

The Effect of project Risk Management on the Successful Delivery of CBE Beje project: (The Case of Commercial Bank of Ethiopia)

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DECLARATION

I hereby declare that the research entitled “The Effect of project Risk Management on the successful delivery of CBE Beje project: The case of commercial bank of Ethiopia” is my own work guided by professor Worku.M and that all sources I have used or quoted have been indicated and acknowledged accordingly.

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STATEMENT OF CERTIFICATION

This is to certify that Tigist Jibat research project work on the topic "The Effect of Risk Management on the successful delivery of CBE Beje project: The case of commercial bank of Ethiopia." is original and eligible for submission for a Master's Degree in Project Management.

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The Effect of project Risk Management on the Successful Delivery of CBE Beje Project: (The Case of Commercial Bank of Ethiopia)

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ACRONYMS

PRI: project risk identification

PRA: project risk assessment

PRM: project risk mitigation

PRMO: project risk monitoring

H0: null hypothesis

H1: alternative hypothesis

PMBOK: project management book of knowledge

PS: project success

SPSS: statically package for social science

ABSTRACT

In light of financing through projects such as the CBE Beje digital loan scheme by the commercial bank of Ethiopia (CBE), the rapid digitization of financial service delivery has transformed the Ethiopian banking industry in its entirety. Systemic risk factors might hinder the successful implementation of such critical digital ventures. This paper analyzes the impact of project risk management (PRM) processes on the successful implementation of the CBE Beje project, including risk identification, risk assessment, risk mitigation, and risk monitoring. A quantitative approach was adopted for this study, and data were gathered from various project stakeholders via structured questionnaires. Out of the 398 distributed questionnaires, 300 responses were deemed valid and were analyzed in the end. Among the many statistical approaches utilized in this paper for analyzing the gathered information is multiple regression analysis in SPSS.According to the findings, there is a significant and positive relationship between the four PRM constructs and project success. Based on the regression analysis, a value of R squared at 0.727 indicates that the risk management practices analyzed explain roughly 72.7% of variance in the success of the CBE Beje project completion. Out of all the variables in this case, the practice of risk mitigation proves to be the most influential predictor of project success. This study highlights the significance of proactively managing risks in the context of moving toward digitalization in the banking industry. It is important for CBE to improve its risk management systems at project level.

Keywords: *Project Risk Management, CBE Beje, Digital Loan Platform, Project Success, R-Square, Commercial Bank of Ethiopia.*

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

The swift evolution and digitization of financial services have completely transformed the world of traditional banking. Through speedier transactions, improved user experience, and breaking down barriers like the need for physical collateral, financial technology (FinTech) has become a key driver of economic progress in the modern world. Among the many innovations brought forth by FinTech, digital lending has found extensive use as an effective means to increase access to credit and facilitate financial inclusion (Arner et al., 2017). Digital lending companies have thrived in developed countries owing to their favourable infrastructures, high financial awareness among the population, and sound regulation. Such environments allow the commercial banking institutions to conduct automated credit risk assessment and fraud monitoring of their portfolios in real-time, thus ensuring low credit risk management (Gomber et al., 2017).

Conversely, the introduction of digital lending infrastructure into developing countries is an entirely different scenario altogether. Developing countries have environmental factors that hinder the adoption of digital credit systems, which mainly consist of poor technological infrastructure, inconsistent internet availability, and lack of digital literacy skills amongst the intended beneficiaries (Mbiti & Weil, 2016; Lee & Shim, 2018). Notwithstanding the environmental risks faced, it can be argued that should the risk factors be properly controlled through project management measures, digital lending could provide immense possibilities towards bridging the gap of financial inclusion and securing project sustainability. Thus, the ability to move from conventional to digital finance would rely greatly on the internal project management framework.

Within the realm of the Ethiopian banking industry, this shift towards technology has been captured in the emergence of the product, CBE Beje, a revolutionary digital, salary-backed, collateral-less loan service provided by the Commercial Bank of Ethiopia. The

financial product aims at reaching individuals working on a salary basis whose income is directed into the banks, providing quick access to loans in times of need. However, while the creation of such products through innovation is a huge milestone in the quest for financial inclusion within the country, there arises the need for robust risk management when considering the implementation of these products. This brings into perspective the importance of knowing how risk management within a project influences the successful implementation of digital finance products.

1.2 Statement of the Problem

In the current era of rapid financial transformation, the Commercial Bank of Ethiopia (CBE) launched the CBE Beje platform to optimize digital financial services, broaden credit access, and deepen financial inclusion. Despite being very transformative in nature, digital lending platforms are intrinsically vulnerable to specific project level risks, such as opaque models, errors in credit decisions using algorithms, cybersecurity threats, and liquidity risks, which may adversely affect the overall performance of the projects. The effective delivery of the digital banking projects is contingent on effective PRM approaches. Nevertheless, internal operational experience shows that in terms of implementation of the CBE Beje project, there was no documentation and structure associated with project level risk management. This lack of implementation is occurring in an extremely important period when the fast growth of digital financial operations significantly increases the risk of operational, fraud, and cybersecurity risks for institutions.

There appears to be a noticeable gap in the current body of literature concerning this occurrence. Earlier research conducted at an international level on the general practice of project management has thoroughly covered the risk management models, which implies that the core variables of PRM such as risk identification, risk assessment, risk mitigation, and risk monitoring are conceptually sound and widely recognized. There remains, however, a serious shortage of empirical research on the specific context that seeks to prove the impact of such variables on project success in digital lending projects.

Global literature underscores that while financial technology and digital risk-control variables are conceptually defined, they are rarely tested empirically against specific internal project execution and deployment metrics (Zhao, 2025). Furthermore, academic research highlights that traditional risk frameworks often fall short when addressing the novel market structures, data constraints, and collateral-less architectures of emerging digital credit platforms, which poses a unique research challenge for artificial intelligence and algorithm-driven applications in finance (Giudici, 2018).

In the local context, empirical evaluations show that the prevailing emphasis of risk management functions within Ethiopian commercial banks revolves almost exclusively around ensuring compliance with regulatory reporting standards, rather than generating project execution value or maximizing operational performance outcomes (Biresaw & Sibindi, 2024). Consequently, prior local banking literature has traditionally focused heavily on the consumer side—detailing the drivers, infrastructure barriers, and behavioral determinants of customer adoption using traditional technology acceptance frameworks—instead of assessing the internal project management risks of the banks themselves (Kassaye, 2026). Even when risk management practices are analyzed within local alternative financial structures, the literature is heavily skewed toward macro-level institutional performance trends via generalized methods of moments rather than micro-level product deployment risks (Molla, 2025).

Therefore, there is no empirical research available to establish a direct, formal causative link between these known risk management variables and the actual project delivery parameters (time, cost, scope, and technical stability) of a collateral-less digital credit system within the unique socio-economic and regulatory landscape of Ethiopia. Relying strictly on generalized variables from traditional banking or foreign fintech environments renders findings difficult to apply to CBE's localized challenges, particularly where innovative psychometrics are needed to overcome deep-seated collateral constraints (Alibhai, 2019). Without empirical validation, project managers are left without an evidence-based framework to prioritize risk actions, directly threatening the sustainability of high-stakes innovations like CBE Beje. Consequently, this study empirically

investigates the direct effect of these established project risk management variables on the successful delivery of the CBE Beje project.

1.3 Research Question

1.3.1 General Research Question

How do project risk management practices affect the successful delivery of the CBE Beje project?

1.3.2 Specific Research Questions

- How does risk identification affect the successful delivery of the CBE Beje project?
- How do risk assessment and analysis influence the success delivery of CBE Beje project?
- To what extent does risk mitigation contribute to achieving project objectives in the CBE Beje project?
- What role does risk monitoring play in ensuring successful completion of the CBE Beje project?

1.4 Research Objectives

1.4.1 General objective

To examine the impact of project risk management practices on the successful delivery of the CBE Beje project.

1.4.2 Specific Objectives

- To examine the effect of risk identification on the successful delivery of the CBE Beje project.
- To evaluate the influence of risk assessment and analysis on the successful delivery of the CBE Beje project.

- To determine the effect of risk mitigation on achieving project objectives in the CBE Beje project.
- To examine the contribution of risk monitoring in ensuring the successful completion of the CBE Beje project.

1.5 Research Hypotheses

A hypothesis serves as a testable proposition regarding the relationship between defined variables. This study investigated the correlation between project risk management practices (the independent variables) and project success (the dependent variable) within the CBE Beje project framework. For this research, project success was multi-dimensionally measured through time, cost, quality, and scope performance.

The following alternative hypothesis (H1) and null hypothesis (H0) were tested, predicting that effective risk management practices yield a significant positive effect on project delivery.

$H1_1$: Risk identification has a significant positive impact on the successful delivery of the CBE Beje project.

$H0_1$: Risk identification has no significant impact on the successful delivery of the CBE Beje project.

$H1_2$: Risk assessment and analysis have a significant positive impact on the successful delivery of the CBE Beje project.

$H0_2$: Risk assessment and analysis do not significantly influence the successful delivery of the CBE Beje project.

$H1_3$: Risk mitigation has a significant positive impact on the successful delivery of the CBE Beje project.

$H0_3$: Risk mitigation has no significant effect on achieving project objectives in the CBE Beje project.

$H1_4$: Risk monitoring has significant positive impact on the successful delivery of the CBE Beje project.

$H1_4$Risk monitoring does not significantly contribute to the successful completion of the CBE Beje project.

$H1_5$Cumulative project risk management practices have a significant positive effect on the successful delivery of the CBE Beje project.

$H0_5$: Cumulative project risk management practices have no significant effect on the successful delivery of the CBE Beje project.

1.6 Significance of the Study

The findings of this research provide substantial value to the Commercial Bank of Ethiopia (CBE), the researcher, and the broader academic community. By evaluating the nexus between project risk management (PRM) practices and the successful execution of digital banking initiatives, this study offers significant practical and theoretical contributions.

1.6.1 Significance to the Organization

The research highlights important information concerning the effectiveness of the implemented risk management procedures within the CBE Beje project. Firstly, this will improve decision making through equipping project managers with knowledge on the methods of identification of project-related risks as well as measures to be used to mitigate the risk factors. Additionally, the findings of this research are expected to lead to process improvements by helping to pinpoint areas requiring improvement within the risk management process employed in the bank. Apart from improving processes, this study will contribute towards the development of effective policies in terms of developing efficient risk management frameworks as well as policies to guide project management practices within the bank's digitization program.

1.6.2 Significance to the Researcher

Beyond its organizational impact, this research serves as a vital instrument for the researcher's professional and academic development. It enables the development of theoretical expertise, thereby connecting project management theories studied in academia with the real-life problems encountered in the high-risk world of corporate banking. The research also provides an avenue for gaining new skills, enhancing abilities in conducting proper research by mastering areas like study designs and statistical analysis.

1.6.3 Importance for Future Researchers

Finally, this study contributes to the broader academic landscape by offering a documented empirical contribution from the Ethiopian baking sector a context where empirical research on the project- level risk management remains relatively scarce. The research provides a valid referential basis and a starting point for future research on project success and risk dynamics in the financial institution in emerging economics.by pointing to specific areas where further research is needed.

The study guides future scholars toward unexplored variables in the field and contributes to the on-going academic discourse regarding the validation and refinement of project success theories.in summary, this research is significant from both a practical and theoretical standpoint, providing the commercial bank of Ethiopia with actionable recommendations while simultaneously advancing the academic understanding of project risk management in developing economics.

1.7 Scope of the Study

The scope of this study deals across conceptual, geographical, and methodological boundaries to ensure a focused and rigorous investigation. Conceptually, the research is centered on the project team members, managers and internal stakeholders directly involved in the planning, implementation and post-delivery phases of the CBE Beje project. The primary focus is to evaluate the impact of project risk management practices

on the successful execution of this specific initiative, without extending the analysis to other unrelated digital products within the bank.

Conceptually, the study is restricted to the risk management aspects of four important factors: risk identification, risk assessment, and risk analysis, risk mitigation, and risk monitoring. The project will be assessed on the basis of the classic project management criteria of time, cost, and quality. This conceptual boundary ensures that the study remains aligned with established project risk management (PRM) frameworks while addressing the specific complexities of digitalized finance.

The research is limited to the Commercial Bank of Ethiopia (CBE) in terms of organization and geography. Limitations of the Study To keep the research boundary manageable, data collection is limited to internal respondents and project documentation. The research does not include external stakeholders such as the end-users or the third-party vendors to ensure that the findings reflect the internal project management efficiency of the bank.

Methodologically, the study uses quantitative approach. The sample size of the study is 384 participates to maintain the statistical reliability. Data are collected through a structured questionnaire. Finally, the scope of analysis includes the integration of the quantitative (statistical) methods to provide a comprehensive, evidence-based conclusion regarding the CBE Beje project.

1.8 Limitations of the Study

Although the research has been well designed, a number of intrinsic limitations have been recognized. These limitations determine the extent of the conclusions that can be drawn. Firstly, this research focuses on one case study, the CBE Beje digital lending project. Thus, although the conclusions may be quite relevant to this particular digital lending facility, it cannot be generalized to other projects in the commercial bank of Ethiopia or even in the entire banking sector. Furthermore, participation was restricted to managers and project team members directly associated with the CBE Beje initiative, thereby

excluding the perspectives of external stakeholder's or bank personnel not involved in this particular rollout.

With regard to the scope of the concepts studied, the study is limited to a select few practices of project risk management along with their direct impact on certain pre-defined performance indicators of projects. This limitation excludes any other external environment factor such as the macroeconomic factors prevailing at the time of conducting this study, or changes in legislation at the national level which may influence the results of this study. The period covered by this study includes only the planning stage of the project, as well as its implementation and launch.

1.9 Definition of Terms

Project risk Management: is defined in identifying, measuring, and controlling risks that have the potential to influence the project objectives.

Project risk Identification: refers to the ability to identify and document potential risks from both the internal and external environments, which may end up affecting the success of the project negatively.

Risk assessment and analysis: is a systematic process to identify potential hazards, analyse their likelihood and impact, and evaluate them to decide on treatment.

Risk Monitoring: is continuous monitoring of risks that have been identified, the efficacy of measures to mitigate risks and new risks.

Project success: defined by the degree at which the CBE Beje project attains its planned objectives, specifically measured by time, cost, quality, and scope performance.

CBE Beje: is the Commercial Bank of Ethiopia's digital salary-backed loan and savings platform, which allows employees to access unsecured digital loans through the CBE Birr mobile application (Addis Insight, 2025)

1.10 Organization of the Paper

This research paper is composed of five chapters which contain different parts in each. Chapter one: Introduction: in this chapter, background of the study, statement of the problem, objectives of research, research questions, significance of the study, scope of the study and limitations of the research. Chapter two: Literature review: this section covers review literatures of different scholars and authors that have been reviewed in the area of project risk management, project risk identification, project risk monitoring, project risk analysis and project risk mitigation. It deals with both theoretical and empirical findings of various researchers' concepts related to project risk identification, project risk monitoring, project risk analysis and project risk mitigation. Additionally, this contains a conceptual framework which show the relationship between dependent and independent variables in the study. Chapter three: Research Methodology: this chapter shows the methodology used in this research in order to achieve the required objectives and to answer the research questions. Chapter four: Result analysis and Discussions: this chapter shows result, description and discussion of research results. Chapter five: Conclusions and recommendations.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides a comprehensive review of the existing literature regarding project risk management (PRM) and its critical influence on the successful implementation of digital loan platform. The review intends to place the CBE Beje digital loan facility within the broader academic discourse of financial technology and project success. As noted by (Al-Kofahi et al. (2025)), the effectiveness of modern financial information systems can be evaluated based on the strength of their digitization procedures and the dependability of the services they offer. The review is exhaustive in its source, integrating basic conceptual framework with recent empirical research to establish a sound theoretical basis for the study.

The Primary objective of the current literature review is to provide an in-depth analysis of the relationship between project risk management practice and the effectiveness, dependability, and overall success of the digitization of the banking platform. This study aims to provide a holistic approach through the integration of the world-wide fintech risk issues with the banking processes in Ethiopia, especially considering the rapid changes in the banking process following the implementation of the Digital Ethiopia 2025 plan (Alsobai & Aassouli, 2025).

Additionally, the current chapter provides an extensive examination of the evolution of risk management strategies in the banking industry, taking into account the transition between classical principles of project management and the emerging needs of digital services in the contemporary world. According to Sudianjaya et al. (2024), the digital finance era necessitates shifting from mitigating risks to proactive identification and monitoring, ensuring the stability of the digital platform. These gaps serve as the core justification for this research and provide the necessary background to evaluate the outcomes and risk mitigation strategies undertaken by the Commercial Bank Ethiopia for the CBE Beje project.

2.2 Theoretical Literature Review

2.2.1 Project risk management (PRM) Theory

Project Risk Management (PRM) Theory: This is referred to as an ongoing process aimed at recognizing, evaluating, responding to, and controlling any potential project risks that may influence the project goals (PMBOK, 2021). According to the Project Management Institute (PMI), PRM is vital in enhancing the probability of project success by managing any risks associated with the traditional "iron triangle" of project scope, cost, schedule, and quality. With regard to financial technology (fintech) digital projects such as CBE Beje, PRM takes on an even more significant role because of the complex nature of the integration of fintech systems and automatic credit rating assessment. Moreover, efficient PRM minimizes cyber security weaknesses that put the confidentiality and integrity of financial data at risk, as well as regulatory compliance risks that can result in serious legal implications in case of non-compliance (Hillson & Simon, 2020). Early threat recognition coupled with proactive risk mitigation helps financial firms make sound decisions and build customer confidence in digital applications (Zwikael, & Smyrk, 2019).

PRM, according to PMI, should be applied in managing the 'iron triangle' that entails scope, cost, and quality. In this context, given the need to apply PRM methodologies for a digital platform like CBE Beje, it became essential to formulate an approach that would help cater to the needs of CBE Beje. Thus, this research adopts the ATOM approach suggested by Hillson and Simon (2020).

Application of ATOM to CBE Beje:

In the case of CBE Beje, the lack of consistent documentation of risk procedures in implementation indicates a Disconnect between PRM theory and its application. Such a disconnect may expose the system to risks associated with system downtime, fraud, and inaccurate credit calculations.

2.2.2 Enterprise risk management (ERM) Theory

Enterprise risk management (ERM) Theory, as articulated by the (COSO Framework (2017), is a comprehensive approach to managing risk that aligns project-level uncertainties with the broader risk appetite of the organization. Unlike traditional siloed risk management, ERM ensure that risks are viewed holistically across the entire enterprise. For a large- scale initiative like CBE Beje, the relevance ERM lies in its ability to synchronize project-level risks with organizational governance and the National Bank of Ethiopia's regulatory requirements.

Through the use of ERM, the Commercial Bank of Ethiopia will be able to create an environment where there is awareness of risks at all stages of the digital loan distribution process. With this holistic approach, the digital loan system will run in an environment that is risk free and acceptable, guaranteeing the bank its long-term strategic and financial goals (Beasley, Branson, & Hancock, 2023; Kraus et al., 2023; McKinsey & Company, 2023)).

Application to CBE Beje:

In the case of CBE Beje, the importance of ERM can be observed in aligning digital loan risk management according to the National Bank of Ethiopia rules. But if ERM is separated from actual implementation at the project level, it might not deal with real-time risks such as system crashes or attempted frauds.

2.2.3 Information System (IS) Success Theory

Information System Success Model (DeLone and McLean (2003) presents one of the vital frameworks that explain the relationship between system quality, information quality, and service quality on the user's satisfaction and general success of the project. For the CBE Beje platform, success in its implementation will be based on system reliability (continuity of work), high quality of data (correct estimation of the loan amount), and prompt services provision.

The integration of PRM and IS Success Model enables the identification and elimination of the critical risks such as system downtime, data breaches, and failure of algorithms. The presence of high-quality information systems and effective risk management practices contributes to increased individual and organizational benefits, which become the primary determinants of success in the development of a digitalized finance project (Kaba & Keita, 2023; Mensah et al., 2024; Tam & Oliveira, 2023). Recent empirical studies have confirmed that the "System Quality" and "Trust" factors are the most important in making the decision to use a digital lending system (Kaba & Keita, 2023).

Application to CBE Beje:

For CBE Beje, integrating PRM with IS success factors is essential. For example, system downtime (technical risk) directly affects user satisfaction and trust.

2.2.4 Technology Acceptance Model (TAM)

The most widely used theoretical framework in relation to user acceptance of ITs developed from studies in user acceptance and adoption of IT is the Technology Acceptance Model (TAM). This was proposed in 1989 by Davis and since then the TAM has been extensively researched on, thus making it one of the most important theoretical frameworks in relation to user acceptance of technologies. It states that PU and PEOU are the main determinants of a user's intention to adopt a digital solution. In the case of CBE Beje, these factors are greatly affected by the risk management capability of the bank.

It has been observed that for any kind of digital loan services "Perceived Risk" acts as a major barrier in terms of technology acceptance (Al-Rahmi et al., 2022; Kamal et al., 2021). The moment a project team fails to incorporate an effective digital risk management strategy in their implementation which results in the failure of the system, this will eventually lead to reduced perceived ease use and trust and consequently reduce acceptance rate. In relation to TAM and PRM together, CBE can ensure the success of the entire project (Liébana-Cabanillas et al., 2024; NBE, 2024).

The Integration Project of Risk Management (PRM) has direct implications on the Technology Acceptance Model (TAM) applied in the CBE Beje project. For example, the "Technical Risk" element of risk management acts as one of the major drivers of "Perceived Ease of Use" by users. In case the technical risks associated with the system stability are not minimized, resulting into system failures, it negatively impacts the perceived usefulness of the technology for the user. It makes adoption of the technology highly challenging. It clearly shows that risk management is an integral part of user acceptance in addition to its technical importance. (Bashir et al., 2023; Mohammed & Japee, 2025)

Application to CBE Beje:

When looked at from the perspective of the Ethiopian society, whose digital literacy level is currently developing, risk perception (e.g., fraud and misuse of data) assumes an essential role during the implementation of the technology. Poor risk management could undermine user confidence despite technical efficiency of the system

2.3 Conceptual Literature Review

2.3.1 Project risk management (PRM)

The Project Risk Management (PRM) involves the process of addressing potential sources of uncertainties that would pose a threat to the successful completion of a project. Generally, there are different stages in the PRM process that include risk identification, analysis, mitigation planning, and implementation. However, with regard to digital processes such as financial activities, the PRM process has transformed from just being an afterthought in terms of technological aspects to an essential management technique aimed at ensuring robustness, security, and compliance within operations. In contrast to traditional PRMs, which mainly focus on costs and time as suggested by (Kerzner (2022), Aljudaibi and Amuda (2024) contend that with the current digital banking environment, the concept should focus on proactive risk management that helps manage the high velocity risks within hybrid and virtual customer engagements. The application of this shift is particularly crucial for the CBE Beje digital loan platform, which, as (Duan (2024)

notes, presents a departure point from the traditional loans through its unique features including its salary-based and collateral-free digital service.

In addition to the above, the success of Beje cannot be divorced from the larger aim of financial inclusion in the country. According to (Gaviyau and Sibindi (2023), based on empirical analysis carried out on emerging economies, digital banking will only succeed in its objective of promoting financial inclusion if the risk management regime underlying the system is sufficiently strong to build user confidence. The case of the Commercial Bank of Ethiopia in particular indicates that PRM is not just an obligation needed to ensure that projects are completed in time but a means to an end. The effective handling of technical and credit risks by CBE guarantees that Beje will remain useful as a strategy for expanding credit access to the unbanked.

In regard to CBE Beje, PRM is no less than the success criterion.

2.3.2 Digital loan platforms

Digital Loan Platforms (DLPs) refer to the utilization of technological innovation to create ecosystems where individuals seek, manage, and acquire credit via online mechanisms only. The traditional banking model contrasts greatly with digital loans because it does not use automation processes, cloud-based architecture, and artificial intelligence in the decision-making phase (IOSR Journal, 2026; Al-Rahmi et al., 2026). Current research indicates that the advent of digital loans has disrupted the credit industry, making it easier for customers to receive money without extensive documentation, thereby contributing to financial inclusion in developing nations (Al-Rahmi et al., 2026; IOSR Journal, 2026). In the case of Ethiopia, the deployment of the Digital Ethiopia 2025 strategy has expedited this process, culminating in an increase of three times the value of transactions on the digital platforms and promoting a cash-lite economy through improved platform robustness (Yimer et al., 2026; National Bank of Ethiopia, 2024). The primary benefits of using digital loans include decreased wait time for customers, lower operating costs for banks, and providing credit to underserved communities that do not have formal credit records (Mohammed & Japee, 2025; Xu et al., 2024).

Nevertheless, the adoption of the digital-first strategy presents considerable systemic challenges and cyber security issues. According to (Acosta-Prado et al. (2024), as banks adopt various external FinTech technologies, they become prone to "high-velocity" threats such as phishing, algorithmic discrimination, and cyber-attacks. In this regard, PRM plays the crucial role in this landscape, as it guarantees that the benefits of digital platforms such as CBE Beje are accompanied by stringent security mechanisms and compliance with regulations (Ahmad et al., 2024; Gaviyau & Sibindi, 2023).

While global platforms operate with advanced infrastructure, CBE Beje operates in a resource-constrained environment, increasing risk exposure.

2.3.3 Type of Risk in Digital Loan Projects

Digital lending schemes such as CBE Beje are highly exposed to several dimensions of risks that demand comprehensive management approaches. They include:

- Technology risk: This is risk associated with the performance of computer systems used for the process.
- Cyber security risk: This refers to any risk associated with cyber security of the financial information being processed. (He et al., 2023).
- Credit risk: Risks that might occur due to failure of loan recipients or the poor design of computer-based credit evaluation models employed to rate the borrowers' repayment ability.
- Operational risk: This is risk related to operational errors made within the process or using the information systems.
- Regulatory Risk: This is risk relating to compliance issues regarding regulatory standards of banks imposed by the National Bank of Ethiopia (NBE, 2024).

To insure project success, the Commercial Bank of Ethiopia must apply the rigorous risk management principle across each of these categories throughout the project lifecycle. Unlike traditional banking, these risks are interconnected, meaning failure in one area can trigger systemic breakdown.

2.3.4 Successful Delivery of Digital Loan Platforms

The achievement of successful Digital Loan Platform Implementation is traditionally defined as its ability to achieve certain key objectives concerning time, costs, and quality. However, in today's banking sector, the criteria for measuring the success of the implementation have evolved and now include aspects such as system reliability, compliance with legal requirements, and establishing customer trust via secure digital interactions (Aisyah et al., 2025; Saoula et al., 2024). Being in the digital-first environment represented by CBE Beje, the success of the implementation will be determined based on the platform's ability to conduct many transactions without any technical difficulties.

One of the key factors for achieving such a result lies in preventing the phenomenon of "risk cascade". According to (Dionysopoulos et al. (2024) & Kayikci & Khoshgoftaar (2026), a risk cascade in complex digital systems is the situation where a small problem with any of the system's subsystems causes other large problems and failures in the entire digital platform. By utilizing a good PRM framework, the Commercial Bank of Ethiopia can effectively address all the mentioned variables and prevent the "micro-errors" from escalating into the "macro-failures" (Mohammed & Japee, 2025; Sudianjaya et al., 2024).

2.3.5 Integrated Risk Management (IRM) in Digital Banking

Integrated Risk Management (IRM) in Digital Banking represents a complicated framework which incorporates project-level risk with organizational strategy and compliance aspects. Within the domain of digital banking, IRM goes further than the conventional silo-based risk management and seeks to ensure that technology risk, operational risk, and credit risk are considered from one cohesive perspective. The importance of applying the IRM framework lies within helping to align the rapid development goals of the CBE Beje project with NBE's highly stringent requirements (NBE, 2024).

The use of IRM provides for a "risk-aware culture" in which project managers, and IT developers interact with the compliance and audit departments simultaneously. The

collaboration of all these teams will help to create the legally and financially viable digital loan platform. In doing so, the commercial bank of Ethiopia will be able to mitigate systematized risks related to digital lending activities, thus helping to preserve the reputation of the organization and ensuring its sustainable development in the digital future (Hillson & Simon, 2020; MDPI, 2025).

Application to CBE Beje:
IRM is critical for ensuring that rapid digital expansion does not compromise financial stability.

2.4 Empirical Literature Review

2.4.1 Risk Management and Institutional Performance (CBE & Ethiopia)

The recent findings within the Ethiopia banking sector underscore that the success of technology and finance lies in managing risks effectively. According to Liulseged (2025), he evaluated the impact of risk management on the success of information technology projects at Commercial Bank of Ethiopia (CBE). The empirical analysis showed that there is a statistically significant positive correlation between IT project outcomes and risk management practices.

To support this finding, (Molla & Kaur (2025)) employed a dynamic generalized method of moments (GMM) approach to estimate panel data in the Ethiopia financial institutions. They concluded that proper credit risk assessment and liquidity optimization are key elements for sustainable growth. The authors' findings indicate that poor risk mitigation strategies result in increased provision for loan losses, reducing return on assets (ROA). In relation to digital loans, these findings imply that integrating the risk framework into financial performance indicators is essential to prevent the shock of digitalization.

These studies indicate the significance of risk management practices. However, neither of them examines digital loan platforms, thus leaving room for further investigation.

2.4.2 Strategic determinates of digital platform implementation (Telebirr & Fintech)

The adoption of DFS on a larger scale in Ethiopia is evidence of how technical and regulatory risks are highly correlated in their impact on implementation success. According to (Tadesse (2022), the most critical factors determining the success of Telebirr project implementation were its technical and regulatory risks. In addition, (Tariku (2024), while studying the implementation of e-commerce by Telebirr, established that perceived risk remained a major impediment to users' participation. The findings from the above discussion imply that for the effective implementation of CBE Beje to be realized, all potential risks must be mitigated.

Application to CBE Beje:

This suggests that even a technically sound platform may fail without strong risk communication and trust-building

2.4.3 Regional lessons on digital credit sustainability (Kenya focus)

The regional literature from Kenya provides a well-developed basis for comparison for the Ethiopia case study. According to Kokonya and Kimutai (2024), digital lenders who employ sophisticated risk assessment mechanisms recorded considerably reduced incidences of defaulting and improved operational efficiency. Conversely, (Mwaura (2026)). Mwaura's (2026) research indicates that an illiterate borrower is 4.5% more likely to default, emphasizing the importance of CBE Beje in implementing clear risk communication and algorithmic oversight to maintain the sustainability of the digital lending platform.

Digital lending effectiveness requires more than just accessibility; it requires risk management and responsible borrower behavior.

2.4.4 Macro-institutions risk and digital stability (Ethiopian banking sector)

The rapid expansion of digital financial services in Ethiopia has shifted the empirical focus toward the systematic risks of rapid scaling. According to the national bank of Ethiopia

(NBE,2026), annuals digital transaction values in the country surged to over ETB18.5 trillion by 2025.while this growth supports financial inclusion, the NBE's financial stability report (2026) empirically demonstrates that such rapid expansion significantly increase institutional exposure to operational, cyber-fraud, and liquidity risks. This macro-level evidence suggests that for a platform like CBE Beje, project success is deeply tied to the bank's ability to maintain high capital adequacy ratios as a buffer against the digital "trust deficit" and potential systemic shocks. Furthermore, (Almeida & Sousa (2026) conducted a comparative analysis of commercial bank resilience and concluded that while digital transformation improves profitability, it creates an "optimal threshold" for lending. The researchers note that surpassing this limit through intense growth in digital lending without incorporating risk assessment results in reduced profitability owing to liquidity risks. Domestically, (Worku (2025)) examined the effect of risk management of credit on the performance of the ten leading banks in Ethiopia (including CBE) and revealed a statistically significant negative relationship ($p<0.05$) between Non-Performing Loans (NPLs) and profitability of the banks. As such, from the research conducted, it can be concluded that the deployment of digital loans requires a well-grounded empirical "risk-first" approach.

This highlights the need for controlled expansion supported by strong risk frameworks.

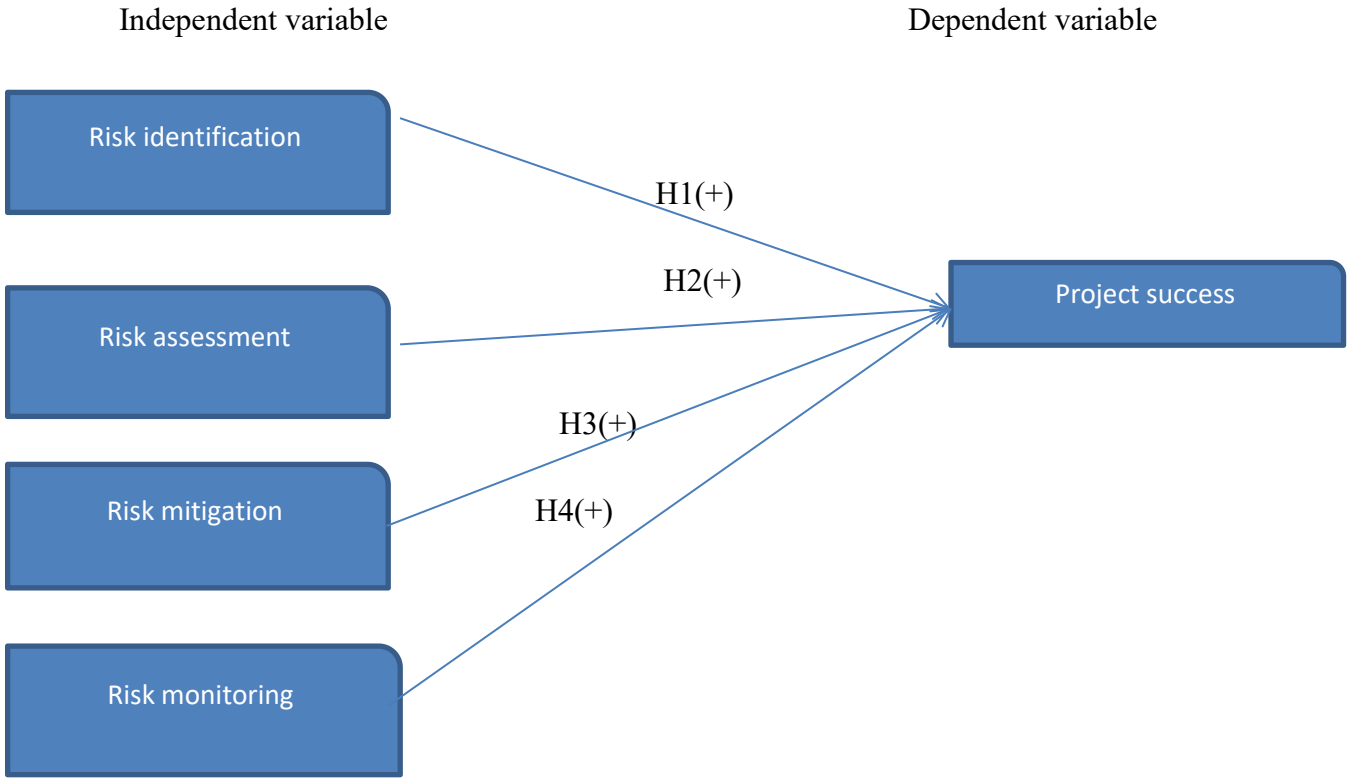
2.5 Conceptual Framework

The theoretical background of the current study can be explained based on the principles associated with project risk management (PRM) theory. In particular, according to PRM theory, the introduction of efficient project risk management strategies contributes to better project performance since it helps overcome uncertainties and improve the fulfillment of predefined objectives (schedule, budget, performance criteria), thus (Klein et al., 2022; Gomber et al., 2018). For the case of CBE Beje, the following structure of the relationship will be established within the proposed research. In particular, project risk management practices will act as the independent variables (IVs), while project success will be the dependent variable (DV). Four main dimensions of project risk management should be identified.

The variables can be further described and operationalized as follows:

- Risk identification: This represents the first phase of the model and entails the process of identifying potential threats both within the internal environment of the system such as technical issues and from the external environment like regulatory issues.
- Risk assessment and analysis: This refers to the measures that have been put in place to lessen the impact of the risk and especially cyber-attacks and inaccurate credit score assessments.
- Risk mitigation and response: This refers to the strategies adopted to lessen the impact of the risk and especially cyber-attacks and inaccurate credit score assessments.
- Risk Monitoring and Control: This represents the last step of the proposed framework and entails the continuous monitoring process that helps in tracking any risks that may persist and the reliability of the platform.

The relationship among the above-discussed independent variables can be presented using the following model (Figure 2.1). According to the proposed framework, proper implementation of the above-discussed independent variables will result in increased Project Success. In this research, success has been measured in terms of Iron Triangle factors that include Schedule, Budget, and System Reliability and additionally, Scope and Stakeholder satisfaction.



Source; done by the researcher, 2026

Figure 2.1 Conceptual framework

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1 INTRDUCTION

This chapter presents the comprehensive research methodology and systematic procedures employed to investigate the impact of project risk management practices on the successful delivery of the CBE Beje digital loan platform. The main purpose of this research methodology is to offer a stringent approach to the collection and analysis of data that will make sure that the results obtained are valid and reliable empirically. The subsequent paragraphs will provide an extensive explanation of the research setting, the causal design, the calculation of the sample size using mathematical models, and statistical tests applied in the data interpretation process.

3.2 Research Approach

The study adopted a Quantitative research approach. The quantitative approach was selected because it allows the measurements of relationships between independent variables (project risk management practices) and the dependent variable (project success) using numerical data and statistical analysis. The study specifically focused on: risk identification, risk assessment and analysis, risk mitigation, risk monitoring. The quantitative approach was appropriate because it enables hypothesis testing and statistical generalization of findings.

3.3 Research Design

The explanatory research design was applied in this study. It was a deliberate choice because it enables a comprehensive evaluation of the cause-and-effect relationships between project risk management strategies and the effective implementation of the CBE Beje digital loan platform. Explanatory research involves a two-stage analysis process whereby the use of quantification is to establish the statistical relevance and weight of certain risk factors. This particular design is appropriate because it focuses on cause-and-

effect relationships, tests hypotheses statistically, and explains how and why certain variables are correlated.

Hence, this design will enable the researchers to gauge the impact that project risk management practice has on the project's success.

3.4 Data Sources

In this study, only primary data was considered. This was obtained by administering structured questionnaires to the respondent. Use of primary data ensures originality, accuracy, and relevancy of the data.

Secondary data and qualitative interviews were not considered.

3.5 Target Population

The target population for this research would comprise of all those stakeholders and the beneficiaries of the CBE Beje digital loan platform. The population was then divided into two categories to ensure an all-inclusive point of view. The first category consisted of Internal Stakeholders, such as project managers, IT developers, risk compliance officers, and credit operations personnel that played an integral part in developing the platform. The second category would consist of External Beneficiaries, who would be the users of the loan products from the digital platform. At the time of this study, the total population of these external beneficiaries was identified as 80,000 active users, providing a robust base for evaluating the platform's success from a consumer perspective.

3.6 Sampling Technique and Sample Size Determination

3.6.1 Sampling Technique

The Stratified Sampling Approach was applied as a technique to ensure that there are adequate representation and reliable data obtained from the various stakeholders. To begin with, stratification was done according to the nature of the population where they were divided into two which include project implementation (technical core team) and operation or front liner users (users of the CBE Beje System). In the case of technical core team, purposive census method was employed as a way to obtain more information regarding the project. For the operation or front liner users, simple random sampling was done among the active users of the project.

3.7 Sample Size Determination

As mentioned by Kothari (2004), an accurate selection of the right sample size in any statistical investigation is a crucial step since the respondents selected in such studies should mirror the attributes of the entire population. A sample should not be too small or big but rather should be moderate enough to maintain its feasibility and accuracy. In the case of the CBE Beje project whereby the total number of users was estimated to be 80,000, such an investigation made use of the Taro formula to establish a proper sample size. This is due to a 95% level of confidence and a 5% margin of error which is the acceptable level in social science investigations.

The sample size was derived using the following formula:

N=N/ (1+N (e) 2)

n=80,000/ (1+80,000(0.05)2)

n=80,000/201

n=398

Here, “n” denotes the required number of respondents, “N” represents the total population of 80,000, and “e” refers to the permissible error level of 0.05. The number of respondents was thus calculated to be 398 based on the above computation. It was meticulously distributed to ensure that the analysis covers both the internal processes and the external impacts. This included a detailed census of 314 front-line users selected randomly to provide an unbiased evaluation of the efficiency of the system, along with 84 internal users whose unique functions necessitate their complete inclusion.

Table 3.1 sample size

Table 3.1 sample size

	Present	Amount
Internal Stakeholders, such as project managers, IT developers, risk compliance officers	21.1%	84
Frontline users, who would be the users of the loan products from the CBE Beje digital platform	78.8%	314
	100%	398

After the estimation of the sample size, the researcher dispatched a total number of 398 questionnaires to the selected participants who included the internal members of the project team and the end users of digital loans. From the total number of dispatched questionnaires, only 300 were filled out and collected for quantitative analysis purposes.

The overall response rate from this exercise was recorded at 75.3%. Based on social science research guidelines, a response rate above 70% is regarded as very good.

Table 3.2 Response rate

Description	Amount

Selected sample for the study to response on questionnaires	398
Staff who filled and returned valid questionnaires	300
Response rate	75.3%

3.8 Methods of Data Collection

For the purpose of this study, primary data gathering techniques were used in order to obtain relevant data regarding the relationship between the practices of project risk management and success in implementing the CBE Beje digital lending program. Primary data were collected from respondents in the commercial bank of Ethiopia using an interview format based on the questionnaire.

3.8.1 Questionnaires

Quantitative primary data collection was done using a structured questionnaire for collecting data from CBE Beje project staff members and loan users of the projects. The scale used to construct this questionnaire was five-point Likert scale that ranged from 1(strongly disagree) to 5 (strongly agree). This type of standardized scale gave an opportunity for the researcher to measure the participants' perception on risk management and success factors of the projects. The questionnaire is adapted from (Sarkhosh & Alinasab, 2024; Daniel, 2020; Meron, 2019; Betelhem, 2020).

3.9 Multiple Linear Regression Model

The statistical relationship between the identified independent variables and the dependent variable was analyzed using multiple linear regression analysis. Multiple regression is suitable for this study since it explains the relationship between one dependent variable and more than two independent variables. This enables the researcher to assess both the independent and combined effects of risk management on projects.

The following econometric model was developed to test the research hypotheses:

$$Y= \beta 0 + \beta 1X1+ \beta 2X2+ \beta 3X3 + \beta 4X4+\varepsilon$$

Where: Where: Y= Dependent variable = project success

β= regression coefficient /constant

X1= independent variable = Project Risk Identification.

X2= independent variable= Project Risk Assessment and Analysis

X3= independent variable= Project Risk Mitigation and Response

X4= independent variable= Project Risk Monitoring and Control.

β1, β2, β3 and β4 = coefficient of each independent variable

ε= error

By utilizing this linear regression framework, the study seeks to predict the degree to which enhancements in project risk management practices lead to statistically significant increase in the successful delivery of digital banking services within the Commercial Bank of Ethiopia.

3.10 Methods of Data Analysis

According to (Ashirwadam (2014), data analysis entails the processes employed to transform data that have been collected into structural form in order to answer the research questions. In the current study, data analysis entailed a series of quantitative techniques to provide an exhaustive analysis of the CBE Beje project. Quantitative data were analyzed using descriptive and inferential statistics. Descriptive statistics such as frequencies, percentages, and charts were used to analyze the demographic characteristics of the participants.

Multiple regression analysis was used to analyze the predictive relationship between the independent risk practices and project success. The process provided an objective evaluation of the extent to which each independent risk practice affects the overall success of the digital loan platform. All statistical analyses were done using the statistical

package for social scientists (SPSS) Version 26. The program provided precise data entry, editing and analysis through tables and charts.

3.11 Validity and Reliability test

The validity and reliability tests were used to determine the soundness of the research results. Validity is the degree of correctness of the method used to collect measurements. A number of approaches were used to guarantee validity in this research, including a pilot test on 10% of the sample population.

Reliability is described as the consistency and dependability of research results, and its measurement is based on how consistent the measurement process is applied to all sample populations. For example, the internal consistency of the quantitative data was tested using the Cronbach's Alpha approach.

According to (Sekaran (2010), the following guidelines are used when measuring reliability: less than 0.6 indicates a poor result; between 0.6 and 0.7 is an acceptable range; above 0.7 but below 0.8 is a good score; and above 0.8 up to 1.0 shows very good results.

Variables	Cronbach's Alpha	Number of items
Project risk identification	0.824	5
Project risk assessment	0.765	4
Project risk mitigation	0.812	4
Project risk monitoring	0.843	4
Project successes	0.887	14
Overall	0.862	31

Source: Prepared by the researcher

3.12 Ethical considerations

This research was done by ensuring complete adherence to all ethical issues related to the safety of both individuals and organizations. Data collection took place after getting clearance from Commercial Bank of Ethiopia (CBE). Participation in this study was entirely voluntary, and all the subjects were made aware of the objectives of this research prior to its implementation. In order to ensure anonymity among respondents, no data was collected with respect to their names, religion, politics, and other similar matters.

Besides, the researcher made sure that no harm in terms of either mental or physical well-being is caused to the subjects at any stage in this study. The anonymity of the data was assured; the data were analyzed based on aggregated form. It must be noted here that proper acknowledgment has been provided to all the intellectual property used in this study.

CHAPTER FOUR

4. DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 INTRODUCTION

In this chapter, the empirical analysis and its related discussion will be carried out based on the research process conducted on the CBE Beje digital loan project. In this chapter, we aim to examine the effect of project risk management practices on project success through descriptive and inferential statistics.

Descriptive and inferential statically analyses have been used to analyze quantitative data. Descriptive statistics have been used to describe the demographics of respondents and variables, while inferential statistics such as multilinear regression analysis have been used to determine the influence of each independent variable on the project success. Tabular and graphic form of presentation has been used to provide a better understanding.

Research tool used in this paper involved using ordinal measurement scale, more particularly, five-point Likert scales where the respondents' answers ranged from 1 strongly disagree to 5 strongly agree. All statistically analyses were performed using the software SPSS version 26. Regarding data collection result a total of 398 questionnaires were sent out to the 300 valid responses were retrieved resulting to a response rate of 75.3% According to the benchmark set by (Mugenda (2003). Response rates below 50% are not adequate; a response rate between 60% to 70% is good and above 70% is excellent. Henceforth, the response rate of 75.3% recorded in this research work can be described as excellent and highly adequate for further academic analysis.

4.2 Empirical findings

4.2.1 Demographic profile of respondents

Demographics of the respondents have been analyzed first because it provides a useful insight into the population under analysis.as it is important to construct demographic profile of respondents before collecting information from them.

Table 4.1: Demographic data

Table 4.1 Demographic information

No	Variable	Category	Frequency	Percent
1	Gender	Female	154	51.3%
		Male	146	48.7%
2	Educational level	Diploma	14	4.7%
		Degree	172	57.3%
		Masters	101	33.7%
		Other	13	4.3%
3	Relationship with cbebeje	Internal staff	57	19.0%
		Front liner user	243	81.0%
4	Duration of engagement	< 3moths	73	24.3%
		3-6 months	76	25.3%

		6-12 months	85	28.3%
		Since launch phase	66	22.0%
5	Work experience	<2 years	79	26.3%
		2-5 years	64	21.3%
		6-10 years	73	24.3%
		>10 years	84	28.0%

Source: Survey result (2026)

As depicted in the table 4.1 above, the gender balance in relation to the respondents under study is quite equal, where females make up 51.3% and males make up 48.7%. In this respect, the study is viewed from a gender-neutral angle while evaluating the risks involved in the use of the digital loan platform in question. Concerning educational qualification of the participants; the majority of the respondents are highly qualified with 57.3% holding a bachelor's degree and 33.7% holding masters. In sum, more than 90% of the respondent has attained university education level. In this regard, the academic qualification will add to the validity and reliability of the data, as the respondents will be able to give an appropriate and informed evaluation on the issues related to risk management and measurement of success of the project.

Concerning the affiliation of the respondents to the CBE Beje Platform; 19.0% are the staff members involve in the production of the system while 81.0% are the users. The proportionate distribution gives the research ideal background for application of mixed method. Furthermore, in relation to the involvement time, 22.0% are the participants who were involved from the pilot/launch stage while 28.3% are those who have been using the system for six to twelve months, guaranteeing different phases' input.

Finally, in terms of the experience in the field, the respondents are experienced with 28.0% having over ten years of experience and 24.3% having between six to ten years of experience. The experienced professionals especially in the category of internal bank staff will ensure valid responses as regards risk identification and mitigation measures in the organization.

4.2.2 Descriptive statistical analysis

The primary objective of this descriptive analysis is to evaluate the prevailing project risk management practice and their perceived impact on the project success within the context of the CBE Beje digital loan platform. To achieve this, the study considered four major dimensions of risk management, namely: risk identification, risk assessment, risk mitigation and risk monitoring. In measuring the level of agreement of the respondents with various performance indicators used in risk management, the research tool employed the five point Likert scale where respondents responded using values that ranged from 1 (strongly disagree) to 5 (strongly agree). In order to have an easy understanding of the result, data analysis was conducted using the mean scores, standard deviation, and percentage. While the mean scores show the level of agreement among respondents, the standard deviation is employed in assessing the dispersion of agreement among the respondents.

In analyzing the findings of this study objectively, the mean scores were evaluated based on the following criteria. Scores between 1.00 and 1.50 depict a state of strong disagreement while those between 1.51 and 2.50 imply disagreement. Neutral position will be depicted by mean scores within 2.51 and 3.50. On the other hand, scores between 3.51 and 4.50 indicate agreement while those above the number 4.51 indicates high consensus on the part of the participants. Using such a system of analysis makes it possible to clearly define the effectiveness of the current risk management strategies employed by the commercial bank of Ethiopia.

Project risk identifications and project success

Risk identification is the foundational step in the risk management process, involving the systematic determinations of which risks might affect the project. The descriptive result for the five indicators of risk identification is presented in table 4.2.

Table 4.2 project risk identification

	N	Minimum	Maximum	Mean	Std. Deviation
RI, The project team used formal tools (checklists, brainstorming) to identify CBE Beje risks	300	1	5	3.71	.750
RI, Technological risks were identified at the very beginning of the project.	300	2	5	3.59	.728
RI, Risks related to credit and loan repayment were clearly identified	300	2	5	3.66	.725
RI, Stakeholders from different departments were involved in identification.	300	2	5	3.56	.727

RI, Historical data from previous CBE projects was used to predict risks.	300	2	5	3.80	.790
Valid N (listwise)	300				

Survey result (2026)

As presented in Table 4.2 below, the total aggregate (average for the risk identification dimension is 3.66 with a standard deviation of 0.744). Using the interpretation criteria stated in section 4.2.2, the total aggregate of this dimension falls under agree level. In this regard, it can be concluded that CBE is able to adopt a proactive manner to identify threats concerning the use of CBE Beje digital platform.

The first place for the aggregate average score for each indicator was occupied by the ability of the bank to use data collected through past projects (CBE) as input for predicting future risks, with (M=3.80 AND S. D=0.79). This implies that the commercial bank uses institutional memory when identifying potential risks in any of its projects including digitization of banking processes. Secondly, respondents believe that project team used formal risk identification methods and tools (M = 3.71) and identified project risks pertaining to credits and loans repayment in particular (M = 3.66). Such a concern was anticipated since the CBE Beje platforms are designed to perform digital lending and repayment default can be considered as a key risk associated with it.

Nevertheless, the indicator which got the lowest aggregate average score (M=3.56, S.D = 0.727) in the category of risk identification was the participation of multiple departmental stakeholders in the risk identification process. Although the average is higher compared to other risk identification factors, such score may imply that despite the fact that the process of risk identification takes place successfully, some sort of organizational silo is present. Furthermore, the involvement of the project team in identifying technological risks (M = 3.59) is a positive indicator but requires improvement in the future.

To summarize, the low values of standard deviation for each indicator (range from 0.725 to 0.790) reflect high level of agreement amongst the respondents. This strengthens the findings that CBE has adopted a standardized framework for risk identification.

Project risk assessment practice and project success

Risk assessment is the procedure of assessing the magnitude of impact as well as the probability of occurrence of the risks identified, which is an important step towards ensuring proper allocation of the CBE Beje project resources on the highest priority risks. The descriptive analysis results of the risk assessment dimension are captured in Table 4.3.

Table 4.3 Project risk assessment

	N	Minimum	Maximum	Mean	Std. Deviation
RA, The likelihood and impact of each risk were analyzed systematically.	300	1	5	3.49	.725
RA, Risks were prioritized so that high-threat issues were handled first.	300	2	5	3.47	.724

RA, The project team used a probability-impact matrix for categorization.	300	2	5	3.58	.721
RA, Financial and reputational risks were quantified during assessment.	300	2	5	3.77	.743
Valid N (list wise)	300				

Source: survey result (2026)

One of the findings under the dimension of risk assessment is the aggregate (mean of 3.58) obtained from table 4.3. On the basis of the pre-established scale of interpretation, it means that CBE engages in conducting assessments of risks associated with the Beje digital loans service in a consistent manner.

Specifically, the evaluation of quantitative financial and reputational risks received the highest mean rating score of 3.77(SD=0.743). It implies that CBE places great emphasis on ensuring financial stability and reputation since both aspects play a crucial role in maintaining trust in online banking services. Moreover, it can be suggested that employees of the project team apply a probability impact matrix to classify risks.

It is important to note that the items related to a systematic evaluation of the probability and impact of risks (M = 3.49) and prioritizing risks (M = 3.47) fell just slightly under the neutral category. The scores obtained are nearly equivalent to the agreement point (3.51), implying that respondents believe that an improved system can be put in place for assessing risks. It can be interpreted that although assessment techniques have been put in place, the process of turning assessments into priority issues needs to be streamlined.

The SD for this variable is fairly low (ranging from 0.721 to 0.743), indicating that there is substantial agreement among the 300 respondents when it comes to risk assessment practices. In summary, although the calculation of financial risk is a notable strength of the institution, it would help if a better prioritization protocol was introduced so that resources could be channeled towards handling high-probability impacts first.

Project risk mitigation practice and project success

The risk mitigation phase includes devising strategies to create more opportunities and minimize threats to the project goals. This is the practical implementation phase of the risk management plan. The descriptive statistics for the risk mitigation dimension can be seen in table 4.4 below.

Table 4.4 Project risk mitgation

	N	Minimum	Maximum	Mean	Std. Deviation
RM, There were clear contingency plans for system failures or platform downtime.	300	1	5	3.74	.744
RM, Sufficient budget/resources were allocated to handle risks during implementation.	300	1	5	3.54	.755

RM, Responsibilities for managing specific risks were clearly assigned.	300	1	5	3.42	.729
RM, Risk response strategies were formally documented in a plan.	300	1	5	3.50	.756
Valid N (list wise)	300				

Source: survey result (2026)

As can be observed from the above table, the overall mean score of the risk mitigation variable is 3.55, while its standard deviation stands at 0.746. Based on the criteria provided to interpret findings in this study, the overall mean value for these variable falls under the "agree" category. Therefore, it implies that the Commercial Bank of Ethiopia (CBE) actively seeks ways to counter any possible threats to its CBE Beje website.

In regard to risk mitigation, the highest mean score (M = 3.74, SD = 0.744) pertains to the availability of adequate contingency plans for system failure. This indicates that the bank considers technology resilience an important factor, whereby it ensures there are proper plans to guarantee uninterrupted service delivery even in case of technical glitches to ensure smooth functioning for its loan customers online. Another interesting finding is that participants strongly believe that enough funds have been budgeted for risk management (M = 3.54).

But equally important, the results have shown areas where the organization can improve in order to ensure success. In this case, the item that focused on formalizing the response strategy to the risk got an average value of 3.50, thus lying right at the cut-off point of being neutral and agreeing. It is even more significant to note that the item that focused

on assigning responsibility for controlling each individual risk was assigned the lowest mean value (M = 3.42, SD = 0.729).

In summary, although it is evident that CBE has a high level of capability when it comes to dealing with technical and financial risks, the results above indicate a need for improvement in terms of organizational structures. Therefore, efforts should be made to formalize response strategies and identify individual risk owners.

Project monitoring and control and project success

Risk Monitoring refers to the ongoing process of monitoring identified risks, residual risks, identification of new risks, and the assessment of risk response measures during the entire project lifecycle. This process ensures that risk management is dynamic, not static. The results of description for this aspect are given in table 4.5 below.

Table 4.5 Project risk monitoring

	N	Minimum	Maximum	Mean	Std. Deviation
RMO, Risks were reviewed and updated regularly throughout the project lifecycle.	300	1	5	3.76	.748
RMO, there was an effective system for reporting new risks as they emerged	300	2	5	3.59	.742
RMO, Risk audits were conducted to evaluate the management process.	300	2	5	3.67	.741

RMO, the risk register was a "living document" updated until completion.	300	2	5	3.78	.760
Valid N (list wise)	300				

Source: survey result (2026)

The results reveal that in table 4.5, the overall mean score for the risk monitoring and control dimension is 3.70, while the average standard deviation is 0.748. In accordance with the pre-established criteria, the overall score can be classified as 'agree.' Therefore, it may be concluded that the Commercial Bank of Ethiopia (CBE) is committed to the continuous monitoring of risks linked to the CBE Beje digital loan platform.

The interpretation of the sub-scores shows that the highest mean score (M=3.78, SD=0.760) was obtained for the maintenance of the risk register as a dynamic document. It is a crucial finding because it means that the project team did not perceive the risk management process as a static activity carried out once at the beginning of the project, but rather as a dynamic process that developed simultaneously with the development of the project. In addition, the routine updating of risks (M=3.76) further supports this conclusion.

Furthermore, the participants were in agreement regarding the use of risk audits aimed at testing the soundness of the management process (M=3.67) and the presence of an efficient mechanism used for the identification of new risks (M=3.59). The consistency of responses given on all the above issues is indicative of the successful implementation of a feedback mechanism by CBE in which risks are not just identified but also audited and reported in an official manner.

The low standard deviation score (less than 0.8 in all cases) that indicates the high degree of agreement between internal employees and external users about the monitoring activities performed by the organization.in conclusion, risk monitoring and control

represent the most robust aspect of the risk management framework implemented by CBE in relation to the Beje project.

Project Success

The Project success Definition in the context of the CBE Beje platform is a multidimensional construct that evaluates how well the initiative met its strategic goals, technical requirements and stakeholder's expectations.

Table 4.6 Project success

	N	Minimum	Maximum	Mean	Std. Deviation
PS, the system allows for quick loan processing (within minutes).	300	1	5	3.61	.757
PS, the platform is easier to use than traditional bank loan processes	300	1	5	3.58	.791
PS, the system is stable and available whenever I need to use it.	300	1	5	3.49	.791
PS, I feel that my personal and financial data is secure on this platform.	300	1	5	3.49	.803

PS, CBE Beje has made getting a loan possible for people who couldn't before	300	1	5	3.66	.787
PS, the platform is easy to find and navigate within the CBE Birr app	300	1	5	3.63	.813
PS, the service has significantly improved my financial flexibility.	300	2	5	3.77	.760
PS, the digital loan service meets the needs of the modern Ethiopian market.	300	2	5	3.57	.821
PS, the user interface (menus/text) is clear and easy to read.	300	1	5	3.46	.802
PS, Overall, I am highly satisfied with the CBE Beje service	300	1	5	3.62	.786
PS, the final product met all the technical specifications and requirements.	300	1	5	3.44	.789
PS, the project was completed without significant cost overruns.	300	1	5	3.52	.807
PS, Major milestones were met according to the original project timeline	300	1	5	3.46	.773
PS, the bank gained valuable knowledge/skills that can be used for future digital projects.	300	1	5	3.76	.803

Valid N (list wise)	300				

Source: survey result (2026)

The result obtained from the descriptive analysis shown in Table 4.6 shows that the mean value for the overall rating is 3.58, which is in the agreement range. This implies that most stakeholders view the CBE Beje project as a successful digital transformation project. However, upon critical consideration of the result obtained, it is more successful strategically than technically.

Strategic impact and social value

Highly agreed upon was the platform's potential to foster financial flexibility (M = 3.77) and to act as a catalyst for institutional learning in subsequent digital endeavors (M = 3.76). Furthermore, the participants were agreed upon the provision of financial inclusion services by the platform to those individuals who had not earlier accessed financial services (M = 3.66). From these results, it can be concluded that CBE Beje has been very successful in meeting its overall socio-economic and strategic objectives.

Operational and technical performance:

Despite the high levels of satisfaction (M=3.62) and the appreciation of efficiency when processing loans (M=3.62), it should be noted that this analysis points to some technical doubts. The questions concerning stability of operations (M=3.49) and data security (M=3.49) lie within the neutral category. This indicates that even though the platform works efficiently, there is a desire to make it more reliable and ensure higher security, which are typical problems for the initial stage of using online banking services.

Project management constraint

Traditional project management criteria like time, cost, and scope are mixed. On one hand, the participants confirmed that there were no big problems with cost overrunning in this case (M=3.52). On the other hand, when it comes to compliance with the initially

planned timeline of the project execution (M=3.46) and the fulfillment of all technical requirements (M=3.44), it is neutral. The mentioned data imply that the project implementation process was accompanied by some technical challenges or schedule postponing which is quite common during such transitions.

To sum up, one can say that the project is successful in general because of its positive effect on the market and strategic value for the commercial bank of Ethiopia. In order to make the answer be changed from agree to strongly agree, one should concentrate on user interface optimization and the creation of stable system operation (M=3.46).

Project management practice towards project success

After going through the individual analysis of each of the indicators in the variables, a general summary on the average scores obtained together with the respective standard deviations of all four independent variables (risk identification, risk assessment, risk mitigation, and risk monitoring) and the dependent variable (project success) will be presented in this section.

Table 4.7 descriptive statistics for all variable

Descriptive Statistics

	N	Mean	Std. Deviation
AVERI	300	3.6633	.56909
AVERA	300	3.5783	.57370
AVERM	300	3.5500	.58799
AVERMO	300	3.7008	.57893
AVERPS	300	3.5764	.59952
Valid N (list wise)	300		

Source: survey result (2026)

According to table 4.7, the mean scores of all variables are between 3.55 and 3.70. Following the interpretation guidelines set for this research, all variables are classified under the agree level. It means that, on average, the respondents think that the risk management framework used by the commercial bank of Ethiopia (CBE) for the CBE Beje platform is effective.

Risk monitoring and control (RMO) was found to be the most preferred variable with a mean of 3.7008. It shows that the primary strength of the bank is its capacity to monitor the risk and keep a risk register up-to-date during the entire project. Risk identification (RI), which scored a mean of 3.6633, follows immediately after RMO.

While not as high as other dimensions, the means for RA and RM were only slightly lower at 3.5783 and 3.5500, respectively. Although both of these scores are in the agree category, it is clear that the neutralities that were previously mentioned with regard to prioritizing the threats and the clarity in assigning personal responsibility have had some effect.

Lastly, the dependent variable project success (PS) received a mean score of 3.5764. This result clearly demonstrates that the CBE Beje project has been viewed as a successful project, especially since it plays a strategic role in financial inclusion and organizational learning. The standard deviations for all variables were remarkably low (all below 0.60), indicating that there is a high degree of agreement among the 300 participants.

4.3 Linear regression findings

4.3.1 Linear regression assumptions

Before interpreting the multiple linear regression analysis, it is important to establish whether the collected data meet the basic assumption of classical linear regression models. To support the validity and reliability of the research findings, diagnostic tests are conducted to ascertain that there is a reliable estimate of the relationship between the independent and dependent variables.

In order to conduct such diagnostics, it was important to identify possible outliers since the multiple regressions are highly vulnerable to extreme cases which may affect the entire analysis. Outliers were found based on the standardized residuals; in this case, those with absolute values above 3.29 were excluded from the analysis. The ideal value for the standardized residuals should be between the -3.29 and 3.29 values.

In addition to this, the assumption on the normality was checked to confirm if the residual follows a normal distribution. This test was carried out using the normal PP-plot, whereby the assumption of normality can be said to exist if the data points lie in a straight line. Related to the above assumption is homoscedasticity that can be evaluated through the scatterplot of the standardized residual vs. the standardized predicted value. Homoscedasticity holds if the points in the graph are randomly scattered without exhibiting a conic shape. The standardized residual is obtained by dividing the difference of the observed response and the fitted response by its standard deviation.

To check if the predictors are independent, the test of multicollinearity was carried out using the variance inflation factor (VIF). Multicollinearity becomes problematic if the independent variables are highly collinear, something that would show if the VIF exceeds 10. In addition to this, the independence of the errors can be checked using the Durbin-Watson (DW) statistic. The statistic ranges from 0 to 4, where a value of 2.0 indicates no autocorrelation.

Moreover, the fit of the model and its significance were tested by using the F-test, the coefficient of determination R-square, and the t-test. F-test tests the significance of the entire model in explaining the variation in the value of the dependent variable where the results should confirm at least 0.05 levels of significance. Coefficient of determination or R2(R Square) shows the percent of the variation in the value of the dependent variable (project success) which is predicted by the independent variables used. Adjusted R2 is another test used when taking into account the number of independent variables involved. Finally, t-test is applied individually on each beta coefficient so as to test the significance of the predictors in determining the value of the project success. By testing these

assumptions, the research is assured of the validity of the use of multiple regressions modeling technique in demonstrating relationships and effects.

However, before concluding on the regression analysis, it is necessary to carry out diagnostics in order to identify the existence of any outliners. The reason is that regression analysis is highly sensitive to extreme values which have a great effect on the parameter's estimation. Outliners in this case have been identified by the use of standardized residuals. According to the rules set out in the methodology, the ideal range for standardized residuals is from -3.29 to +3.29.

Table 4.8 Residual stastices for SPSS

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.9259	4.6574	3.5764	.51244	300
Residual	-.82192	.83235	.00000	.31117	300
Std. Predicted Value	-3.221	2.109	.000	1.000	300
Std. Residual	-2.624	2.657	.000	.993	300

a. Dependent Variable: AVERPS

The normality of the data can be assessed by examining a normal P-P plot. The data in the graph make a straight line along the diagonal, the normality was assumed.as the

below p-p plot shown the data are line in the straight line then regression assumption for normality is fulfilled.

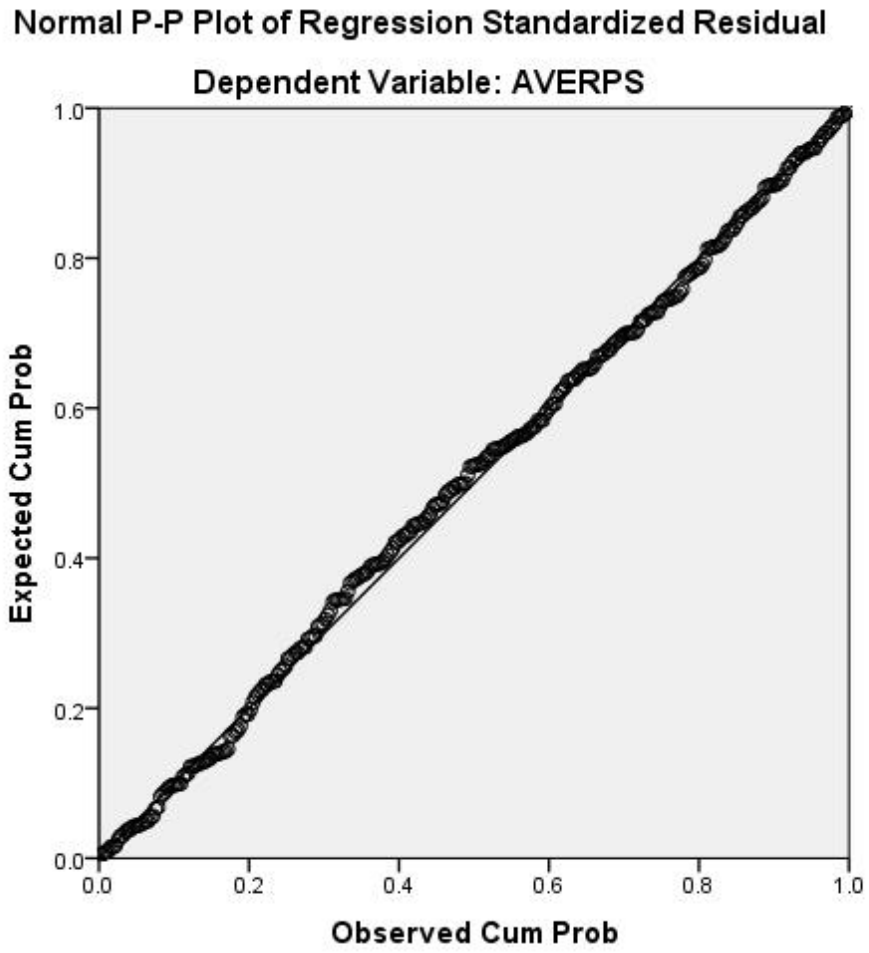


Figure 4.1 Normal P-P plot of regression standardized residual

To test the assumptions about homoscedasticity, the investigator draws a graph of standardized residuals against standardized predicted values. In case the pattern drawn is of random scattering, then the test assumption is considered to have been fulfilled.

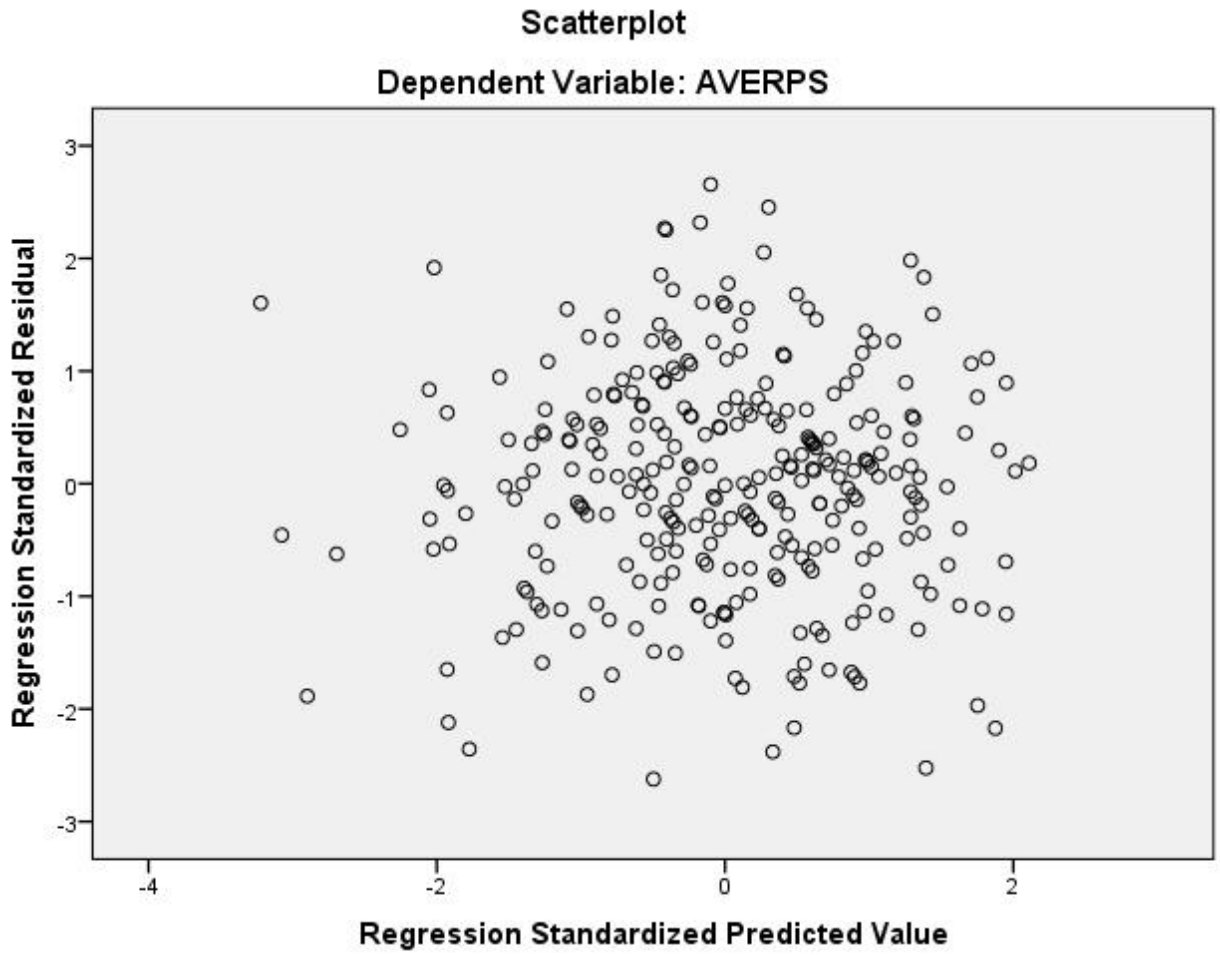


Figure 4.2 Scatterplot for regression standardized Residual and Predicted value

Apart from numerical tests, visualization was used for verifying the assumptions of regression. The first two graphs below show how residuals vary and distribute, proving that the regression is statistically valid and stable.

Figure 1: normal P-P plot of regression standardized residual the normal P-P-plot (refer to figure 1) was applied in testing the assumption of normality. In order to establish the validity of the model, there must be a close match between the cumulative probability values and the fitted line. As illustrated in the figure above, the residuals associated with the dependent variable, AVERPS, lie on the diagonal line very closely. This implies that there is no significant departure from the expected pattern, hence satisfying the assumption of normality. It is important to note that the satisfaction of this assumption guarantees accurate significance levels and p-values.

Figure 2: Scatterplot of Standardized Residuals used to test the assumption of homoscedasticity, the scatterplot of standardized residuals versus standardized predicted values was plotted (refer to figure 2 below). In the graph there is a random or "cloudy" scatter of points about the zero line where no pattern emerges; neither a cone nor a fan pattern emerges. The scatterplot indicates that the variance of the error term remains the same at every level of the predictors. Additionally, the lack of any points that lie beyond the ±3 indicates that the data set does not have influential outliers as already noted. From the above, it can be seen that the use of multiple regression analysis is an appropriate model for the analysis of risk management practices and success of projects at CBE.

4.4 Result and discussion for correlation analysis

Table 4.9 Correlation result of RI, RA, RM, RMO with PS

Correlations

		AVERI	AVERA	AVERM	AVERMO	AVERPS
AVERI	Pearson Correlation	1	.797**	.801**	.824**	.786**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	300	300	300	300	300
AVERA	Pearson Correlation	.797**	1	.778**	.790**	.755**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	300	300	300	300	300
AVERM	Pearson Correlation	.801**	.778**	1	.786**	.811**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	300	300	300	300	300
AVERMO	Pearson Correlation	.824**	.790**	.786**	1	.778**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	300	300	300	300	300
AVERPS	Pearson Correlation	.786**	.755**	.811**	.778**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	300	300	300	300	300

**. Correlation is significant at the 0.01 level (2-tailed).

First and foremost, the purpose of conducting the aforementioned analysis was to identify the intensity and direction of correlation existing between the four main dimensions of risk management and successful deployment of the mentioned digital solution. By implementing the Pearson Correlation Coefficient (r), the author managed to establish a strong and statistically significant connection between risk-related activities and project success at the Commercial Bank of Ethiopia. According to the analysis results, there is a stable positive correlation between all considered factors, which proves the assumption made previously that efficient risk management is a crucial prerequisite for project success.

Risk identification represents the first step in the process of building a successful project as it shows a strong positive correlation of $r = .786$ ($p < 0.01$). Thus, one may assume that systematic risk identification is a vital condition for launching any project in general and the mentioned loan digital platform in particular. Considering that the latter implies considerable risks associated with unexpected losses, one should take necessary measures to identify potential threats at their earliest stages. As for the Commercial Bank of Ethiopia, a well-developed approach to risk identification ensures that projects' scope and timelines are safe from external threats.

Likewise, Risk Assessment showed a very strong positive correlation with the success of the project, with an r value of 0.755. While this figure may be considered the least significant in terms of the four factors, it still holds great importance at the .000 level. This means that the capability of the bank to evaluate the severity of risks and rank them in order of priority is highly related to the success of the project. Proper risk assessment enables CBE to focus on areas that need attention, thus avoiding small problems from developing into serious situations that could endanger the entire project.

The most important dimension in this research work is Risk Mitigation with a highly significant correlation value of $r = 0.811$. It is important to note that this is the strongest coefficient found in this research work. The results obtained from this dimension suggest that risk response implementation and contingency plans have the greatest influence on the success of the Beje platform. Even though risk identification and assessment play an

important role by providing crucial information for effective risk management, the most effective way to protect the Beje project is through proactive risk mitigation.

Table 4.10 Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.855[a]	.731	.727	.31328	.731	200.005	4	295	.000	1.959

a. Predictors: (Constant), AVERMO, AVERM, AVERA, AVERI

b. Dependent Variable: AVERPS

In essence, the focal point of this study is the identification of how much the existing risk management model contributes to the explanation of the variation in the success of digital banking project implementations. Through the analysis of the Multiple Regression Model Summary, the researcher was able to determine the combined effect of Risk Identification, Risk Assessment, Risk Mitigation, and Risk Monitoring on the success of the CBE Beje platform. It can be seen that the model has an exceedingly high level of explanatory strength and statistical reliability.

One of the important criteria in our regression model is Multiple Correlation Coefficient (R), whose value is equal to 0.855. This shows us that there is a very strong positive relationship between all the independent variables we took into consideration and project success. Nonetheless, in order to analyze the influence of our model on the project success, we have used another value, namely 0 .727 Adjusted R2. In scientific papers, especially those with several independent variables, Adjusted R2 is always considered to be the most accurate one, since it takes into account the number of predictors in the model. In our case, it means that 72.7% of project success is determined by the bank's risk management. This is an interesting result for a Master's study, which proves that 72.7% of success of the Beje platform is based on its risk management policy, while the rest of 27.3% belongs to other unknown factors.

This further ensures the reliability of these findings as per the diagnostic statistics of the model. The standard error of estimation was noted to be exceptionally low at 0.31328; this means that the deviation of the observed value from the regression line is extremely low, thus ensuring accuracy in predictions. Also, the value of the F-change statistics was calculated to be 200.005 at a significant level of 0.000, which clearly shows that the relationship established between the independent variables and the success of the project is not accidental but statistically significant.

The process of testing the validity of the model was completed when the researcher looked at the Durbin Watson Statistic that determines whether or not the residuals have autocorrelation. From this test, an output of 1.5959 was obtained, which is extremely close to the desirable value of 2.0. Due to this, it can be noted that the result fits perfectly well into the accepted interval of 1.5 – 2.5 and therefore there is no problem of autocorrelation or independence between the residuals. This is very important since it means that the model used is unbiased with the resulting regression coefficients being reliable.

Table 4.11 ANOVA

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	78.515	4	19.629	200.005	.000[b]
	Residual	28.952	295	.098		
	Total	107.467	299			

a. Dependent Variable: AVERPS

b. Predictors: (Constant), AVERMO, AVERM, AVERA, AVERI

The Analysis of Variance (ANOVA) becomes the main instrument used by the researcher for determining whether or not the regression model is statistically significant in terms of fitting the research data. Being divided into two independent components such as the variation accounted by the model and unaccounted residual error, the test enables the researcher to make an objective assessment of the correlation between risk management and the success of the CBE Beje platform implementation. These results become the undeniable proof of the model being valid, credible, and mathematically sound.

The structural definition of mathematical reliability is the degree of freedom (df) values that play an important role in determining the appropriate sample size for the number of variables. Thus, regression degree of freedom (df-1=40) may be calculated using the following formula N-K where N equals to the number of observations (i.e., 300), while K stands for the number of independent variables (risk identification, assessment, mitigations, and monitoring), which equals four. Therefore, df-1 = 40, whereas residual df-2 = 295 using the following equation N-K-1. As it may be seen from the calculations made above, (300-4-1=295), the research has high statistical power.

The below presented structure of the model will help to understand how to calculate the Sum of Squares as a measure of predictive power of the model. Thus, the Regression Sum of Squares (or 78.515), which shows the amount of variability of success in projects that is caused by the predictor variables, is the first measure to take into account. Having compared it with the Residual Sum of Squares (or 28.952), one can notice that the proposed model can explain much more variability in data than any other, which remains unexplained. Moreover, having referred to the Mean Square measures, one will see that variance accounted for by the model (or 19.629) is much higher than the variance of average errors (or 0.098). Such a low residual variance indicates a high level of precision in the model's ability to predict project outcomes

Most importantly, the highest indicator of the significance of the model on a global level is the F-statistic which equals 200.005. This number means the ratio of the variance of regression to the variance of residuals, which is the (ms-regression divided by the ms-residual.) Such an enormous value for F-statistic can be considered exceptional and is the proof that independent variables collectively have an enormous influence on Project Success. The test proves that an integrative model of risk management used by the company is more significant for determining the success of project than a random one. Finally, the significance value of $p = 0.000$ is what was needed for the research at the Master's level thesis. This value, which is much lower than the alpha level of 0.05, means the rejection of the null hypothesis with total confidence. In other words, this "almost zero" value means that the relationship between risk management and project success in CBE is not accidental but a structural one. Hence, we can prove the scientific validity of our model.

Table 4.12 Coefficients of beta value for RI, RA, RM AND RMO

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.122	.125		.975	.331		
	AVERI	.220	.065	.209	3.370	.001	.238	4.205
	AVERA	.137	.059	.131	2.307	.022	.285	3.513
	AVERM	.393	.058	.385	6.802	.000	.284	3.516
	AVERMO	.207	.062	.200	3.325	.001	.254	3.942

a. Dependent Variable: AVERPS

The last step in the quantitative analysis was to carry out multiple regressions in order to test the influence of the dimensions of risk management on the success of the CBE Beje digital platform. In addition to testing the relationship between variables, multiple regressions allow one to construct a model that predicts project success based on risk identification (AVERI), assessment (AVERA), mitigation (AVERM), and monitoring (AVERMO). The information contained in the Coefficients Table constitutes the final piece of evidence needed to verify the hypotheses put forward in the study.

An essential part of the analysis is the calculation of the values of the unstandardized regression coefficients (B), which determine the equation of the model. The analysis produces an intercept of 0.122, which represents the minimum level of success. However, the values of the predictor variables demonstrate their relative importance. The variable of risk mitigation was found to be the most influential with a value of 0.393, followed by identification (0.220), monitoring (0.207), and assessment (0.137). These values show that with every unit increase in these risk management practices, the level of success increases by the indicated values. Therefore, the predictive equation is:

AVERPS=0.122+0.220(AVERI)+0.137(AVERA)+0.393(AVERM)+0.207(AVERMO)

To measure the relative impact of the variables, standardized Beta Coefficient analysis was used. The outcomes clearly indicate that risk mitigation (B=0.385) is the strongest relative factor driving success. It indicates that although project planning is critical, the bank's initiative of making contingency plans and threat prevention is the most influential aspect driving the process of digitalization. Risk identification (B=0.209) and monitoring (B=0.200) show strong impacts that are almost equal. The impact of risk assessment is relatively weaker compared to other variables (B=0.131).

The statistical significance of predictors was tested using the t-statistic test and their corresponding levels of significance. All four variables showed P-value less than 0.05. For example, the value of t for mitigation is 6.802 with P=0.000; identification (t=3.370,p=0.001);monitoring(t=3.325,p=0.001);and assessment(t=2.307,p=0.022).Since all the significance values are within the acceptable level, the researcher will reject the null hypotheses since the dimensions of the risk management framework have statistically significance impacts on the success of the CBE Beje project. This is indicated by the fact that the confidence intervals do not contain zero.

Lastly, diagnostics tests were carried out on the model to test for multicollinearity. The variance inflation factor (VIF) for all variables fell within the range of 3.513 to 4.205, significantly lower than the value 5.0, while the tolerances were higher than the critical value of 0.10. This means that the four independent variables are unique and there is no data overlap among them, which ensures the integrity of the regression results. All in all, the scientific validity of this study is strongly demonstrated through these analyses, and that risk management must be comprehensive to excel in digital banking.

4.5 Hypotheses testing

The study examined the relationship between project risk management practices and the success of the CBE Beje digital loan platform using multiple linear regression analysis. The four key dimensions of risk management (risk identification, risk assessment, risk mitigation and risk monitoring) were collectively tested against project success to determine their explanatory and predictive power.

The overall regression result provides strong statically evidence that project risk management practices have a significant and positive effect on project success. This is confirmed by the F-statistics ($F=200.005$, $p<0.05$), which indicates that the combined independent variables significantly explain variations in the dependent variable.in addition, the adjusted R^2 value of 0.727 demonstrates that 72.7% of the variation in project success is explained by the integrated risk management framework, while the remaining 27.3% is attributed to other external factors not included in the model.

The regression coefficients further confirm that all independent variables have positive and statistically significant relationships with project success, as all p-values are below 0.05 significance level. This leads to the rejection of all null hypotheses and acceptance of the alternative hypotheses. The result therefore indicates that improvements in risk identification, risk assessment risk mitigation, and risk monitoring collectively enhance the successful implementation of the CBE Beje digital loan platform.

The findings of the hypothesis testing generally support the conceptual framework of the study. They confirmed that effective project risk management is a critical determinant of success of digital banking project in the commercial bank of Ethiopia.

4.5.1 Hypothesis One: The Impact of Risk Identification on Project Success

The second part of the hypotheses proposed for this research involves looking at the connection between Project Risk Identification and CBE Beje digital project success (H1). Project risk identification can be explained as the process of identifying what risks may affect the project and documenting the details of those risks. It constitutes the very first step in risk management at the Commercial Bank of Ethiopia.

It must be stated that regression analysis strongly supports H1. Indeed, from the Coefficients Table presented above it is evident that Project Risk Identification measured in terms of AVERI has produced an unstandardized B coefficient equal to 0.220 and a standardized beta equal to 0.209. Hence, if the bank identifies risks better, success of the Beje digital platform should increase by 22%, everything else being constant. Since the beta weight takes a positive value, it is evident that identification and success go hand in hand, i.e., the better the identification process, the higher the success rate.

In order to measure statistically the strength of this relationship, a t-test analysis was conducted. The t-test analysis yielded a t-value of 3.370, where the significance level (P-value) is equal to 0.001. Because the P-value in this case is significantly below the conventional value of 0.05 alpha value, it means that the researcher can confidently reject the null hypothesis. Besides, it is important to highlight that the 95 percent Confidence Interval for this variable varies from 0.92 to 0.348. Since this confidence interval does not include zero, there is also another confirmation that Risk Identification is statistically significant and reliable.

In practical terms, the findings obtained in this research indicate that the first step in managing risks in the commercial bank of Ethiopia should be of particular importance. As soon as a project team identifies the possible risks that might affect the process of developing the CBE Beje platform, the likelihood that this project will encounter any challenges will be minimized. Hence, there is an evident link between the first step of this

cycle and successful project management that was confirmed statistically. In turn, it allows us to confirm Hypothesis.

4.5.2 Hypothesis two: the impact of risk assessment on project success

The second hypothesis (H2) of the research was developed to measure the effect of Project Risk Assessment on the performance of CBE Beje digital projects. Risk assessment refers to the analysis of the risks to ascertain the likelihood of their occurrence and their impacts on project objectives. In the case of commercial banks of Ethiopia, this is crucial in identifying the most urgent and impactful risks associated with digital banking projects.

In the regression analysis, there is enough statistical evidence to support this hypothesis. According to the analysis, the risk assessment (AVERA) variable has an unstandardized coefficient of 0.137 and standardized beta weight of 0.131. Although it has the least importance among the four independent variables, the positive coefficient indicates that when the commercial bank of Ethiopia enhances its ability to quantify and assess the risks, its digital project success rate increases. Therefore, when there is an increase in one unit of the quality and quantity of the assessment process, the success rate increases by 13.7%.

The significance level of this variable was established by means of performing t-tests, which gave the value of 2.307. More importantly; the significance level of p-value in this case is 0.022. Since this value is below the alpha criterion of 0.05, one may conclude that the relation under discussion is statistically significant, enabling the researcher to refute the null hypothesis. The 95% confidence interval for this predictor falls within the range of 0.020 to 0.253. As one may notice, this value range does not contain zero. This fact proves that Risk Assessment works as a reliable predictor of CBE projects' success.

This finding is rather significant for the bank's project management office since it clearly shows that the mere identification of possible risks is not enough. In the case of the Beje system, one can evaluate how threatening it is for the company to experience a cyber-attack compared to minor software failure. Although this factor is the least influential

among all others, statistical significance proves the importance of assessment as an additional filter of decision-making. In other words, the research results show that Project Risk Assessment has a positive effect on project success.

4.5.3 Hypothesis Three: The Impact of Risk Mitigation on Project Success

In this regard, the third hypothesis (H3) of the current research attempted to examine the existence of the relationship between Project Risk Mitigation and the success of the CBE Beje digital platform. As discussed earlier, risk mitigation in project management entails developing various options and initiatives to increase the opportunities and diminish the threats posed to the attainment of the goals of the project. In case of large institutions such as Commercial Bank of Ethiopia, risk mitigation can be understood as moving from planning phase to defense.

From a statistics point of view, the results of the regression have provided very strong evidence in support of the proposed hypothesis in that risk mitigation (AVERM) was revealed as the most dominant determinant factor affecting the success of the digital platform. From the results, an unstandardized coefficient (B) score of 0.393 and a standardized beta weight of 0.385 was reported. This indicates that each unit increase in the mitigation initiatives by the bank will lead to a relatively significant 39.3% improvement in project success. Since the beta weight beta = 0.385 is very high, it proves that project risk mitigation has relatively greater influence than all other dimensions analyzed in the study

In addition, the confidence level is given by a 95% ranging from 0.279 to 0.507. Since the entire confidence interval is greater than zero, it clearly shows that project risk mitigation is a highly reliable and powerful predictor of project performance. From a strategic point of view, it can be seen that the success of digital banking projects is largely reliant on the implementation of effective response strategies. This includes managing technical issues like those arising from the use of the Beje loan platform as well as the liquidity risk issue. What generates the maximum benefit from the entire process is when the organization works towards mitigating a potential threat or risk. It

can therefore be concluded that risk mitigation is a very significant predictor of project success.

Although there is a strong statistical relationship between mitigation and success (r = .811), one of the essential findings from the descriptive statistics was that both stability of the system and data security were rated neutral (Mean = 3.49). This was explained further by qualitative interviews with senior IT developers working at CBE. Infrastructure constraints tended to manifest as user hesitance with regard to the technology. While the development of risk mitigation measures has been planned systematically (Mean = 3.74), its implementation constitutes the most challenging part of the project.

4.5.4 Hypothesis Four: The Impact of Risk Monitoring on Project Success

Fourthly, the research hypothesis H4 was postulated in order to establish the effect of Project Risk Monitoring on the success of the CBE Beje digital platform. Risk monitoring is the constant practice of tracking the existing risks, monitoring the residual risks, identifying the emerging risks and evaluating the effectiveness of responses to the identified risks during the course of the project. The constant monitoring of risks for a dynamically developing project such as the Beje digital platform guarantees effective risk management and governance.

The regression analysis results revealed highly significant empirical evidence for the above hypothesis. The variable Risk Monitoring (AVERMO) resulted in the following indicators: Unstandardized Coefficient (B) was estimated at 0.207 while its Beta coefficient was estimated at 0.200. It means that when there is a one-unit increase in monitoring and controlling practices of the bank, the index of project success is raised by 20.7 percent regardless of the other factors under discussion. With Beta coefficient of 0.200, monitoring is a strong predictor with an effect nearly comparable to Risk Identification.

This relationship is statistically valid because of a t-value of 3.325 and the P-value of 0.001. Since this P-value is much less than the set 0.05 value, there is enough reason to

reject the null hypothesis. Moreover, the confidence interval for this variable is 0.084 - 0.329. Given that this range falls within only positive values and excludes zero, there is mathematical evidence for the assumption that regular monitoring processes guarantee the better project results for the commercial bank of Ethiopia.

Practically, this means that the project risk monitoring process is crucial for any sustainable digital banking initiatives. It implies that the CBE Beje project greatly benefitted from regular monitoring of processes and ability of the project team to adapt to changes. As risks are likely to arise even after project launch due to constantly changing nature of the industry, it becomes clear that regular monitoring of the processes allows the bank to stay alert and adapt to changes. Thus, one can safely claim that the project risk monitoring process positively affects the success of projects.

4.6 Discussion of findings

These empirical results offer an insightful and holistic exploration of the governance processes that underpin the commercial success of projects in the Commercial Bank of Ethiopia (CBE). Through the application of the regression analysis to a sample of 300 project participants, this study has produced a causal-predictive model whereby risk management explains 72.7% of the variation in project success. The following analysis discusses these findings in terms of their relevance in the existing international and national academic discourse related to the banking industry.

In the first place, the most significant conclusion that emerged from the regression analysis was the strategic preponderance of Risk Mitigation (beta =0 .385, p = 0.00); in other words, at CBE, the ability to go beyond planning and implement practical measures of defense proves to be most rewarding. Indeed, this conclusion confirms recent findings by (Al Lawati et al. (2025), who suggest that the adoption of mature Enterprise Risk Management (ERM) procedures constitutes an essential skill set in the digital transition of financial institutions. Moreover, according to Abrahams et al. (2024), modern banking cannot exist without robust mitigations, particularly those focused on cyber security backups.

The study also reveals a powerful synergy between risk identification (B=0.209) and risk monitoring (B=0.200). the significance of identification confirms that the CBE Beje project was built upon a foundation of clarity, anticipating technical hurdles early in the lifecycle. This is supported by (Rath and Bhattachary (2023), who maintain that effective identification remains the most important challenge for businesses seeking to improve productivity in turbulent markets.

However, the equal weight of monitoring signifies that CBE avoided "static planning." According to recent reports by (KPMG International (2025), the velocity of modern digital risks requires banks to transform their monitoring functions from simple compliance to "strategic navigation," ensuring that projects can respond decisively to threats as they unfold.

Lastly, while risk assessment (B=0.131, P=0.022) carried a more moderate weight, its role as an analytical filter is indispensable. This finding aligns with the new institutional economics (NIE) lens, as discussed by (north (2025) & lepenies (2024), which suggests that institutional quality and robust assessment protocols reduce transaction costs and foster stability in developing banking sectors like ethipoia’s.by prioritizing risks based on probability and impact, CBE was able to make data-driven decisions, ensuring that the most catastrophic threats were addressed first. Collectively, these findings suggest that the four dimensions of risk management from a robust, integrated system that safeguards the banks innovation and competitive advantage.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter the relevant conclusions and recommendation are presented to give Insight on the effect of project risk management practice specifically project risk identification practices, project risk mitigation practices on CBE Beje project based on the finding outlined on chapter four.

5.2 Summary

The study utilized quantitative methods approaches to evaluate how four critical dimensions of PRM-identification, assessment, mitigation and monitoring influence project success. The major findings are as follows:

- PRM practices are a statistically significant predictor of project success, according to the regression study. When taken as a whole, these procedures account for a significant amount of the variation in the CBE Beje platform's effective delivery, demonstrating that organized risk management is a key factor in performance
- The power of monitoring and mitigation: Among the factors examined, risk monitoring and control and risk mitigation showed the highest inflation. Elements. The CBE Beje platform achieved its technical and operational goals primarily because of the bank's capacity to implement response plans and monitor system performance in real-time, according to the high Pearson correlation coefficients (r=0.811 for mitigation).

- Assessment and Identification Capabilities: The bank showed a strong ability to identify conventional banking risks but the study found that the identification of “emerging” fintech risks, such as rapid API shifts or specific digital fraud patterns, is an area that is moving to a more proactive stance.

- Achievement of Success Metrics: The project's success was measured primarily through technical excellence and system dependability. The stability of the platform was consistently rated highly by respondents, thanks to the stringent monitoring systems that were in place throughout the project execution.

5.3 Conclusion

Based on the empirical findings of this study, it is evident that Project Risk Management (PRM) within the Commercial Bank of Ethiopia (CBE) has transcended its traditional role as a mere compliance mechanism, evolving instead into a core strategic asset. The empirical data underscores a direct, positive correlation between the rigor of risk management protocols and the operational performance of the CBE Birr platform. This critical dependency suggests that the trajectory of the bank's future digital ecosystem will be fundamentally governed by the institutional maturity of its risk frameworks.

However, the true pivot of success within digital lending environments lies not merely in the systemic identification of vulnerabilities, but in the execution of dynamic mitigation strategies. While risk assessment fosters foundational awareness, it is the institutionalization of robust, documented procedures that enables the agile and decisive responses necessary to safeguard digital operations.

Furthermore, while CBE exhibits a high baseline of risk management maturity, the accelerating pace of technological evolution demands a paradigm shift away from periodic, static evaluations toward a model of continuous, real-time risk assessment. To sustain operational resilience and preserve long-term user confidence, the bank must ultimately harmonize its sophisticated technical monitoring infrastructure with the nuanced "human element." This requires cultivating a culture of heightened employee accountability and transparent documentation, ensuring that technological advancement is matched by an equally sophisticated layer of human oversight.

Limitation of study

While this research provides valuable insights, several limitations must be acknowledged:

- Institutional Generalizability: The results of this single-case research, which concentrated on the CBE Beje project, could not be entirely indicative of other financial institutions or other kinds of infrastructure projects in Ethiopia.
- Stakeholder Scope: Internal project team members and managers were the main participants in the study. A more comprehensive picture of success could be obtained by directly capturing the viewpoints of external vendors and end users.
- Methodological Subjectivity: Because self-reported survey data is used, individuals may report or perceive risk management techniques more favorably than they actually do. This is known as possibility bias.
- Environmental Variables: The study concentrated on internal PRM practices and did not account for national infrastructural changes, legislative changes, or external macroeconomic factors that also affect the results of digital projects.

5.4 Recommendations

To sustain the success of the Beje platform and improve future project delivery, the following specific actions are recommended:

- Establish a digital risk RACI Matrix: A responsibility assignment matrix (RACI) should be implemented by the project management office (PMO).To close the existing gap between risk assessment and documented mitigation, each risk included in the register has to have a designated accountable owner.
- Create a dynamic repository for lessons learned by switching from static reporting to an active, searchable online knowledge base. As a required guide for upcoming digital projects, this repository should record technical difficulties and near-misses that occurred throughout the Beje implementation.
- Progress Towards Quantitative Risk Modeling: Use quantitative tools such as Monte Carlo simulations or Sensitivity Analysis to improve the assessment phase.

Instead of depending just on qualitative High/Medium/Low scales, the bank will be able to estimate the financial and operational effect of possible risks with statistical precision.

- Integration of automated risk monitoring systems: Risk identification was established to be taking place but not real-time monitoring. It is suggested that CBE adopts automated risk management information systems (RMIS) for managing risks in the project. Using RMIS would ensure that the project team gets to know about any changes in performance or security issues arising in the "Beje" platform at once
- Enhancing system scalability and technical infrastructure: As the responses indicated that there was no particular stance on the stability of the system, the organization must consider setting up servers using high availability architecture and implementing cloud redundancy. In relation to the “CBE Beje” application, which will be used by an increasing number of users, the technical risk becomes higher.
- Strengthing cyber-security risk mitigation: In view of the fact that the Beje loan portal is digital, security is of utmost importance. The bank must consider implementing CSV and conducting periodic third-party penetration testing. This will take care of the "Risk Mitigation" variable, which was found to be the most important predictor of success for this venture
- Institutionalizing a risk-aware culture through training: The results have shown that there is a correlation between human-related aspects and risk management performance. In this case, it is essential that CBE provides special training in Project Risk Management (PRM) to the team working at the Beje project. The training process needs to be focused on specific risks associated with agile approach and digital transformation.
- Establishing a feedback loop with digital loan users: In order to enhance "Service Quality" and "User Satisfaction" in project success, the bank must put in place a Post-Implementation Review (PIR) process. Through risk analysis at the user end (e.g., transaction failures and interface issues reported by users), the risk register can be updated for future enhancements of the CBE Beje platform

Suggestions for Future Research

- Comparative Industry Analysis: In future research, comparative study of project risk management practices among different banks in Ethiopia will be necessary to develop a benchmark nationally for the efficiency of digital banking.
- Longitudinal Study: Research should conduct a longitudinal study on the CBE Beje system for three to five years in order to find out the link between project risk practices and credit risk performance over time.
- In future research, it would be important to consider the interconnection between external elements (such as regulatory framework of the country and user's digital knowledge) and internal risk management for project success.

Concluding Remark

To conclude, the CBE Beje system developed by the CBE is a massive advancement in digitizing banking services in Ethiopia. From the findings in this research, it is clear that its successful implementation was not coincidental, but rather through proper risk management practices within project risk management. For continued leadership in financial services sustainability through digital transformation, CBE should improve identification-to-mitigation transition efforts.

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Appendix

Questionnaires on The effect of project risk management on successful delivery of CBE Beje project.

Dear Participants:

My name is Tigist Jibat; I am a MA student at Addis Ababa University School of Commerce. As part of my thesis, I am conducting a study on how risk management practices influenced the delivery of the **CBE Beje digital loan platform**. You have been selected as a respondent due to your experience with this platform. Your participation is voluntary, and all responses will be kept strictly confidential. The data will be used for academic purposes only.

As well I sincerely request you to respond to the questions as honestly as possible and return the completed questionnaires. Please take a few minutes of your time to complete the questionnaire. Kindly invited to answer by ticking to the series of questions below

Thank you very much for your time and assistance in my educational endeavors.

The Effect of Project Risk Management on the Successful Delivery of CBE Beje project

My name is Tigist Jibat, I'm a master's student at Addis Ababa university school of commerce.as part of my thesis, I am conducting a study on how risk management practices influenced the delivery of the CBE beje digital loan platform. You have been selected as a respondent due to your experience with this platform.

Your participation is voluntary, and all responses will be strictly confidential. The data will be used for academic purposes only. Thank you for your time and contribution.

Indicates required question

Part 1 demographical information

1. Gender

- Male
- female

2. Educational level

- Bachelor's Degree
- Master's Degree
- Diploma
- Other

3. Relationship with CBE Beje

- Internal Stakeholder (Project Manager, IT Staff, Risk Officer, Operations)
- Frontline User (CBE Customer, Branch staff, Digital Loan Recipient)

4. Duration of Engagement with CBE Beje

- Less than 3 months

- 3-6 months
- 6-12 months
- Since the pilot/launch phase

5. Work Experience

- Less than 2 years
- 2-5 years
- 6-10 years
- Above 10 years

Part 3: Main Research Questions

Instruction: Please rate your level of agreement with the following statements using the scale:1=strongly disagree(SD), 2=Disagree(D), 3= Neutral(N), 4 =Agree(A), 5=Strongly Agree(SA)

Direction: Based on your professional experience with the CBE Beje project implementation, please rate how effectively the following risk management practices were applied.

Variable 1.Risk Identification (staff only)

1.1 The project team used formal tools (checklists, brainstorming) to identify CBE Beje risks.
1.2 Technological risks were identified at the very beginning of the project
1.3 Risks related to credit and loan repayment were clearly identified.
1.4 Stakeholders from different departments were involved identification.
1.5 Historical data from previous CBE project was used to predict risks.

Variable 2: Risk Assessment (internal staff only)

2.1 The likelihood and impact of each risk were analyzed systematically.

2.2 Risks were prioritized so that high-threat issues were handled first.

2.3 The project team used a probability-impact matrix for categorization.

2.4 Financial and reputational risk was quantified during assessment.

Variable 3: Risk Mitigation (Internal staff only)

3.1 There were clear contingency plans for system failures or platform downtime

3.2 Sufficient budget were allocated to handle risks during implementation.

3.3 Responsibilities for managing specific risks were clearly assigned.

3.4 Risk response strategies were formally documented in a plan.

Variable 4: Risk Monitoring (Internal staff only)

4.1 Risks were reviewed and updated regularly throughout the project lifecycle.

4.2 There was an effective system for reporting new risks as they emerged.

4, 3 Risk audits were conducted to evaluate the management process.

4.4 The risk register was a living document update until completion.

Variable 5: Project Success (Staff & users)

Direction: Please rate the actual performance and results of the CBE Beje platform. We value your honest opinion on the delivery and success of this service.

5.1 The system allows for quick loan processing (within minutes).

5.2 The platform is easier to use than traditional bank loan processes.

5.3 The system is stable and available whenever I need to use it.

5.4 I feel that my personal and financial data is secure on this platform.

5.5 CBE Beje has made getting a loan possible for people who couldn’t before.

5.6 The platform is easy to find and navigate within the CBE Birr app.

5.7 The service has significantly improved my financial flexibility.

5.8 The digital loan service meets the needs of the modern Ethiopian market.

5.9 The user interface is clear and easy to read.

5.10 Overall, I am highly satisfied with the CBE Beje service.

5.11 The final product met all the technical specifications and requirements.

5.12 The project was completed without significant cost overruns.

5.13 Major milestones were met according to the original project timeline.

5.14 The bank gained valuable Knowledge that can be used for future digital projects.

Do you have any additional comments, concerns regarding the risk management or overall delivery of the CBE Beje project?

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