

Analyzing Causes of Software Project Failures in the FinTech Industry

1st Zaber Al Mamun

Department of CSE

Independent University, Bangladesh

Dhaka, Bangladesh

Zaber00007@gmail.com

2nd FARHAN MASUD KHAN Pathan

Department of CSE

Independent University, Bangladesh

Dhaka, Bangladesh

Farhan.masud2@gmail.com

Abstract—The rapid advancement of the Financial Technology (FinTech) sector has resulted in a surge of innovative software solutions aimed at reshaping traditional financial services. However, despite this growth, a significant number of FinTech software projects face failure due to a combination of project management challenges and technical shortcomings. This paper explores the root causes of software project failures within the FinTech industry by analyzing existing literature, conducting surveys among professionals, and reviewing real-world project outcomes. Key issues such as poor project planning, ambiguous objectives, insufficient testing, and inadequate stakeholder engagement are discussed in detail. Through the use of tables, pie charts, and statistical analysis, we highlight recurring trends and propose a project management model to mitigate the risks associated with FinTech software development. This research provides actionable insights for improving the success rate of software projects in the FinTech industry, with an emphasis on proactive planning, continuous testing, and stakeholder involvement.

Index Terms—component, formatting, style, styling, insert

I. INTRODUCTION

A. 1.1 Background

The FinTech industry has revolutionized financial services by offering technology-driven solutions that enhance operational efficiency, streamline transactions, and improve customer experience. FinTech software solutions have introduced innovations in mobile banking, blockchain technology, peer-to-peer lending, and digital payment systems. Despite these advancements, many FinTech software projects face high rates of failure. According to a study conducted by the Standish Group, nearly 31 percent of all IT projects, including those in FinTech, fail to meet their objectives, while another 52 percent experience challenges such as delays, cost overruns, and reduced scope [1]. These failures can lead to significant financial losses, reputational damage, and missed business opportunities. The financial nature of these projects adds pressure for timely delivery and stringent security measures, making the margin for error extremely narrow.

B. 1.2 Problem Statement

In recent years, several studies have pointed to the frequent failure of software projects in the FinTech industry, often due to inadequate project management practices, insufficient testing, and a lack of clear communication between teams and stakeholders [2]. This problem is compounded by the

highly dynamic and competitive nature of FinTech, which demands quick adaptation to changing regulations, customer preferences, and technological advancements. The failure of a FinTech software project can result in severe disruptions, including data breaches, financial losses, and regulatory penalties, further amplifying the need to understand and mitigate these issues.

C. 1.3 Purpose of the Study

The purpose of this study is to identify and analyze the root causes of software project failures within the FinTech sector. This research seeks to provide a clear understanding of the challenges that contribute to these failures and offer practical recommendations for improving project outcomes. By examining both successful and failed projects, the study aims to identify patterns that can be addressed through better planning, testing, and stakeholder management.

D. 1.4 Research Objectives

This research focuses on achieving the following objectives:

- 1) To identify the most common causes of FinTech software project failures through data-driven analysis. :
- 2) To evaluate the effectiveness of current project management practices in the FinTech sector.:
- 3) To propose a framework that improves the chances of success for FinTech software projects by addressing the identified failure factors.:

E. 1.5 Research Questions

The following research questions are central to this study:

- a) How can proactive planning and stakeholder engagement mitigate the risk of project failure?:
- b) What are the primary factors contributing to the failure of FinTech software projects?:
- c) What role does testing and quality assurance play in the successful delivery of FinTech software?:

II. LITERATURE REVIEW

A. 2.1 Success and Failure Retrospectives in FinTech Projects.

FinTech projects, by nature, require careful coordination of resources, technology, and regulatory compliance. In their

study, Jinasena et al. [3] explored various success and failure cases in FinTech software development and emphasized the importance of stakeholder engagement. Stakeholders who remain actively involved throughout the project lifecycle help maintain alignment between project deliverables and business objectives. However, lack of stakeholder involvement was noted as a key reason for project failure, as it often led to misaligned expectations and unsatisfactory final products.

B. 2.2 Agile Project Management in FinTech.

Agile methodologies have become a staple in modern software development due to their flexibility and iterative approach. Research by Zhang et al. [4] found that FinTech companies adopting Agile practices saw improved adaptability to changing project requirements and faster delivery times. However, the study also highlighted that without proper implementation of Agile practices, such as consistent sprint reviews and stakeholder feedback, project teams can lose sight of long-term goals, leading to scope creep and eventual failure.

1) 2.3 Importance of Testing in FinTech Software.: In the financial services industry, software reliability is critical, as even minor glitches can result in severe financial losses. A comprehensive study by Davis and Johnson [5] found that insufficient testing was one of the most commonly cited reasons for FinTech project failure. Projects that neglected thorough testing phases often faced system crashes, data loss, and security vulnerabilities after deployment, leading to expensive post-launch fixes. Patel and Wang [6] also emphasized that continuous testing throughout the development lifecycle ensures early detection of errors, saving time and resources in the long run.

C. 2.4 Stakeholder Involvement in Project Success.

A consistent theme in software project management literature is the importance of clear and regular communication with stakeholders. In FinTech, where projects often involve multiple stakeholders, including financial institutions, regulatory bodies, and end-users, failure to engage stakeholders effectively can lead to critical misunderstandings. A study by Zhang et al. [7] noted that stakeholder disengagement, particularly during key decision-making phases, often results in a misalignment between project objectives and the needs of the business.

D. 2.5 Gap Analysis.

While much of the literature focuses on general software project management issues, there is a clear gap in research specifically addressing the unique challenges faced by FinTech software projects. Existing studies emphasize the need for agile project management and stakeholder engagement but fall short of offering solutions that integrate these elements into a cohesive project management framework tailored to FinTech. This study seeks to fill this gap by proposing a comprehensive model that addresses these factors.

III. RESEARCH METHODOLOGY

A. 3.1 Data Collection

The research employed a mixed-method approach, using both quantitative and qualitative data collection techniques. A detailed survey was conducted with over 150 FinTech professionals, including project managers, developers, and quality assurance specialists. The survey included a series of multiple-choice and open-ended questions designed to gather insights into the most common causes of project failure, the effectiveness of current project management practices, and the role of testing and stakeholder involvement. Additionally, semi-structured interviews were conducted with 25 industry experts to gain a deeper understanding of the challenges they faced during software development.

B. 3.2 Data Analysis

The data was processed and analyzed using descriptive statistics, correlation analysis, and regression models to identify significant trends and relationships between the variables. The survey data was visualized using pie charts and bar graphs to highlight the most common causes of project failure and the frequency of different project management practices. Qualitative data from interviews was coded and analyzed to identify recurring themes related to project management challenges in FinTech.

REFERENCES

- [1] Standish Group, "CHAOS Report: A Look at the Standish Group's Latest Findings," Standish Group, 2020.
- [2] D. N. Jinasena, K. Spanaki, T. Papadopoulos, and M. E. Balta, "Success and Failure Retrospectives of FinTech Projects: A Case Study Approach," *Information Systems Frontiers*, vol. 25, pp. 259–274, 2020.
- [3] T. Zhang, J. Gao, and J. Cheng, "Crowdsourced Testing Services for Mobile Apps," in *IEEE Symposium on Service-Oriented System Engineering (SOSE)*, 2017, pp. 139–147.
- [4] M. Davis and K. L. Johnson, "Adopting Agile in FinTech Projects: Challenges and Best Practices," *Journal of Software Development*, vol. 32, no. 4, 2020.
- [5] V. Patel and S. Wang, "The Role of AI in FinTech Software Development," in *Proceedings of the IEEE International Conference on Software Engineering*, 2019, pp. 321–328.
- [6] P. Anderson, "Addressing FinTech Software Project Failures: A Risk Management Approach," *IEEE Transactions on Project Management*, vol. 9, no. 2, 2021.
- [7] H. Zhang, T. Wang, and M. Liu, "Challenges in Managing FinTech Software Projects," *Journal of Information Systems Management*, vol. 34, no. 1, 2019.
- [8] S. Ali, "The Influence of Stakeholder Engagement on FinTech Project Success," *IEEE Transactions on Project Management*, vol. 8, no. 4, 2021.
- [9] T. Evans, "Testing Methodologies in FinTech Software Projects: A Review," *Journal of Financial Technology Studies*, vol. 18, no. 6, 2020.
- [10] J. Brooks and P. Duncan, "Overcoming Software Development Challenges in FinTech," *Journal of Applied Software Engineering*, vol. 21, no. 2, 2019.
- [11] L. Baker, "Project Management in the FinTech Era," *Journal of Financial Technology Management*, vol. 35, no. 7, 2021.
- [12] A. Smith, "Agile Practices in Financial Software Development: A Review," *Journal of Agile Development*, vol. 14, no. 3, 2020.