss the role of communication and involvement, particularly in stakeholder management, as key success factors for ICT projects undergoing digital transformation. Zerafat (2023) emphasizes the responsibility of project managers in effectively utilizing ICT tools for stakeholder involvement. Despite these established factors, there are still gaps in the literature concerning the specific application and success factors of project management within the digital lending industry, which this study aims to address (Getugi, 2023).

Over the years, despite its rapid growth and innovation, the digital lending industry has faced significant challenges in project execution, primarily due to a high rate of project failures. This has been particularly prevalent in IT projects within the sector, where the complexity of technology and a lack of proper project management practices have led to failures in delivering projects within the stipulated time and budget (Millhollan & Kaarst-Brown, 2016). Although these issues are well-documented in general IT project management literature, there is a notable absence of targeted research focusing specifically on digital lending platforms. This gap in research persists despite the critical need for effective project management to ensure the sustainability and success of these platforms. Therefore, this study seeks to delve into the project management practices currently in place in the digital lending industry, with a specific focus on Michu. By identifying the factors contributing to both successes and failures, this research aims to propose a set of refined project management practices that could serve as a benchmark for the industry, thereby supporting the development of more robust and effective management strategies for digital lending initiatives.

1.2. Statement of the Problem

In the rapidly evolving domain of IT project management, especially in developing nations like Ethiopia, challenges are multifaceted. Studies by Alemu et al. (2020) and others highlight difficulties in key areas of project management, including resource allocation, monitoring, control, and collaboration. These challenges are particularly pertinent to the development of digital lending platforms like Michu, underlining the critical need for robust project management practices.

The literature on IT project management, while extensive, often overlooks the unique challenges faced in the Ethiopian context. Studies like those by Alemu et al. (2020) have begun to address these challenges, particularly regarding cloud-based solutions in IT project management. However, there remains a significant gap in understanding how these practices are applied in pioneering digital lending platforms like Michu, the first of its kind in Ethiopia.

Cornelia and Georgiana (2011) emphasize the critical role of IT projects in financial institutions, especially in developing countries, for enhancing customer service and implementing advanced information systems. Despite this, the specific challenges in managing these projects, as Hailu (2016) cited in Freezer (2018) notes, remain underexplored in Ethiopia.

Zewdu Abel's 2021 assessment of IT project management practices in Zemen Bank S.C. highlights similar challenges, reflecting a broader issue within Ethiopian financial institutions and underscoring the importance of effective project management for digital platforms like Michu. The Project Management Body of Knowledge (PMBOK), as described by Wideman (1998), identifies ten crucial knowledge areas for project success. However, the practical application of these areas in digital lending, particularly in a groundbreaking project like Michu, has not been sufficiently examined.

The study of Michu offers a unique opportunity to fill these gaps. As the first digital lending platform of its kind in Ethiopia, Michu's development and management practices can provide invaluable insights for other software development projects in the country. This research aims to evaluate these practices, guided by the PMBOK knowledge areas, contributing to the limited body of research on effective IT project management in Ethiopian financial institutions and potentially influencing the broader sector.

By studying Michu, this research will not only contribute to the academic understanding of effective project management strategies but also offer practical guidelines that can be applied in the fintech sector, potentially transforming the way digital lending platforms and other IT projects are developed and managed in Ethiopia.

The specific problem this study intends to address is the lack of comprehensive studies on the application of project management practices in the development of digital lending platforms in emerging economies, particularly in Ethiopia. This includes a dearth of detailed case studies like Michu, which can provide critical insights into the application and effectiveness of various project management methodologies in this specific context.

Addressing this problem is essential due to the increasing critical role of IT projects in financial institutions in Ethiopia and similar emerging markets. Effective project management is crucial for the success of digital lending platforms. This study aims to contribute valuable insights into the field of IT project management, focusing on enhancing the efficacy and success of digital lending platforms in Ethiopia and similar contexts.

This research employed qualitative research methods, including interviews and focus groups, to explore these identified gaps. These methods were suitable for understanding the complex and nuanced challenges and practices in IT project management for digital lending platforms, specifically in the context of developing countries.

This research was poised to contribute significantly to the academic understanding of effective project management strategies and offered practical guidelines applicable in the fintech sector. By exploring and addressing the identified gaps, this study enhanced the body of knowledge in IT project management and potentially transformed the development and management of digital lending platforms in emerging economies like Ethiopia.

1.3. Research of Question

The research questions of the study are:

- What methodologies were employed for project management in the development of Michu?
- How effective were the scheduling techniques in achieving the timelines of the Michu project?
- What strategies were utilized for risk management during the Michu project?
- How was project communication managed within the Michu team?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study is to assess the project management practices in the development of digital lending platforms, focusing on the case of Michu.

1.4.2. Specific Objectives

- To identify the project management methodologies employed in the development of Michu.
- To assess the effectiveness of the scheduling techniques in meeting the project timelines of Michu.

- To assess the risk management strategies utilized during the Michu project.
- To assess how project communication was managed within the Michu team.

1.5. Significance of the Study

This research holds several significances. Initially, it advances the body of knowledge by revealing insights into the project management techniques utilized in the development of digital lending platforms. Such findings aim to bridge the gap in comprehension of the critical success factors in the digital lending industry.

Moreover, the study's results and recommendations will profit project managers, software development teams, and stakeholders engaged in digital lending projects, directing them towards efficient project management practices and strategies.

Apart from offering guidance to project managers, software development teams, and stakeholders involved in digital lending projects, this research's findings and recommendations may also inform the development of future digital lending schemes and contribute to the overall advancement of the financial technology sector.

1.6. Scope of the Study

The research focused specifically on the Michu digital lending platform and the project management techniques utilized in its creation. The primary subjects of this inquiry were the development team at Kifiya responsible for developing the Michu platform.

The study examined the particular procedures and methodologies employed in the project management of Michu, with a strong emphasis on Agile practices. It endeavored to assess how all ten project management knowledge areas were applied during the development of the platform.

Given the exploratory nature of this research, the study employed qualitative methods to obtain in-depth insights. Data was obtained through a range of techniques, including interviews, focus group discussions, and questionnaires. These methods allowed for a comprehensive understanding of the project management practices used in the development of Michu.

The scope of this study was limited to the project management practices within Kifiya during the development of the Michu platform. It did not extend to other products created by Kifiya or other digital lending platforms. The findings of this study should be interpreted within this context.

1.7. Limitations of the Study

This study, while comprehensive in its scope, encounters several limitations that must be acknowledged. First, the research primarily focuses on the Michu digital lending platform, which may limit the generalizability of the findings. The specific context and operational environment of Michu could mean that the project management practices identified and analyzed might not be applicable to other digital lending platforms, especially those operating in different regulatory or economic contexts.

Second, the study relies on data collected from project management documentation, interviews, and direct observations within a single organization. This methodological approach, while in-depth, might introduce biases related to self-reporting and the subjective interpretations of participants. Additionally, the retrospective analysis of project outcomes may not fully capture real-time decision-making processes and challenges.

Third, the rapid evolution of technology in the digital lending sector means that the findings could become less relevant as new technologies and methodologies emerge. The fast-paced nature of the industry might lead to quick obsolescence of specific tools and practices, potentially limiting the long-term applicability of the study's conclusions.

Furthermore, the study does not extensively explore external factors such as economic fluctuations, regulatory changes, or market competition, which can significantly influence project management practices and outcomes. The exclusion of these variables may overlook some external pressures that could affect the scalability and transferability of the findings.

Lastly, the scope of the research does not include a comparative analysis with other sectors or digital lending platforms outside Ethiopia. Such a comparison could provide a broader perspective

on the effectiveness of project management practices across different settings, enhancing the robustness of the recommendations.

These limitations are critical for understanding the scope and applicability of the study's findings and should be considered when interpreting the results and formulating strategies based on this research.

1.8. Definition of Terms

Digital Lending Platforms: Digital tools or services that facilitate lending processes through digital channels, eliminating the need for physical documentation and in-person meetings. They leverage technology to assess creditworthiness, manage loans, and provide services remotely. (UNDP Ethiopia, 2024).

Michu: In the context of this research, Michu refers to the digital lending platform developed by Kifiya Technology and Services for the Cooperative Bank of Oromia, which serves as a case study for this thesis. (Michu, 2024)

BPASS (Banking Platform As A Service): In this context, refers to a cloud-based service model that enables the development and delivery of digital banking platforms, including lending services, without the need for organizations to build and maintain their own IT infrastructures. (Kifiya, 2023)

1.9. Organization of the Paper

The study is structured into five chapters. Chapter One outlines the background, problem statement, scope, significance, and objectives of the research project. Chapter Two reviews existing literature to deepen understanding of the research topic. Chapter Three describes the research methodology employed in the study. Chapter Four presents the findings and discusses their implications. Finally, Chapter Five summarizes the study's findings and offers recommendations to address the identified issues, along with suggestions for future research.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

The objective of this chapter is to provide an in-depth understanding of project management practices in the development of digital lending platforms, with a specific focus on the Michu platform. This exploration will be grounded in a comprehensive review of theoretical, conceptual, and empirical literature to date. Engaging with such literature is instrumental in adopting the most effective methods and approaches for managing projects within the rapidly evolving digital lending industry.

As Creswell (2013) defines, a literature review is a summary of journal articles, books, and other documents that describe the past and present state of knowledge on a specific research topic. In the context of this study, the literature review will enable the researcher to uncover existing knowledge in the area of project management practices in the digital lending industry.

Furthermore, as highlighted by Snyder (2019), a literature review serves as a research methodology in its own right, providing a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners. This literature review will not only provide a historical context for the research but also establish its relevance by demonstrating the need for an updated examination of project management techniques. The rapid expansion of digital financial services, underscored by the challenges highlighted by the Indicus Centre for Financial Inclusion (2021), necessitates a fresh look at how project management practices can evolve to meet the unique demands of digital lending platforms.

2.1. Theoretical Review

2.1.1. Definitions of Project and Project Management

A project is traditionally defined as a "temporary endeavor undertaken to create a unique product, service, or result" (Schwalbe, 2009, p. 4). It is distinguished from operations by having a definitive conclusion when its specific objectives are achieved or deemed unattainable. The scope of projects

can vary significantly, ranging from small initiatives involving a single individual to massive, multi-year ventures engaging thousands of people, such as launching a new pharmaceutical product or developing a new clothing line (Schwalbe, 2009, p. 4).

Project management is the application of knowledge, skills, tools, and techniques to guide and control project activities to meet its requirements (Project Management Institute, 2013). This discipline requires balancing the project constraints, which include, but are not limited to, scope, time, cost, quality, resources, and risks. Effective project management also necessitates maintaining active communication with stakeholders and managing their expectations throughout the project lifecycle (Project Management Institute, 2013).

2.1.2. Digital Platforms

The development of digital platforms is significantly shaped by the advancements associated with the Fourth Industrial Revolution. Emerging technologies such as artificial intelligence, the Internet of Things (IoT), nanotechnology, and autonomous vehicles are pivotal in this new era. These technologies facilitate a transformation in production and operational processes, promoting efficiency and connectivity across different platforms (Simion, Popa, & Albu, 2018).

The term "Project Management 4.0" has been coined to describe the evolution of project management practices that integrate these new technologies. This concept emphasizes the importance of real-time project monitoring, advanced data analytics for risk management, and the use of virtual teams to manage projects across geographically dispersed locations (Simion, Popa, & Albu, 2018). Despite these advancements, digital platform development faces significant challenges such as managing increased project complexity and integrating diverse technologies, which necessitates continual adaptation of project management methodologies.

2.1.3. Project Management Methodologies

2.1.3.1. Overview of Agile and Scrum Approaches

Agile methodologies have revolutionized project management across various industries, particularly in software development. These methodologies prioritize flexibility, iterative development, and continual feedback, allowing for adaptive planning and evolutionary

development. Agile's foundational principles are encapsulated in the Agile Manifesto of 2001, which advocates for adaptive planning, evolutionary development, early delivery, and continual improvement, all with an eye toward being able to respond quickly to changes (Beck et al., 2001).

2.1.3.2. Core Principles of Agile Methodologies

Agile methodologies are characterized by several core principles that guide their implementation in software development projects. These principles include the early and continuous delivery of valuable software, embracing changing requirements, daily collaboration between business stakeholders and developers, prioritizing face-to-face conversations, and considering working software as the primary measure of progress (Haig-Smith & Tanner, 2016).

Agile methodologies are designed to facilitate frequent delivery of valuable software within short timescales, typically ranging from a few weeks to a couple of months. According to Haig-Smith and Tanner (2016), this emphasis on rapid and continuous delivery aligns with the core principle of agile processes, which prioritize the early and continuous delivery of functional software to stakeholders. Agile methodologies enable teams to adapt quickly to evolving customer needs and market demands by embracing changing requirements and encouraging iterative development (Amajuoyi, 2024). Maruping, Venkatesh, and Agarwal (2009) explain that this iterative approach to software development allows for incremental progress and the incorporation of feedback throughout the development process.

Furthermore, Gultekin (2024) notes that agile methodologies promote daily collaboration between business stakeholders and developers, fostering a culture of trust and communication within the project team. Stormi, Laine, and Korhonen (2019) highlight that face-to-face conversations are valued in agile practices as they are considered the most effective means of conveying information and ensuring shared understanding among team members. Working software is emphasized as the primary measure of progress in agile development, highlighting the importance of tangible outcomes and functional deliverables over comprehensive documentation or theoretical plans.

In conclusion, the core principles of agile methodologies, including frequent delivery, adaptability to changing requirements, collaboration, face-to-face communication, and working software as a

measure of progress, collectively support the agile philosophy of delivering value quickly and efficiently in software development projects.

2.1.3.3. Scrum: A Practical Implementation of Agile

Scrum is a framework of the Agile methodology based on empiricism control theory, emphasizing that experience brings knowledge and enhances decision-making capabilities (Bhavsar et al., 2020). Scrum consists of ceremonies, artifacts, and roles that aid in visualizing project progress, providing information on intermediate product quality, and helping employees adjust their work to meet customer desires (Vogelzang et al., 2020). Scrum is a tool of Agile methodology that adopts the Agile manifesto through an incremental and iterative approach to IT product development (Rachman & Sushandoyo, 2021). The Scrum framework prescribes that management is the responsibility of the entire team and eliminates the need for a Project Manager role (Lim, n.d., 2021).

- **Roles:**

The Scrum framework, a widely used Agile methodology, defines specific roles crucial for the successful implementation of projects, including the Scrum Master, the Product Owner, and the Development Team. According to Jaime and Andrade-Arenas (2021), the Scrum Master plays a pivotal role in facilitating the Scrum process and ensuring that the team adheres to Scrum principles and practices. The Product Owner is tasked with representing the stakeholders' interests and ensuring the delivery of value to the business, while the Development Team is responsible for delivering the potentially shippable product at the end of each sprint. Additionally, Paasivaara (2021) highlights the importance of the Scrum Master's role in supporting and guiding the team through the Scrum processes.

- **Ceremonies**:

  Sprint planning is a critical ceremony in the Scrum framework where the development team, including the Scrum Master and Product Owner, collaborates to define the work for the upcoming sprint. This ceremony focuses on setting the sprint goal and selecting user stories or tasks for the sprint backlog, as described by Rahy et al. (2020). It is crucial for establishing a

shared understanding of the work to be done and ensuring that the team is aligned on the sprint goal and scope (Torrente et al., 2021).

During the sprint planning session, the Product Owner introduces the prioritized product backlog items to the team. Together, they discuss and clarify the requirements and acceptance criteria for each item. The team then assesses the effort required for each item and decides how many items they can realistically complete during the sprint, considering their capacity and velocity (Ardo et al., 2022). This collaborative process leads to a realistic plan for the sprint and sets a clear direction for the upcoming work.

Furthermore, sprint planning provides an opportunity for the team to address questions, resolve uncertainties, and, if necessary, break down the selected user stories into smaller tasks. By the end of the sprint planning meeting, the team should have a well-defined sprint backlog that outlines the planned work, along with a clear understanding of the sprint goal and the strategy to achieve it (Ndlela & Tanner, 2022).

The Daily Scrum, also known as the Daily Stand-up, is a pivotal ceremony in the Scrum framework designed to foster communication, collaboration, and alignment among the development team. This daily meeting, typically lasting about 15 minutes, is conducted at the same time and place each day to promote consistency and routine, as highlighted by Rahy et al. (2020). It includes all development team members, with the Scrum Master facilitating and the Product Owner often participating as an observer, unless they are part of the development team (Torrente et al., 2021).

During the Daily Scrum, each team member shares updates on three key areas: their achievements since the last meeting, their next steps, and any obstacles that might impede their progress (Ardo et al., 2022). The meeting focuses on daily advancements toward the sprint goal, early identification of potential issues, and collective efforts to overcome any challenges (Ndlela & Tanner, 2022).

Contrary to being a status report session for the Scrum Master or Product Owner, the Daily Scrum serves as a strategic meeting where team members coordinate their tasks, exchange information, and commit to one another. It provides a daily opportunity for the team to inspect

and adapt their work plan, ensuring alignment with the sprint goal and facilitating necessary adjustments to their approach (Dingsoeyr et al., 2019).

The Sprint Review is a crucial ceremony in the Scrum framework, held at the end of each sprint. It involves the entire Scrum team along with stakeholders and customers. This meeting is a chance for the development team to present the work completed during the sprint and to collect feedback on the increment delivered, as outlined by Rahy et al. (2020). The Sprint Review centers on showcasing the functionality built during the sprint, eliciting feedback from stakeholders, and discussing potential changes to the product backlog based on the feedback received (Torrente et al., 2021).

During the Sprint Review, the Product Owner reviews the completed user stories or features with stakeholders, emphasizing the achievements and their alignment with the product vision and sprint goal. The development team then demonstrates the working product increment, inviting feedback on its functionality, usability, and areas for improvement (Ardo et al., 2022). Stakeholders are encouraged to ask questions, offer feedback, and express their views on the delivered increment, which promotes collaboration and helps ensure the product meets their expectations (Ndlela & Tanner, 2022).

The Sprint Review is not merely a formal presentation but a collaborative dialogue designed to gather feedback, validate assumptions, and confirm that the product increment satisfies stakeholder needs. It offers a vital opportunity for the Scrum team to review the product increment, adjust the product backlog based on stakeholder feedback, and plan for the next sprint (Dingsoeyr et al., 2019). This meeting is key to fostering transparency, enhancing customer collaboration, and driving continuous improvement within the Scrum process.

According to Rahy et al. (2020), the Sprint Retrospective is a key ceremony in the Scrum framework, taking place at the end of each sprint and involving the entire Scrum team. This meeting is a structured opportunity for the team to reflect on their processes, interactions, and outcomes to identify improvement areas. It aims to enhance collaboration, productivity, and overall effectiveness. Torrente et al. (2021) highlight that the focus of the Sprint Retrospective is on fostering a culture of continuous improvement within the team and enabling adjustments for better future performance.

During the Sprint Retrospective, the team examines what went well and what could have been better during the sprint, and they plan actions for the next sprint to implement these improvements. Ardo et al. (2022) note that the Scrum Master typically facilitates this meeting, ensuring that all team members have the opportunity to voice their perspectives and contribute to the discussion. Ndlela & Tanner (2022) describe the retrospective as a collaborative and constructive session where team members openly discuss their experiences, challenges, and ideas for enhancing their processes and teamwork.

Dingsoeyr et al. (2019) explain that the Sprint Retrospective follows a structured format, often employing the "What Went Well, What Could Be Improved, and Actions for the Next Sprint" approach. This method allows the team to celebrate successes, pinpoint growth areas, and outline specific actions to improve in the upcoming sprint. By engaging in this reflective practice regularly, the team continuously adapts and refines their processes, leading to increased efficiency, quality, and satisfaction among team members.

- **Artifacts**:

The product backlog is a fundamental artifact in Scrum methodology, serving as a dynamic and prioritized list of requirements for the product being developed (Orejuela et al., 2023). It contains all the features, enhancements, bug fixes, and other work items that need to be addressed in the project (Rachmawati et al., 2023). The product backlog is continuously refined and updated throughout the project lifecycle to reflect changing priorities and requirements (Hayati, 2024).

The product backlog is typically managed by the Product Owner, who is responsible for maximizing the value of the product and ensuring that the backlog is visible, transparent, and understood by all stakeholders (Huss et al., 2023). The items at the top of the product backlog are more detailed and refined, while items further down may be broader and less defined (Garcia et al., 2020).

Prioritization of items in the product backlog is crucial, with the most valuable and high-priority items placed at the top to guide the development team on what to work on next

(Hassani-Alaoui et al., 2020). The product backlog is used during sprint planning to select items for the upcoming sprint based on the team's capacity and velocity (Bhavsar et al., 2020).

The product backlog plays a vital role in fostering collaboration between the Product Owner, development team, and stakeholders, ensuring that everyone has a clear understanding of the project's goals and requirements (Torrente et al., 2021). It also helps in tracking progress, making informed decisions, and adapting to changes effectively during the project (Diebold & Theobald, 2018).

The sprint backlog is a crucial artifact in Scrum methodology, representing the subset of items from the product backlog that the development team commits to completing during a sprint (Orejuela et al., 2023). It is a dynamic document that evolves throughout the sprint as tasks are completed, added, or modified (Rachmawati et al., 2023). The sprint backlog is created during the sprint planning meeting, where the team selects the items they believe they can deliver within the sprint timeframe (Hayati, 2024).

The sprint backlog typically includes user stories, tasks, bugs, and any other work items necessary to achieve the sprint goal (Huss et al., 2023). Each item in the sprint backlog is broken down into smaller, more manageable tasks that can be completed within a few hours to a few days (Garcia et al., 2020). This breakdown helps the team track progress, identify dependencies, and ensure that work is completed incrementally throughout the sprint (Hassani-Alaoui et al., 2020).

The sprint backlog is owned and managed by the development team, who are responsible for organizing and updating it daily during the sprint (Bhavsar et al., 2020). The Scrum Master facilitates the sprint backlog refinement process and ensures that the team is focused on achieving the sprint goal (Torrente et al., 2021). The Product Owner may also provide input and clarification on the items in the sprint backlog to ensure alignment with the overall product vision (Diebold & Theobald, 2018).

The sprint backlog serves as a tool for transparency, communication, and collaboration within the development team, enabling them to self-organize and make decisions on how to best

achieve the sprint goal. It also helps in tracking progress, identifying impediments, and adapting to changes quickly to ensure successful sprint delivery.

The concept of the product increment is central to Scrum methodology, as explained by Orejuela et al. (2023). It encompasses all the product backlog items completed during a sprint, alongside the increments from previous sprints, culminating in a potentially shippable product increment that enhances the overall product value. This outcome is not just an abstract measure but a tangible, usable, and potentially releasable version of the product, serving as a critical measure of progress (Rachmawati et al., 2023).

Hayati (2024) further emphasizes that the product increment allows stakeholders to assess the current state of the product and provide feedback, which is essential for its continuous refinement. The iterative and incremental nature of this process, as detailed by Huss et al. (2023), ensures that with each sprint, the development team delivers a product increment that demonstrates added value, gathers critical feedback, and adapts to meet evolving customer requirements and expectations. This ongoing cycle is fundamental to the agile process, fostering a dynamic environment where product enhancements align closely with user needs and market demands.

Scrum's emphasis on iterative development and continuous improvement facilitates the management of complex software development projects through regular feedback loops and collaborative decision-making (Schwaber & Sutherland, 2020). This approach not only supports the core Agile principles but also introduces specific practices that help teams structure and manage their work more effectively, thereby enhancing productivity and addressing customer needs more precisely.

2.1.3.4. Relevance to Fintech and Digital Projects

The implementation of Agile and Scrum methodologies holds significant relevance for fintech and digital projects, as demonstrated by the application of these approaches in various sectors, including the banking and finance industries. The Agile framework, with its emphasis on flexibility, rapid iteration, and responsiveness to change, aligns closely with the dynamic and fast-paced environment of fintech (Brühl, 2022).

2.1.3.5. Agile Methods in Fintech

Agile methodologies, such as Scrum, Kanban, and Extreme Programming (XP), play a crucial role in the development of digital lending platforms, as they emphasize collaboration, customer feedback, and incremental delivery. These aspects are particularly beneficial in the fast-paced and dynamic environment of digital lending, as noted by Popoola (2024).

In developing digital lending platforms, the agile approach enables continuous refinement of features and functionalities based on user feedback and evolving market conditions. Agile methods, by breaking development tasks into smaller, manageable units, facilitate the timely delivery of value to customers and stakeholders, a process detailed by Au et al. (2020).

The concept of a Minimum Viable Platform (MVP) is particularly relevant in agile development for digital lending platforms. Focusing on essential features that provide immediate value to users allows teams to quickly launch an initial version of the platform and then enhance it iteratively based on feedback and data-driven insights (Derave et al., 2022).

Furthermore, agile methodologies facilitate the integration of innovative technologies such as artificial intelligence (AI), natural language processing (NLP), and the Internet of Things (IoT). These technologies, as Tanniru et al. (2021) suggest, can significantly enhance platform capabilities in risk assessment, customer service, and personalized recommendations, thereby contributing to a more seamless and user-centric lending experience.

In conclusion, agile methods offer a robust framework for developing digital lending platforms, promoting collaboration, adaptability, and customer-centricity. By adhering to agile principles and practices, development teams can effectively navigate the complexities of digital transformation, deliver incremental value, and remain responsive to market dynamics and user needs.

2.1.3.6. Scrum's Impact on Fintech

Scrum, a specific Agile framework, is particularly well-suited for projects in the fintech industry, where requirements can often be unclear or subject to change due to complex financial regulations

and evolving consumer expectations. The structured yet flexible nature of Scrum offers several key benefits when applied to fintech projects.

Firstly, Scrum enhances collaboration and transparency, promoting teamwork among different departments and stakeholders, including regulatory bodies. This is crucial in financial projects where compliance and clear communication are paramount. Hanslo et al. (2019) highlight that the collaborative environment facilitated by Scrum ensures that all parties are aligned and working towards common goals.

Secondly, the rapid prototyping and feedback loops inherent in Scrum's sprint cycles enable fintech projects to quickly develop prototypes and incrementally refine products based on user demands and market conditions. According to Hanslo et al. (2019), this iterative approach allows for continuous improvement and adaptation, ensuring that the final product meets the evolving needs of users and the market.

Moreover, Hanslo et al. (2019) note that the regular reviews and updates in Scrum contribute to enhancing the quality and reliability of financial applications, which is critical in an industry where security and performance are of utmost importance. By incorporating feedback and making continuous adjustments, Scrum helps fintech companies deliver high-quality products that meet industry standards and user expectations.

In conclusion, the structured yet flexible framework of Scrum makes it an ideal methodology for fintech projects, offering benefits such as improved collaboration, rapid prototyping, and enhanced quality and reliability. By leveraging Scrum, fintech companies can navigate the complexities of the industry, adapt to changing requirements, and deliver innovative solutions that meet the dynamic needs of the financial sector.

2.1.3.7. Empirical Evidence from the Sector

Studies like those conducted by Khasanah and Sarmini (2023) have shown that the Scrum method can significantly enhance the development and management of fintech applications. For instance, in the case of the Keep Wallet application, Scrum was instrumental in managing complex software development processes, ensuring high-quality outputs, and maintaining alignment with strategic

business objectives. This aligns with broader industry findings that suggest Scrum and other Agile methodologies not only facilitate technical development but also enhance strategic and operational flexibility in the fintech sector (Brühl, 2022)

2.1.4. Digital Platform Development

2.1.4.1. Characteristics and Unique Aspects of Digital Platforms

Digital platforms serve as critical intermediaries within modern economic systems, enabling interactions between different user groups, such as consumers and producers, through technologically mediated services. These platforms are characterized by their ability to scale efficiently at marginal costs, largely due to network effects where the value of the platform increases as more participants join the network (Özcan et al., 2022).

The unique architectural aspect of digital platforms lies in their ability to orchestrate and create value through ecosystems that transcend traditional business boundaries. They facilitate exchanges in multi-sided markets, providing infrastructure and setting rules that enable transactions among users. This dynamic capability allows platforms to adapt to the rapid pace of digital change, leveraging technologies like cloud computing and big data analytics to continuously refine and expand their offerings (Özcan et al., 2022).

2.1.4.2. Challenges in Digital Platform Development

Developing a successful digital platform involves navigating a complex array of challenges, key among them being the management of technological and strategic elements to sustain competitive advantages. The primary challenges include ensuring robust data security and privacy, managing a platform's reputation, and maintaining user trust and engagement. Additionally, platforms must navigate complex regulatory environments that can vary significantly by region and industry, influencing their operational and strategic flexibility (Özcan et al., 2022).

A significant challenge is the management of network effects which, while beneficial, can also lead to monopolistic dominance and market saturation. Balancing these effects requires strategic foresight and continuous adaptation to prevent market lock-in or platform obsolescence (Özcan et al., 2022).

2.1.4.3. Success Factors for Digital Platforms

The success of digital platforms depends on a variety of critical factors that intertwine operational and strategic execution, ensuring the platform's effectiveness and sustainability. A key factor is the platform's ability to leverage and manage network effects efficiently. According to Hollebeek et al. (2020) and Murthy & Madhok (2021), this involves enhancing value for all participants with each new user addition. This aspect is crucial for driving user engagement and fostering growth on the platform, as it capitalizes on the exponential increase in value created by growing numbers of interconnected users.

Strategic governance and stakeholder management are also pivotal, ensuring that the platform not only attracts but also retains high-quality users and providers. The platform must facilitate a high level of interaction and transaction ease, promoting a seamless user experience that can adapt to evolving user expectations and technological advancements (Özcan et al., 2022).

2.1.5. Project Management in Digital Platforms: A Case Study from the Financial Sector

Background

In the dynamic field of financial software projects, the shift from traditional methodologies to Agile frameworks is pivotal for addressing rapid market changes and complex customer requirements. This transformation is driven by the necessity for flexibility, speed, and improved stakeholder engagement, which are often constrained by more rigid traditional methods (Łukasiewicz & Kucharska, 2021).

Case Study Overview

The case study focuses on a financial institution that adopted Agile methodologies to overhaul its software development processes. This change was spurred by the challenges posed by traditional methods, which often led to delays, inflexibility, and misalignment with customer needs (Łukasiewicz & Kucharska, 2021).

Implementation Challenges

The transition to Agile methodologies, particularly Scrum, involved overcoming several obstacles:

- **Cultural Shift**: Moving from a hierarchical to a more collaborative, team-oriented approach required significant cultural adjustments within the organization.
- **Training and Skill Development**: Comprehensive training was necessary to equip teams with the knowledge and skills to effectively implement Agile practices.
- **Integration with Existing Systems**: Agile had to be integrated with existing legacy systems without disrupting ongoing operations (Łukasiewicz & Kucharska, 2021).

Success Factors

The successful implementation of Agile methodologies was attributed to several key factors:

- **Strong Leadership Support**: Active sponsorship from senior management helped in driving the change and addressing resistance from various quarters.
- **Tailored Agile Practices**: Agile frameworks were customized to fit the specific needs of the organization, ensuring relevance and effectiveness.
- **Continuous Improvement**: Feedback loops were established to continuously refine processes and improve outcomes based on real-time insights (Łukasiewicz & Kucharska, 2021).

Lessons Learned

The case study provided several valuable insights:

- **Flexibility and Customer Focus**: Agile methodologies facilitated a more responsive development process that closely aligned with customer demands and market changes.
- **Improved Collaboration**: Enhanced communication and collaboration across teams helped in quicker resolution of issues and faster development cycles.
- **Stakeholder Satisfaction**: Regular stakeholder engagement through the Agile process significantly improved the satisfaction levels and helped in aligning the final product with user expectations (Łukasiewicz & Kucharska, 2021).

Effective data management and analytics capabilities are crucial, enabling the platform to harness insights from user interactions to optimize operations and tailor offerings to better meet user needs. Moreover, aligning the platform's operational practices with regulatory requirements and ethical standards is essential to sustain long-term growth and avoid legal and social pitfalls (Özcan et al., 2022).

2.1.6. Project Management Knowledge Areas

2.1.6.1. Project Scope Management

Project scope management involves collaborating with all appropriate stakeholders to define, gain written agreement for, and manage all the work required to complete the project successfully (Schwalbe, 2015). It is crucial to clearly define what the project will accomplish to avoid scope creep, which can lead to projects going over budget and beyond the scheduled completion date.

Project Scope Management involves the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully. It is primarily concerned with defining and controlling what is and is not included in the project (PMI, 2013).

In the digital era, the scope of project management has expanded significantly. The concept of Project Management 4.0 has emerged, characterized by digitization, virtualization, transnationalization, professionalization, and a shift from Waterfall to Agile methodologies. This new approach to project management focuses on the relationship between the project and the organization, and the maturity of organizations in project management (Simion, Popa, & Cioc, 2018).

2.1.6.2. Project Time Management

Project Time Management is a crucial aspect of project management that involves estimating the duration it will take to complete the work, developing an acceptable project schedule given cost-effective use of available resources, and ensuring timely completion of the project (Schwalbe, 2015).

Project Time Management includes the processes required to manage the timely completion of the project. It involves planning, scheduling, and controlling activities to meet project deadlines (PMI, 2013).

The process of time management in a project involves a series of activities that ensure the project is completed within the stipulated time. These activities include defining the activities necessary to complete the project, sequencing these activities in the order they need to be carried out, estimating the resources and duration for each activity, developing a schedule, and controlling this schedule to ensure the project stays on track (Schwalbe, 2015).

Effective time management is essential for the successful completion of a project. It helps in avoiding delays, reduces the risk of increased costs, and ensures efficient use of resources. It also aids in setting realistic expectations for project stakeholders and provides a clear roadmap for achieving the project objectives within the set timeframe (Schwalbe, 2015).

In the context of project management tools and techniques, some popular time-management tools and techniques include Gantt charts, project network diagrams, and critical path analysis (Schwalbe, 2015).

2.1.6.3. Project Cost Management

Effective project cost management is crucial for the successful completion of projects within the allocated budget. It encompasses estimating, budgeting, and controlling costs, with methods like the Earned Value Method (EVM) playing a key role in monitoring project performance and identifying budget deviations. Accurate estimation of project budgets is vital to prevent cost overruns or underruns. Techniques such as Net Present Value (NPV) and Internal Rate of Return (IRR) are essential for evaluating investment decisions and selecting the best project investment alternatives, as highlighted by Nganga & Amuhaya (2013).

Managing project scope creep is another significant challenge in project cost management. Scope creep, the uncontrolled changes or additions to project scope, can lead to budget overruns and delays. Ajmal et al. (2021) stress the importance of involving all relevant stakeholders early in the

project to clearly define project goals, costs, schedules, resources, boundaries, and deliverables to manage scope effectively.

The direct impact of scope changes on project costs is significant. Tariq et al. (2020) discuss the importance of using methods like Earned Value Management (EVM) to measure the impact of scope changes on project plans, ensuring accurate project performance measurement and control. Amoatey & Anson (2017) identify major causes of scope creep, such as stakeholder involvement and incomplete project scope definition, which are critical for preventing cost overruns in real estate construction projects.

Althiyabi & Qureshi (2021) suggest that integrating Earned Scope Management (ESM) with Earned Value Management (EVM) can provide accurate project performance results, aiding project managers in making informed decisions to control costs effectively. By proactively addressing scope changes and involving stakeholders in the scope definition process, project managers can mitigate the risks of cost overruns and ensure successful project delivery within budget constraints.

2.1.6.4. Project Quality Management

Project quality management is a critical aspect of project management that encompasses activities aimed at ensuring the achievement of the quality policy, management responsibilities, and project objectives. It involves processes such as quality planning, quality assurance, and quality control to guarantee that the project meets the requirements for which it was undertaken (Sarbu, 2022). The definition of project quality in project quality management includes both the quality of project processes and the quality of the project product, with a focus on customer satisfaction (Wan & Zeng, 2013).

Effective project quality management requires a clear quality verification process to guide all project inputs and ensure project quality (MOHAMED, 2019). Establishing and implementing effective quality management systems with clear processes and procedures is recommended to ensure project quality (Herbertson, 2023). Quality management gates are established to predict and control project outcomes with the desired quality (Taniguchi & Onosato, 2017). Measuring and managing project quality is fundamental in project management (Ilić & Veličković, 2019).

Project quality management is considered a principal component of project management, emphasizing the importance of quality in project success (Wang & Zhou, 2007). Continuous improvement of quality is essential for organizations using quality management systems, highlighting the need for internal quality assurance systems (Szczepaniak, 2019). Applying a quality management approach to project management is feasible and practical, contributing to project success (Laszlo, 1999).

In conclusion, project quality management plays a vital role in ensuring project success by focusing on meeting requirements, customer satisfaction, and continuous improvement. By implementing effective quality management processes, establishing clear quality verification mechanisms, and integrating quality into project planning and execution, project managers can enhance project outcomes and stakeholder satisfaction.

2.1.6.5. Project Risk Management

Project Risk Management includes the processes of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project. The objectives of project risk management are to increase the likelihood and impact of positive events, and decrease the likelihood and impact of negative events in the project (PMI, 2013).

According to Nicholas and Steyn (2021), effective project risk management involves a systematic process of identifying, assessing, and responding to risks. They emphasize the importance of understanding both internal and external risk sources, including market, technical, and environmental risks. By employing strategies such as risk transfer, avoidance, reduction, and acceptance, project managers can effectively navigate uncertainties in complex projects like digital lending platforms. This comprehensive approach is crucial in ensuring the resilience and success of such technology-driven projects (Nicholas & Steyn, 2021).

2.1.6.6. Project Human Resource Management

Project human resource management is a crucial aspect of project management, focusing on the effective management of individuals involved in a project to ensure its success. In project-based

organizations, human resource management is key to establishing effective teams, developing patterns of competence, and fostering management development. Clark & Colling (2005) note, however, that the role of HR practitioners may be limited by the existing project management systems.

The impact of human resource performance management on project outcomes is significant. According to Naqvi et al. (2011), human resource functions such as communication, procurement, and risk management are pivotal in supporting project success. Human resources are often recognized as the most valuable asset in organizations, with Emmanuel & Paul (2023) highlighting their role in driving competitive advantage in the global marketplace.

Ling et al. (2018) suggest that effective human resource management practices can enhance job satisfaction among project managers, ensuring optimal resource utilization, risk reduction, and maximizing return on investment. Kamoche (1996) emphasizes the importance of strategic human resource management within firms for cultivating competencies that contribute to organizational success.

In project-based environments, line managers are critical in overseeing project workers, allocating resources, developing competencies, and supporting long-term career development (Bredin & Söderlund, 2007). Calamel et al. (2012) argue that human resource policies and practices should be viewed as tools for building HR capabilities necessary for project-based organizations to thrive, rather than merely administrative procedures.

In conclusion, project human resource management is indispensable for project success. It encompasses various aspects such as team building, competence development, and career advancement within the project environment. Effective human resource management practices are significant contributors to organizational competitiveness, knowledge protection, and overall project success.

2.1.6.7. Project Communications Management

Project communications management is a fundamental aspect of project management that encompasses planning, executing, and monitoring communication channels within a project. Effective communication is crucial for ensuring that project stakeholders are well-informed, engaged, and aligned with project goals and objectives. Various factors influence the flow of information and interactions among project team members and stakeholders.

Research indicates that project managers must possess a diverse set of competencies, including problem-solving expertise, leadership skills, context knowledge, and strong communication skills, in addition to project administration skills like scope, timeline, and budget management Brill et al. (2006). Effective communication is particularly vital in managing complex projects to avoid confusion and improve information sharing among project team members (Vidal & Marle, 2008).

The success of project communication management is influenced by various factors, such as communication features, tools, project manager's communication habits, and stakeholder engagement strategies (Shakeri & Khalilzadeh, 2020). Developing a comprehensive project communication management plan is crucial for outlining how communication will be planned, organized, monitored, and controlled throughout the project lifecycle (Taleb et al., 2017).

Communication barriers can arise from individual, organizational, and stakeholder perspectives, underscoring the importance of addressing communication challenges proactively (Carvalho, 2013). Implementing effective communication strategies can significantly enhance project performance and the effectiveness of project managers, especially in construction projects in developing countries (Lubis, 2021).

Project communication management is considered a critical success factor in project management, particularly in IT projects and those involving dispersed teams (Muszyńska, 2016). Understanding the role of communication in project management and leveraging communication management strategies can lead to improved project outcomes and stakeholder satisfaction (Galli, 2021).

In conclusion, project communication management plays a pivotal role in project success by facilitating effective information exchange, collaboration, and decision-making among project stakeholders. By implementing robust communication strategies, addressing communication complexities, and emphasizing the importance of clear and timely communication, project managers can enhance project performance and achieve project objectives successfully.

2.1.6.8. Project Procurement Management

Project procurement management is an essential element of project management that involves the planning, execution, and control of procurement activities to secure the necessary goods and services for project completion. Effective procurement management is critical for ensuring the timely availability of resources and materials, thereby significantly contributing to project success.

Recent research by Özkan et al. (2021) highlights the benefits of utilizing smart contracts through Distributed Ledger Technology (DLT) in project procurement. This technology enhances transparency, efficiency, and security in procurement processes, which can lead to better project outcomes and a sustainable competitive advantage.

A cost-benefit analysis of procurement systems is crucial for understanding their impact on construction project performance. Onosakponome et al. (2011) emphasize the importance of analyzing the relationship between procurement systems and project outcomes, including cost, quality, and schedule adherence, to optimize procurement strategies effectively.

For residential complex projects, key considerations in procurement management include risk response planning, integration with budgeting and scheduling, tendering procedures, and procurement quality assurance (Mohammed, 2023). Addressing these factors is vital for ensuring effective procurement processes and successful project delivery.

The selection of appropriate procurement systems significantly influences construction project performance. Akiner & Akiner (2018) discuss how procurement systems impact project value, risk management, and overall project success, underscoring the importance of strategic procurement decision-making.

Moreover, integrating circular economy principles in construction projects through innovative procurement strategies can lead to more sustainable outcomes. Ahmed et al. (2023) suggest that adopting procurement methods that encourage collaboration with suppliers and prioritize environmental considerations can help projects align with circular economy goals.

In conclusion, project procurement management is a critical function that directly impacts project success. Leveraging innovative technologies, conducting thorough cost-benefit analyses, considering essential factors in procurement management, and aligning procurement strategies with sustainability objectives are fundamental for optimizing project procurement processes and achieving successful project outcomes.

2.1.6.9. Project Integration Management

Project integration management is a vital component that ensures the success of projects by effectively coordinating and integrating various project activities. This involves managing all aspects of a project through composition, coordination, and integration to facilitate the development of the overall program and the implementation plan of specific stages (Sun et al., 2018). Integrated project management is crucial for the effective coordination of project activities (Shafiq, 2023). Wang et al. (2009) argue that integrating project management processes can enhance project performance by addressing defects in traditional project management modes and establishing new integrated management systems.

According to Al-Tekreeti M. (2016), the importance of including elements such as company strategy, project establishment, project review, resource management, decision-making, and integration with other work in an integrated project management process. They also stress the importance of measuring project success. The Project Breakdown Structure (PBS) serves as the basis for project synthesis integration control, enabling the development of project integration management models (Wang & Li, 2018).

Integrated Project Delivery (IPD) represents a transformative change in project behavior and methods, enhancing collaboration among project participants (Gomez et al., 2018). Jarrah et al. (2022) highlight that integrating project management processes with project risk management can

increase the likelihood of successful project implementation. Additionally, integrating sustainability into project management models is crucial for ensuring sustainable project development (Molaei et al., 2020; Daneshpour, 2015).

In conclusion, project integration management is a multifaceted process that involves the seamless coordination and integration of various project elements to enhance project performance and ensure successful project implementation. By incorporating elements like company strategy, resource management, and project success measurement, organizations can establish effective integrated project management processes that drive project success.

2.1.6.10. Project Stakeholder Management

Project Stakeholder Management focuses on identifying project stakeholders, understanding their needs and expectations, and engaging them appropriately throughout the project. Stakeholders are the people involved in or affected by project activities. These stakeholders often have very different needs and expectations. For example, there are several stakeholders involved in a home construction project. The project sponsors would be the potential new homeowners. They would be the people paying for the house and could be on a very tight budget, so they would expect the contractor to provide accurate estimates of the costs involved in building the house. They would also need a realistic idea of when they could move in and what type of home they could afford given their budget constraints. The new homeowners would have to make important decisions to keep the costs of the house within their budget (Schwalbe, 2015).

Kerzner (2022) in his work on 'Project Management Metrics, KPIs, and Dashboards' elaborates on the critical role of stakeholder management in project success. He underscores the necessity of effectively identifying, analyzing, and engaging with stakeholders, a fundamental aspect of managing complex projects like digital lending platforms. This perspective is vital for understanding the dynamics of stakeholder relations in the context of digital project management.

2.2. Empirical Review

The empirical review section of this literature review focuses on the practical applications and real-world outcomes of project management in the digital era, as well as the use of machine learning in banking.

Another study that provides empirical evidence on the subject is the one by Schwalbe (2015), which discusses the concept of Project Management 4.0. This study provides a comprehensive overview of how project management has evolved in the digital era, with a particular focus on the integration of digital technologies into project management practices. The author highlights the importance of digital tools and techniques in enhancing project management efficiency and effectiveness.

In their study, Skakalina and Kapiton (2023) explore the critical aspects of risk management in software product development, emphasizing the necessity of identifying and managing potential risks. Their research underlines the importance of strategic risk assessment and mitigation techniques, particularly in the context of complex software projects. This paper's focus on risk management strategies in software development is especially relevant to digital lending platforms like Michu, providing a nuanced understanding of how to navigate risks in technologically driven projects.

Leong et al. (2023) conduct an in-depth study on hybrid project management, which combines traditional Software Development Life Cycle (SDLC) and Agile methodologies, in their publication in Sustainability. This research is critical for understanding how such a hybrid approach contributes to the sustainability of software development projects, a concept directly applicable to digital lending platforms like Michu. The exploration of these diverse project management strategies provides valuable insights into optimizing approaches in the dynamic field of digital finance.

Fähndrich's (2023) comprehensive literature review on the impact of digitalization on management control systems offers pertinent insights for understanding the complexities of managing digital projects. The study thoroughly examines how digital transformation influences management control tasks, instruments, organizational structures, and behavioral elements. This is crucial for

your thesis, as it provides an academic framework for how management strategies adapt in the face of digital advancements, particularly in the context of digital lending platforms like Michu. Fähndrich's analysis bridges the gap between digitalization and management control, offering a critical perspective on the integration of digital tools and their impact on management practices.

The integration of cutting-edge technologies in the financial sector is aptly demonstrated in the study by Lakhchini, Wahabi, and El Kabbouri (2022) titled "Artificial Intelligence & Machine Learning in Finance: A Literature Review". This comprehensive review sheds light on the transformative impact of Artificial Intelligence (AI) and Machine Learning (ML) in various financial applications, including risk management and financial fraud detection. Such technological advancements are directly relevant to the project management of digital lending platforms like Michu. The insights from this paper provide a valuable perspective on the role of AI and ML in enhancing the efficiency and effectiveness of financial services, which is integral to understanding the technological dimensions of project management in the digital lending sector.

In their study, Morshadul Hasan, Thi Le, Ariful Hoque, et al. (2021) delve into the transformative impact of big data on banking operations. They discuss how big data enhances customer service, profitability, decision-making, and risk management in banks. This paper offers vital insights into the practical application of digital innovations in the banking industry, highlighting the benefits of big data in improving operational efficiency and customer relationships. This aligns with the empirical focus on the use of machine learning and project management in the digital era within the banking sector.

The study by Kumar, Sharma, and Mahdavi (2021) provides an insightful look into the use of machine learning technologies for digital credit scoring in rural finance. The authors highlight the potential of machine learning-based technology to offer new opportunities to individuals who have been traditionally underserved by mainstream banking transactions, such as small farm holders, rural youth, and women farmers. The study emphasizes the role of banking and non-banking institutions in adopting this advanced technology to reduce human biases in loan decision-making.

Stewart, Yaworsky, and Lamont (2018) in their comprehensive report 'Demystifying Digital Lending,' provide an in-depth exploration of how digital transformation is reshaping financial services, particularly focusing on digital lending's role in reaching new customers and fostering financial inclusion. This report is crucial to understanding the broader impacts and opportunities presented by digital lending platforms, like Michu, as it highlights the potential of such platforms to drive customer engagement and extend financial services to underserved populations. The insights offered are essential for comprehending the socioeconomic implications of digital lending in the context of project management practices.

In the context of banking, the study by Zikopoulos and Eaton (2011) provides empirical evidence on the use of machine learning in identifying atypical bank transactions. The authors propose a generalized algorithm for identifying such transactions using machine learning methods, demonstrating the practical application of machine learning in enhancing banking security.

Rana, Luthra, and Rao (2019) in their study 'Key challenges to digital financial services in emerging economies: the Indian context' meticulously analyze the multifaceted challenges in the implementation of digital financial services in emerging markets. Their research, employing advanced methodologies like Interpretive Structural Modelling and Fuzzy MICMAC analysis, delineates various barriers, offering a layered understanding of the impediments in digital financial services. This study is particularly valuable for the Michu case, as it illuminates similar challenges in digital lending platforms, highlighting the crucial role of adept project management in overcoming these hurdles and optimizing digital financial operations.

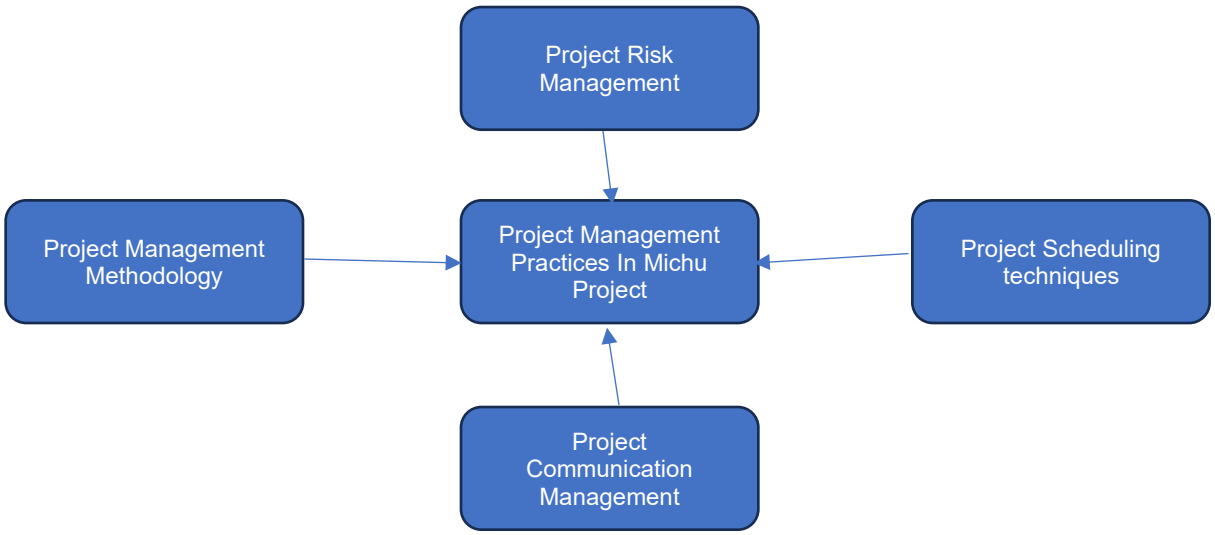
2.3. Knowledge Gap

The literature review reveals a clear gap in understanding the specific application and effectiveness of Agile and Scrum methodologies within the digital lending sector, particularly in emerging economies like Ethiopia. While general project management strategies are well-documented, the nuanced application of these agile methodologies in the unique context of digital lending platforms remains underexplored. This oversight is significant, as digital lending involves complex, technology-driven environments where traditional project management approaches may not be fully effective.

Moreover, existing studies have not sufficiently explored how Agile and Scrum are adapted to meet the specific challenges faced by digital lending platforms in regions like Ethiopia, where market conditions, technological infrastructure, and regulatory environments differ markedly from those in more developed economies. This lack of focused research hampers the ability to develop tailored project management strategies that are effective in these unique settings.

2.4. Conceptual Framework

A conceptual framework is a structured representation, either visual or textual, that outlines the primary elements to be studied—the key factors, concepts, or variables—and illustrates the presumed relationships among them. It serves as the blueprint of the research, guiding the researcher to conceptually understand the study, outline and operationalize the dependent variables, and ensure that the results are interpreted in a meaningful and straightforward manner. The proposed conceptual framework for this research focuses on evaluating project management practices within the Michu project, addressing four key dimensions: identifying the project management methodologies employed, assessing the effectiveness of scheduling techniques in meeting project timelines, evaluating the risk management strategies utilized, and examining how project communication was managed within the Michu team. This comprehensive approach allows a systematic evaluation of each aspect of project management and its impact on the overall success of the project.



Chapter Three

3. RESEARCH METHODOLOGY

This chapter discusses the research design and methodology used with in the study.

3.1. Background of the Organization

Kifiya is a leading technology and services company with over a decade of experience in developing scalable and secure technology platforms (Kifiya, 2023). Established in 2012, Kifiya has dedicated itself to providing a diverse array of services, including payments, agricultural insurance, airtime, solar distribution, and ticketing systems. By 2018, the company expanded into eCommerce, mobility, and digital financial services, and by 2022, it transitioned into a venture capital firm to further amplify its impact on the digital economy (Kifiya, 2023).

Throughout its evolution, Kifiya has been instrumental in enhancing market systems and expanding access to financial services for various sectors, including farmers, micro, small, and medium enterprises (MSMEs), and the broader community. A significant contribution to the financial sector is the development of Michu, a digital lending platform that assesses the risk and growth potential of MSMEs. Michu facilitates data-driven, risk-based lending decisions, addressing many challenges faced by MSMEs, such as the lack of collateral and difficulties in integrating into the digital economy (Kifiya, 2023).

The project team for Michu comprises 36 individuals, divided into three key groups: the Banking Platform As A Service (BPASS) team, the Business Development team, and the Data Science team. Each team plays a crucial role in the continuous development and operational success of the platform, ensuring that Michu meets the dynamic needs of its users and remains at the forefront of technological advancements in the financial sector (Kifiya, 2023).

3.2. Research Design

The study was carried out a descriptive design in which both quantitative and qualitative data analysis was used to produce richer and more complete information. The combination of two research approaches gives better interpretation as the information missed by one might be captured by the other and thus an enhanced and integrated result may emerge from the analysis.

The integration of qualitative and quantitative methods in research can provide a more holistic view of the phenomena under study, as each method offers unique insights and complements the limitations of the other (Johnson et al., 2017). Researchers often use mixed methods to ensure data validity by triangulating findings from both qualitative and quantitative approaches (Kapogiannis et al., 2021). This approach allows for a richer and more nuanced understanding of research topics, especially in fields like project management where a multifaceted view is essential for decision-making (Araújo & Pedron, 2015).

3.3. Population and Sampling Technique

The research was conducted within the context of the Michu project, which is overseen by Kifiya, a leading provider of digital lending platforms in Ethiopia. The target population for this study included employees actively engaged in the Michu project, distributed across various specialized teams, including the Banking Platform As A Service (BPASS) team, the Business Development team, and the Data Science team.

A census involves a comprehensive enumeration aimed at collecting data on all units within a specified universe to measure their characteristics (MacDonald, A. L., 2020). Conducting a census can be challenging due to the extensive time and high costs required to reach the entire population of a study. However, in this specific instance, the scope of the census was feasible because the group under study was relatively small and localized within a single office. Consequently, no sampling technique was employed, and all 36 individuals in the target population were included in the study.

3.4. Type and source of Data

Data were collected from both primary and secondary sources. Primary data were gathered through surveys, key informant interviews, and focus group discussions. Secondary data were obtained from project documentation, reports, and relevant literature.

3.5. Data Collection Instruments

Data collection instruments included structured questionnaires for the survey, semi-structured interview guides for key informant interviews, and focus group discussion guides. These instruments were designed to capture detailed information on project management practices and their effectiveness.

3.6. Reliability and Validity

Sekaran and Bougie (2016) define validity as the extent to which an instrument accurately measures the concept it is intended to measure. Validity focuses on ensuring the correct concept is measured. Conversely, reliability refers to the stability and consistency with which an instrument measures, assessing whether it can produce stable and consistent results across different instances and conditions.

Sekaran and Bougie (2016) emphasize that while validity is a necessary condition for a measure, it alone is insufficient without reliability. This highlights the importance of reliability checks, which ensure that an instrument not only measures the correct concept but does so dependably.

To enhance both validity and reliability, a pre-test of the questionnaire was conducted. This preliminary test aimed to determine if the questions were understandable and appropriate for the respondents' context. Based on the outcomes of the pre-test, modifications were made to the questionnaire to improve its validity, ensuring that the instrument was better suited to accurately and consistently gather the intended data.

3.7. Data Analysis and Interpretation

To meet the objectives of the study, the gathered data were subject to both qualitative and quantitative analyses. Initially, the collected data underwent several preprocessing operations including editing—to identify and correct errors and omissions—coding, classification, and tabulation, preparing it for detailed analysis.

Quantitative data were analyzed descriptively using SPSS software and Google Sheets. This analysis presented the data in terms of frequencies, means, percentiles, bar and pie charts, which facilitated a structured interpretation of numerical data.

For qualitative data, narrative analysis was employed. This approach involved transcribing the collected data and constructing logical and deductive narratives. These narratives were integrated with the quantitative findings, offering a comprehensive view that enhances the understanding of the results. This method allowed for a deep exploration of themes and patterns beyond what numerical data could convey.

3.8. Ethical Considerations

Ethical considerations involve the relationship between the researcher and the research participants and how research dilemmas and conflicts are handled (Vanderstoep and Johnston, 2009). All research participants were informed about the purpose of the research, and their consent was secured before conducting the interviews and focus group discussions. Confidentiality and anonymity were maintained by using coded identifiers instead of real names in all data collection and analysis. Any potential conflicts of interest or other ethical issues that arose during the research were addressed in a transparent and respectful manner.

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

This chapter presents the research findings and discussion of the study. The main objective was to assess the project management practices in the development of digital lending platforms particularly the effectiveness of project planning and scheduling techniques and understand the communication and collaboration practices among the project team and stakeholders. The analysis of the data was done based on the objectives of the study as indicated in the questionnaire.

4.1. Descriptive Statistics

Demographic Characteristics of the respondents

Table 4.1. Respondents Response Rate

Questionnaires	Frequency	Percentage
Distributed	36	100
Responded	36	100

Source: Own Survey, 2024

The study targeted 36 respondents out of which all 36 responded to the survey questionnaire. The response rate is 100% which is adequate for analysis and reporting. In addition, an interview was also held with selected project team members including with managers of each project team.

Table 4.2. Respondent's role in the Michu project

What is your role in the Michu project?		Frequency	Percent
Valid	Data Science team	9	25.0
	BPASS team	17	47.2
	Business Development team	10	27.8
	Total	36	100.0

Source: Own Survey, 2024

The above table shows the descriptive statistics of respondent's role in the Michu project**.** According to the descriptive statistics results BPASS team was more than with Business Development team and Data Science team. This indicates that among (36) respondents, 17 or 47.2

% were BPASS team, 10, or 27.8% were Business Development team whereas 9, or 25% were Data Science team, hence in this research the majority of the respondent's roles in the Michu project is BPASS team followed by Business Development team.

Table 4.3. Duration of Involvement in the Michu Project

How long have you been part of the Michu project?		Frequency	Percent
Valid	Less than 6 months	9	25.0
	6 months to 1 year	5	13.9
	1-2 years	13	36.1
	More than 2 years	9	25.0
	Total	36	100.0

Source: Own Survey, 2024

The study looked at information on aspects of respondents' project team, background knowledge, and time on the project. Most respondents have been part of the Michu project for 6 months to 2 years.

4.2. Analysis of Project Management Methodologies

Table 4.4 Project management methodologies used during the Michu Project

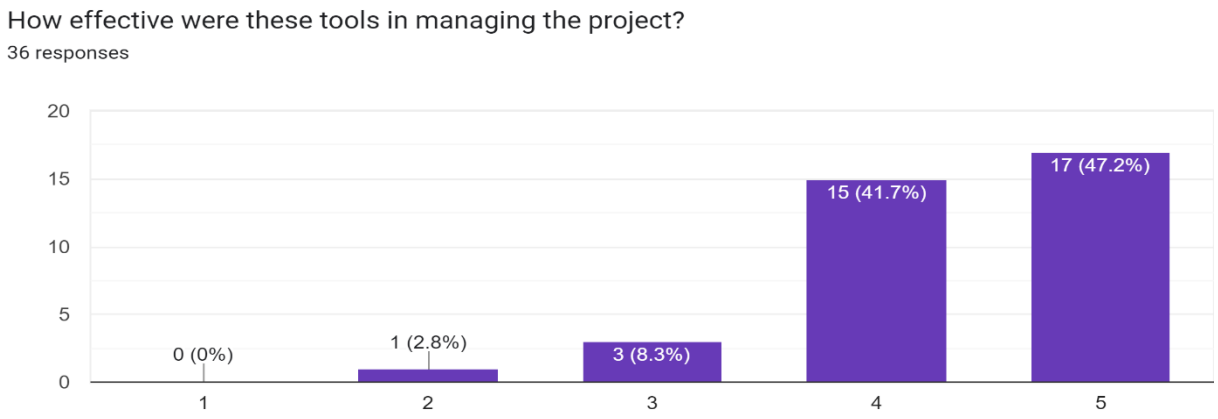
Which project management methodologies have you used during the Michu project?		Frequency	Percent
Valid	Scrum	36	100.0

Source: Own Survey, 2024

Table 4.4 shows that Scrum was uniformly employed by all team members, with a frequency of 36, corresponding to 100% of the respondents. The widespread adoption of Scrum by all team members in the Michu project, as shown in Table 4.4, underscores the significant role of Scrum in the project's management framework. This extensive use of Scrum as the primary methodology highlights its agile characteristics, particularly its adaptability, iterative progress, and team collaboration, which are crucial for managing the dynamic and complex project environment (Friess, 2022). The strong alignment with the project's objectives and the methodology's effectiveness in facilitating project execution under tight deadlines and changing requirements are evident from the consistent application of Scrum across the team (Alami & Krancher, 2022).

Interview data from the key informants also suggested that Scrum was highlighted as the predominant methodology due to its flexibility and effectiveness in handling the project's dynamic nature.

Figure 4.1 Effectiveness of the Project Management Methodology

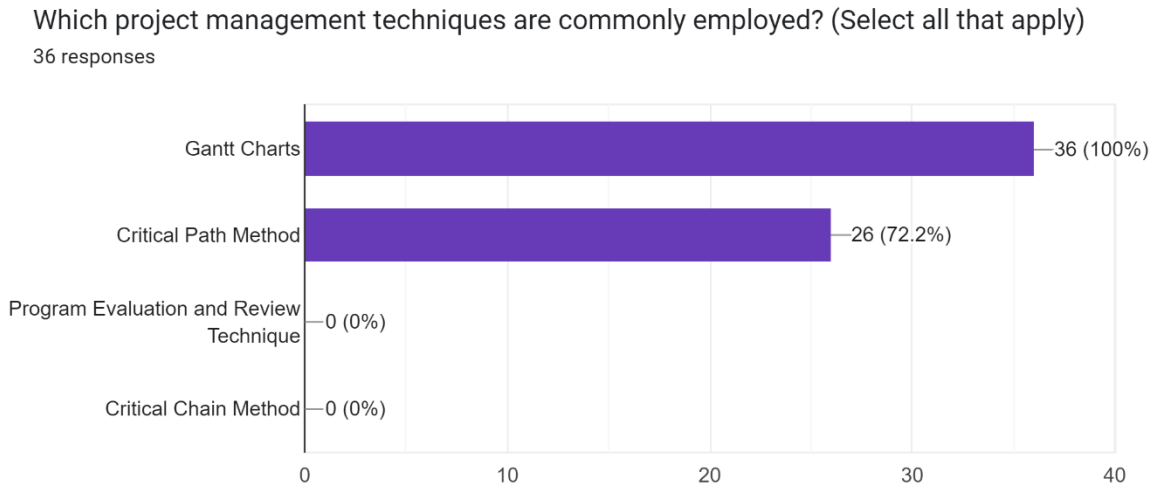


Source: Own Survey, 2024

The data presented in Figure 4.2 highlights a positive response to the Scrum project management methodology in achieving project objectives. The majority of respondents, totaling 86.1%, rated Scrum as highly effective, with 58.3% describing it as outstanding. This positive response underscores Scrum's capability to manage and adapt to project demands effectively, aligning with project goals and delivering successful outcomes (Williams et al., 2011).

The minimal expressions of dissatisfaction (2.8% rated it as unacceptable) or need for improvement (5.6%) indicate minor concerns compared to the broader consensus, further emphasizing Scrum's adaptability in complex project environments. Scrum's flexibility allows for customization according to project teams, contributing to its widespread adoption and effectiveness in managing software projects (Ganesh & Narayanan, 2019).

Figure 4.2. Project Management Techniques



Source: Own Survey, 2024

The data presented in Figure 4.3 illustrates the project management techniques employed by the team in the Michu project, highlighting the widespread use of Gantt Charts, which emerged as the most commonly utilized technique, chosen by 24 respondents and representing 66.7% of the total participants. This preference for Gantt Charts is attributed to their simplicity, ease of understanding, and their integration into various project management software tools, which are crucial for visualizing project schedules and progress (Ballesteros-Pérez et al., 2018; Plaisant et al., 1996). The visual representation of tasks and timelines allows for effective tracking of project activities, resource allocation, and milestone achievements, making Gantt Charts particularly effective and suitable for addressing the project's scheduling and tracking requirements.

Additionally, the project employed the Critical Path Method, selected by 9 respondents (25.0% of the participants), and the Program Evaluation and Review Technique, chosen by only 3 respondents (8.3% of the total). The use of these multiple techniques reflects a layered approach to project management within the Michu project, where different tools are leveraged to manage various aspects of project complexity and timeline requirements (Lee & Shvetsova, 2019; Brokman-Meltzer et al., 2021; Caughron & Mumford, 2008). The flexibility of Gantt Charts, in conjunction with the Critical Path Method, enables project managers to adjust schedules, monitor

dependencies, communicate project timelines efficiently, and provide insights into the critical activities that determine the project's overall duration, aiding in identifying potential bottlenecks and optimizing project schedules (Luz & Masoodian, 2011; Hidayat & Dachyar, 2018). This distribution indicates a clear preference within the project team for these methods, highlighting their effectiveness in managing and tracking complex project timelines.

Table 4.5. Effectiveness of Project Management Tools in Managing the Project

Project Management Tools		**Frequency**	**Percent**
Valid	Unacceptable	3	8.3
	Need improvement	1	2.8
	Meets expectation	2	5.6
	Exceeds expectations	15	41.7
	outstanding	15	41.7
	Total	36	100.0

Source: Own Survey, 2024

The effectiveness of the project management tools used in the Michu project was analyzed based on team feedback, highlighting a high satisfaction level. According to the data, 83.4% of respondents rated the tools as either exceeding expectations or outstanding, with both categories equally represented at 41.7%. This high approval rate emphasizes the crucial role these tools played in improving project management efficiency and effectiveness (Jitpaiboon et al., 2019).

Despite the overall positive feedback, a minority expressed dissatisfaction: 8.3% found the tools unacceptable, 2.8% suggested improvements, and 5.6% felt the tools only met expectations. This indicates that the tools were generally well-adapted to the dynamic and complex needs of the Michu project, fostering a structured and responsive management environment essential for the project’s success (Jitpaiboon et al., 2019).

Effective project management tools are pivotal for successful project execution, significantly enhancing project outcomes by enabling detailed planning, coordination, and tracking, essential for delivering projects on time, within budget, and with efficient resource use (Shirey, 2008).

Interview conducted also aligns with this planning and scheduling were critical elements in the project's success. Participants appreciated the structured approach to breaking down goals

quarterly and organizing them into sprints. The use of Jira was frequently mentioned as instrumental in tracking progress and managing dependencies effectively.

4.3. Risk Management Strategies

Table 4.6. Risk identification strategies used in the Michu Project

Risk Identification Strategies		Frequency	Percent
Valid	Documentation Reviews	9	25.0
	Brainstorming	16	44.4
	Delphi Technique	5	13.9
	Interviewing	6	16.7
	Total	36	100.0

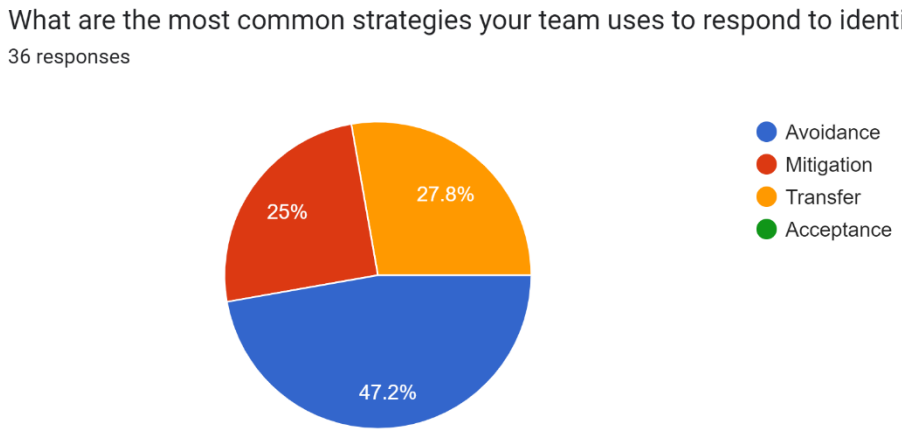
Source: Own Survey, 2024

The data presented in Table 4., sho6ws the various strategies employed for risk identification within the Michu project, demonstrating a comprehensive approach that combines individual and group assessments to ensure thorough coverage of potential risks. The most prevalent technique was 'Brainstorming,' utilized by 16 respondents, representing 44.4% of the total participants. This method fosters creativity and collaboration among team members, enabling the identification of a broad range of risks through open discussion and idea generation, emphasizing collective problem-solving (Eshaghi, 2015). 'Documentation Reviews,' employed by 9 respondents (25.0%), involved a systematic review of existing records and reports, providing a structured approach to analyzing past project data to uncover potential risks based on historical trends and patterns (ANSARY, 2018).

Additionally, 'Interviewing' was used by 6 respondents (16.7%), facilitating direct engagement with stakeholders and subject matter experts through queries and discussions to uncover risks, offering insights and perspectives that may not be evident through other means (Kazaz & Arslan, 2023). The 'Delphi Technique,' utilized by 5 respondents (13.9%), highlights its role in achieving consensus among experts through multiple rounds of analysis. This iterative technique leverages the collective expertise of participants to prioritize risks and develop mitigation strategies collaboratively (Leśniak & Janowiec, 2019). This diverse use of techniques underscores the project's balanced and layered approach to risk identification, integrating both creative and

analytical methods to manage and mitigate potential risks effectively (Masár & Hudáková, 2018; Barati & Mohammadi, 2008; Pimchangthong & Boonjing, 2017).

Figure 4.3. Common strategies employed by teams to respond to identified risks.



Source: Own Survey, 2024

The data from Figure 4.4 in the Michu project reveals the predominant strategies employed for addressing identified risks. The most common approach is 'Transfer,' utilized by 47.2% of the respondents, followed by 'Avoidance,' chosen by 41.7% of the team members. In contrast, 'Acceptance' was the least utilized strategy, with only 11.1% of the respondents opting for it. This distribution indicates a preference within the project team for proactive risk management strategies, specifically transferring and avoiding risks, to mitigate potential impacts rather than accepting them. This approach reflects a cautious and controlled risk management philosophy in the Michu project, aiming to minimize exposure and ensure project stability (Muehlen & Ho, 2006; Ebirim, 2024; Oksuz, 2023).

The 'Transfer' strategy involves shifting the risk to a third party or insurance, reducing the direct impact on the project if the risk materializes (Muehlen & Ho, 2006). 'Avoidance' focuses on taking actions to eliminate the risk or change project plans to steer clear of potential negative consequences (Ebirim, 2024). 'Acceptance,' on the other hand, entails acknowledging the risk and

its potential impact without taking active measures to mitigate it, which may be appropriate for risks with low impact or likelihood (Oksuz, 2023).

The proactive risk management strategies adopted by the project team align with best practices in risk management, emphasizing the importance of addressing risks before they escalate and impact project outcomes. By prioritizing risk transfer and avoidance, the project team demonstrates a commitment to mitigating potential threats and ensuring project success.

4.4. Communication Management Techniques

Table 4.7. Communication channels used for project-related information

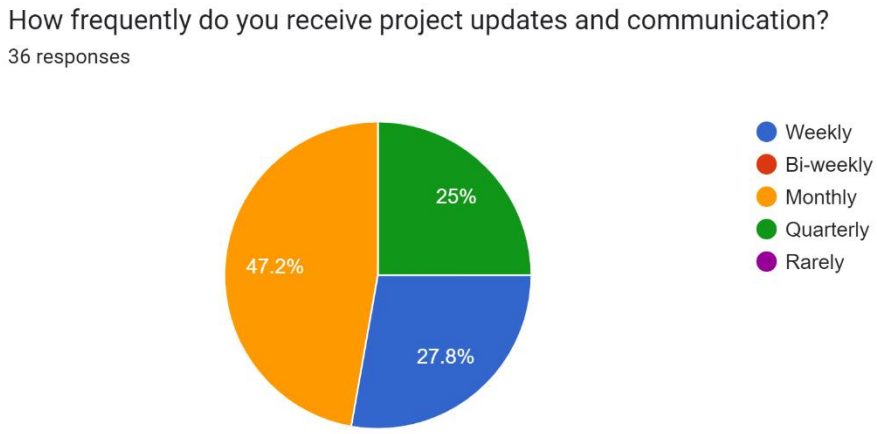
Communication channels		Frequency	Percent
Valid	Email	24	66.7
	Meetings	12	33.3
	Total	36	100.0

Source: Own Survey, 2024

The communication channels used for project-related information within the Michu project were analyzed, revealing that Email was the predominant method, used by 24 respondents or 66.7% of the team. Meetings were also heavily utilized, with 12 respondents or 33.3% of the team employing this method. According to Smit et al. (2017), while Email served as the primary means for day-to-day communication due to its convenience and traceability, meetings played a crucial role in facilitating interactive discussions and decision-making processes.

Ali (2024) emphasizes that effective communication is a dynamic and continuous process throughout the various project phases, linking all project stakeholders. It is considered a critical factor in achieving project objectives, highlighting its pivotal role in project management.In the focus group discussions communication was identified as a pivotal factor in the project's management. Various tools and platforms, including email, Slack, and regular meetings, were utilized to foster effective communication among team members and stakeholders. Participants valued the hybrid approach of combining digital and in-person communications to ensure clarity and timely resolution of issues.

Figure 4.4 Communication of project updates



Source: Own Survey, 2024

The data presented in Figure 4.5 illustrates the frequency at which 36 respondents receive project updates and communications. It shows that a significant portion of the participants, 47.2%, receive updates on a weekly basis, making it the most common frequency. Following this, 27.8% of the respondents receive bi-weekly updates, while 25% receive updates monthly. Notably, there is no representation of respondents receiving updates rarely in the chart. This data indicates that the majority of respondents are regularly informed about project developments at least every two weeks, highlighting a proactive approach to communication within the projects (Gillard & Johansen, 2004).

Effective project communication management is crucial for keeping all stakeholders well-informed and engaged throughout the project lifecycle. Taleb et al. (2017) emphasize the importance of a well-structured project communication management plan in planning, organizing, monitoring, and controlling communication activities. It sets clear communication goals and ensures that all communication requirements are met. Smith-Daniels & Smith-Daniels (2008) further highlight that clear and effective communication is fundamental to the success of any project, underscoring its essential role in project management.

This can also be seen from the focus group discussions where all participants agreed that communication plays a pivotal role in the project's management. Various tools and platforms, including email, Slack, and regular meetings, were utilized to foster effective communication among team members and stakeholders. Participants valued the hybrid approach of combining digital and in-person communications to ensure clarity and timely resolution of issues.

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter presents a summary of the study, explains the main findings of the paper, and provides measured conclusions drawn from the studies.

5.1. Summary of Key Findings

The primary objective of this study was to evaluate the project management practices employed in the development of digital lending platforms, with a specific focus on the Michu project. The study addressed four key areas: Demographics, Project Management and Methodology, Planning and Scheduling, and Communication and Collaboration.

Demographics and Participant Involvement: All employees participated in this study due to their manageable number, providing comprehensive insights into the project's management practices. Data were gathered through the development and administration of both questionnaires and in-depth interviews.

Project Management and Methodology: The Michu project predominantly utilized Scrum-based agile project management, reflecting a growing trend identified in the literature that emphasizes the effectiveness of agile methodologies in fintech applications (Khasanah & Sarmini, 2023). This approach was supported by descriptive statistical analysis, which confirmed that the majority of respondents were from the BPASS team, indicating a significant involvement of this group in project management tasks.

Planning and Scheduling: Planning and scheduling techniques were crucial in managing the project timelines effectively. Gantt charts were the most utilized tool (66.7%), followed by the critical path method (25%), and program evaluation and review techniques (8.3%). These tools facilitated efficient project tracking and were instrumental in the successful delivery of project milestones.

Communication and Collaboration: Effective communication was maintained through a combination of digital tools and traditional meetings. Email was the predominant communication channel (66.7%), supplemented by meetings (33.3%), underscoring the importance of diverse communication strategies in managing complex projects.

Risk Management: The study also delved into risk management practices within the Michu project. Brainstorming was the most frequently used method for risk identification (44.4%), followed by interviewing (16.7%) and the Delphi Technique (13.9%). In terms of risk response, the most common strategies were risk transfer (47.2%) and avoidance (41.7%).

The study's findings are corroborated by various pieces of literature and empirical evidence, notably by Tessema & Soeters (2006) and Skakalina & Kapiton (2023), which emphasize the necessity of robust risk management and effective use of project management tools in software product development. The outcomes indicate that the project management methodologies employed were crucial in navigating the complexities of the fintech environment, with Scrum playing a pivotal role in the dynamic management of the project.

5.2. CONCLUSION

This study has provided a comprehensive examination of the project management practices employed in the development of the Michu platform, a pioneering digital lending project managed by Kifiya. The integration of a Scrum-based agile methodology has demonstrated substantial benefits in handling the complexities and rapid changes inherent in fintech projects. The research findings affirm that agile practices, notably Scrum, effectively enhance flexibility, responsiveness, and stakeholder satisfaction in project management, consistent with the findings presented by Khasanah and Sarmini (2023).

The planning and scheduling techniques employed in the Michu project were highly effective in managing project timelines and ensuring the delivery of project milestones on schedule. The use of confidence level metrics provided project teams with a quantifiable measure of the likelihood of task completion, which enhanced decision-making and resource allocation (Brühl, 2022). The integration of project management tools like Jira supported these techniques by enabling efficient tracking of progress and facilitating communication across teams, aligning with studies that

highlight the importance of integrated tools in enhancing project transparency and coordination (Schwalbe, 2015).

The effectiveness of project management tools, particularly Jira, in facilitating communication and coordination across diverse project teams was highlighted as a critical component of the project's success. This supports the broader literature, which suggests that the strategic use of project management software is vital for maintaining alignment and transparency across complex projects (Schwalbe, 2015).

Overall, the Michu project shows how adaptive project management methodologies can drive success in the rapidly evolving fintech sector. The findings suggest that embracing agile practices, leveraging advanced project management tools, and maintaining a proactive approach to risk and stakeholder management are critical for navigating the challenges and opportunities presented by digital lending platforms.

The insights gained from this case study contribute valuable knowledge to the field of project management and offer practical guidelines for future digital platform development projects, particularly in environments characterized by rapid technological change and high stakeholder expectations.

5.3. RECOMMENDATION

1. Enhance Project Team Skills: Invest in ongoing training focused on the latest project management methodologies, such as Agile and Scrum, to keep the project team updated and adaptable to changes.

2. Implement Clear Performance Metrics: Develop and utilize clear, measurable performance indicators that align with Kifiya’s strategic goals and specific project objectives, enabling objective assessment of project outcomes.

3. Strengthen Stakeholder Engagement: Regular involvement of all stakeholders during the project lifecycle ensures alignment with business objectives and enhances project outcomes, fostering better stakeholder satisfaction.

4. Establish Regular Feedback Mechanisms: Integrate regular post-project reviews to gather feedback and encourage continuous improvement. This practice will help identify lessons learned and propagate successful strategies across future projects.

5. Promote Employee Involvement and Recognition: Encourage active participation of employees in developing and refining project management tools and systems. Recognize and reward successful project delivery to boost motivation and commitment to company goals.

Future Research Directions

Evaluating the Effectiveness of Different Agile Methodologies in Fintech Projects:

Future research should explore the differential impacts of various agile methodologies, such as Scrum, Kanban, and hybrid models, on project outcomes within the fintech industry. This could involve conducting multi-case studies across different fintech companies to compare how each methodology influences factors like project delivery time, budget adherence, team satisfaction, and overall project success. This research would be invaluable for identifying optimal agile practices tailored to specific project scopes and complexities in the rapidly evolving fintech sector.

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ANNEX

Annex I: Questionnaire

Dear Michu Project Employees.

This research is being carried out by Eyuel Seyoum under the supervision of Dr. Dejene Mamo of Saint Mary University as part of his graduate studies. Your participation in this study will aid in Assessment of Project Management Practices in the Development of Digital Lending Platforms: A Case Study of Michu by Kifiya. Your assistance will be greatly appreciated. You will be required to complete a questionnaire as part of your participation. The questionnaire consists of twenty-eight questions and will take approximately 20 minutes to complete.

Please be advised that all information provided will be kept strictly confidential and will only be reported as group data. There will be no disclosure of identity in my report presentation, no risks will be involved, and the data will be used for research purposes only. Your participation is entirely voluntary, and you have the option to withdraw from further participation at any time without penalty. Saint Mary University has approved this research project. If you have any questions about this study, please contact the investigator via email.

Sincerely,

Eyuel Seyoum

Survey questionnaire on Project Management Practices in the Michu Project

Section 1: Demographics

1. What is your role in the Michu project?

    a. Data science team
    b. BPASS team
    c. Business development team
2. How long have you been part of the Michu project?

    a. Less than 6 months
    b. 6 months to 1 year
    c. 1-2 years
    d. More than 2 years

Section 2: Project Management Methodologies

3. Which project management methodologies have you used during the Mich project? (Select all that apply)

    a. Scrum
    b. Kanban
    c. Waterfall
    d. Hybrid
    e. Other:----------
4. How effective do you think the chosen project management methodology was in achieving project objectives?

    a. Very effective
    b. Effective
    c. Neutral
    d. Ineffective
    e. Very ineffective
5. Which project management tools did you use during the Michu project (Select all that apply)

    a. Jira
    b. Trello
    c. Microsoft project
    d. Asana
    e. Other:---------
6. How effective were these tools in managing the project?

    a. Very effective
    b. Effective
    c. Neutral

d. Ineffective
e. Very ineffective

7. Which project management techniques are commonly employed? (Select all that apply)

a. Gannt Charts
b. Critical Path Method
c. Program Evaluation and Review Technique
d. Critical Chain Method
e. Others--------

8. How effective were these tools in managing the project?

a. Very effective
b. Effective
c. Neutral
d. Ineffective
e. Very ineffective

9. What strategies are used for risk identification in the Michu project? (Select all that apply)

a. Documentation Reviews
b. Brainstorming
c. Delphi Technique
d. Interviewing
e. Root Cause Analysis
f. SWOT Analysis
g. Other----------

10. How well were risks identified and managed in the Michu project?

a. Very effective
b. Effective
c. Neutral
d. Ineffective
e. Very ineffective

11. How often are risks assessed during the project?

a. Bi-weekly
b. Monthly
c. Quarterly
d. Rarely

12. Which technique do you frequently use for risk analysis? *

a. Qualitative Risk Analysis Techniques
b. Quantitative Risk Analysis Techniques
c. Both
d. Other:--------

13. What are the most common strategies your team uses to respond to identified risks?

a. Avoidance
b. Mitigation
c. Transfer
d. Acceptance
e. Other:

14. How effective were the strategies employed to mitigate risks?

a. Very effective
b. Effective
c. Neutral
d. Ineffective
e. Very ineffective

Section 3: Planning and Scheduling

15. To what extent was the project tasks completed within the originally planned timeframe?

a. Incomplete
b. Partially Complete
c. Mostly Complete
d. Fully Complete

16. How effectively were delays identified and addressed during the project?

a. Very Effective
b. Effective
c. Neutral
d. Ineffective
e. Very ineffective

17. How effective were the planning and scheduling processes in the Michu project?

a. Very Effective
b. Effective
c. Neutral
d. Ineffective
e. Very ineffective

18. How often were project timelines updated and communicated to the team?

a. Weekly
b. Bi-weekly
c. Monthly
d. Quarterly
e. Rarely

Section 4: Communication and Collaboration

19. How effectively does the project manager communicate project goals, objectives, and updates to the team and stakeholders?

a. Very Effective
b. Effective
c. Neutral
d. Ineffective
e. Very ineffective

20. How frequently do you receive project updates and communication?

a. Weekly
b. Bi-weekly
c. Monthly
d. Quarterly
e. Rarely

21. What communication channels are used for project-related information?

a. Email
b. Meetings
c. Slack
d. Other:---------

22. How often were team meetings held? *

a. Daily
b. Weekly
c. Bi-weekly
d. Monthly
e. As needed

23. How effectively does the project team collaborate to solve problems make decisions?

a. Very Effective
b. Effective
c. Neutral
d. Ineffective
e. Very ineffective

24. How would you rate the level of stakeholder engagement in the project?

a. Not Engaged
b. Engaged
c. Neutral
d. Engaged
e. Very Engaged

25. How often were stakeholder meetings held?

a. Daily
b. Weekly
c. Bi-weekly
d. Monthly
e. As needed

26. How effective was the communication with stakeholders?

a. Very Effective
b. Effective
c. Neutral
d. Ineffective
e. Very ineffective

27. How would you rate the overall collaboration within the team?

a. Very bad
b. Bad
c. Neutral
d. Good
e. Excellent

Section 7: Overall Project Evaluation

28. How satisfied are you with the overall project management practices in the Michu project?

a. Very satisfied
b. Satisfied
c. Neutral
d. Unsatisfied
e. Very unsatisfied

ANNEX II: Qualitative Data Collection Tool

1. What is your role in the Michu project?
2. How long have you been involved in project management?
3. Which project management methodologies were used in the Michu project?
4. How effective were the planning and scheduling processes in the Michu project?
5. What tools or platforms were used for team communication, and how effective were they?
6. How would you rate the effectiveness of communication within the Michu project team?
7. Were there any specific strategies used to enhance team collaboration?
8. How effectively were risks identified and managed in the Michu project?
9. Can you give an example of a risk that was successfully mitigated?
10. How effectively were stakeholder feedback and concerns addressed throughout the Michu project, contributing to overall stakeholder engagement and satisfaction?
11. How would you rate the quality of the final Michu platform, and were specific quality standards or benchmarks used to guide its development?
12. Was the Michu project completed within the allocated budget?
13. Were Agile practices implemented in the Michu project, and if so, how did they influence the project's outcome?
14. How would you describe the team dynamics during the Michu project?
15. Were there any leadership practices that particularly contributed to the project's success?
16. Were there any training or development opportunities provided during the Michu project?
17. Were there formal evaluations or retrospectives conducted post-project?
18. What are the key lessons learned from the Michu project?
19. How satisfied are you with the overall outcome of the Michu project?
20. What recommendations would you make for future digital lending platform projects based on your experience with Michu?