

# Assessment of Factors Affecting Telebirr (Mobile Money) Project Implementation in the Case of Ethio Telecom Sector

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## Abstract

**Background:** Mobile money services facilitate financial transactions through mobile devices, reducing dependence on physical cash and promoting financial inclusion. The Telebirr Mobile Money project by Ethio Telecom is a key initiative in this domain. **Objective:** This study aims to examine the factors influencing the successful implementation of the Telebirr Mobile Money project within Ethio Telecom. **Methods:** A census survey was conducted among 75 project team employees at the Lebu and Ayertena branch offices. Data were collected via a 5-point Likert scale questionnaire and supplemented with interviews of the project manager. Descriptive statistical analysis, including frequencies, percentages, means, and standard deviations, was performed using SPSS software. **Findings:** Among the factors assessed, Financial Regulation, Technology, and Compatibility, “Technology Feedback” scored the highest mean value ( $m=3.77$ ), indicating that the platform is well-designed to respond to user behavior and environmental conditions. However, issues were identified related to the flexibility of API integration with third-party systems. **Contribution:** This study provides empirical insights into the critical technological and regulatory factors affecting mobile money project implementation in Ethiopia, highlighting the importance of adaptive platform design. **Recommendation:** To enhance system interoperability, it is recommended that Telebirr improves its API development to support greater flexibility for integration with third-party applications.

**Keywords:** Telebirr, project implementation, Ethio telecom, technology, compatibility

## INTRODUCTION

The Mobile Money project, widely known as Telebirr, was officially launched in 2021 by Ethio Telecom and has since grown into one of the most significant financial platforms in Ethiopia. The system currently handles transactions that amount to more than 5 billion Birr each day, and the overall value of transactions processed has already surpassed 1.7 trillion Birr. With a subscriber base of over 56 million users, Telebirr has quickly become an essential tool for financial inclusion and digital payment solutions, making it a cornerstone of the country’s economic transformation. The platform provides individuals and businesses with a secure, fast, and reliable means of transferring money, paying for goods and services, and managing financial activities without reliance on traditional banking systems [1].

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As the leading telecommunications provider in the country, Ethio Telecom has played a central role in driving innovation and digital connectivity. The implementation of Telebirr reflects not only technological advancement but also the importance

of structured project management practices. Managing such a large-scale initiative requires the systematic application of knowledge, skills, and strategies across all phases, including initiation, planning, execution, monitoring, control, and closure. These processes ensure that the project meets its objectives, delivers value to stakeholders, and sustains long-term growth [2].

## STATEMENT OF THE PROBLEM

Mobile money services play a vital role in promoting financial inclusion and reducing poverty in emerging economies. In Ethiopia, the sector follows a bank-led model, with about 12 banks and 8 microfinance institutions offering mobile money services to over 40 million accounts nationwide [3].

Ethio Telecom launched Telebirr in 2021 to expand digital financial access. As of 2025, it has over 56 million subscribers, processes 5 billion Birr in daily transactions, and has handled more than 1.7 trillion Birr in total value [1]. Despite its growth, challenges such as integration, regulation, and system performance remain. Addressing these issues is essential to improve service delivery and achieve broader financial inclusion [4].

Ethiopia's population has exceeded 120 million, with approximately 85% residing in rural areas that face significant infrastructure challenges. According to the National Bank of Ethiopia, financial institutions are unevenly distributed, with most bank branches concentrated in Addis Ababa and a few urban centers. However, the country has 56.2 million mobile subscribers, about 50% of the population, and 23.3 million internet users. To leverage this digital potential and support national development by facilitating financial inclusion and improving living standards, the Telebirr mobile money service has been introduced as a key solution. Despite its strategic importance, challenges remain, including slow user adoption, frequent network outages, and limited public awareness of mobile money services [5].

## LITERATURE REVIEW

### Telebirr: Mobile Money Service

Telebirr is a mobile money platform introduced by Ethio Telecom in alignment with national financial directives to enhance accessibility and promote a cashless economy. Through this service, Ethio Telecom recruits, trains, and authorizes agents to deliver mobile banking services on behalf of financial institutions using mobile phones. The platform is designed to foster a culture of saving and improve the efficiency of financial transactions and payment systems across Ethiopia [6].

Telebirr enables customers to self-register and perform a wide range of financial operations, including money transfers to both registered and unregistered users, deposits, and withdrawals via authorized agents. Additional features include airtime top-ups, balance inquiries, PIN and language settings, loan repayments, bulk disbursements, and retail payments. For example, a user in Addis Ababa can instantly send money to a relative in Dire Dawa through a simple text-based transaction. The recipient receives a notification within seconds and can withdraw the funds from a nearby agent, such as a local shop or kiosk [7]. Access to the platform is user-friendly: subscribers simply dial \*127# to open the service menu and navigate by entering corresponding numbers for each transaction type.

### Factors Affecting Telebirr-Mobile Money Project

#### *Financial Regulation*

Financial regulation is a critical factor influencing the effectiveness of mobile money services. Regulatory frameworks govern the interactions between service providers, agents, and customers. While regulation ensures oversight and consumer protection, overly restrictive policies can hinder the expansion and flexibility of agent-based banking models [8]. In Ethiopia, the National Bank of Ethiopia (NBE) serves as the central regulatory authority, providing continuous supervision and policy guidance to financial institutions and digital financial service providers.

#### *Technology*

Technology plays a foundational role in mobile money service delivery. It has been noted that organizations increasingly invest in ICT infrastructure to support their operations [9]. However, many

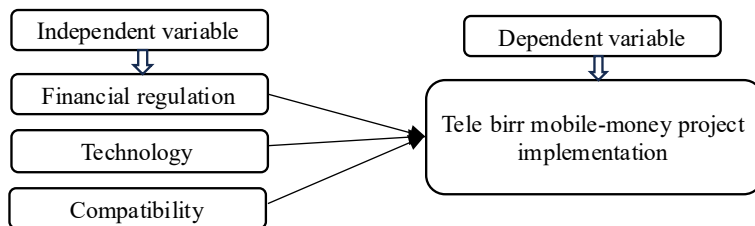
of these organizations encounter challenges in effectively integrating technology into their business processes. As a result, ICT investments often fall short of delivering expected outcomes, particularly when implementation occurs without a clear strategic understanding. This underscores the importance of aligning technological adoption with organizational goals and operational realities.

### **Compatibility**

Compatibility refers to the extent to which an innovation aligns with the existing values, needs, and experiences of potential users. In the context of mobile money, perceived compatibility significantly influences user acceptance. Studies show that individuals are more likely to adopt or continue using mobile financial services when the technology aligns with their personal values, integrates smoothly with their prior digital experiences, and meets their financial needs [10]. Evaluating compatibility from these three dimensions: value alignment, experiential fit, and financial relevance, provides a comprehensive understanding of user attitudes toward mobile banking adoption.

## **CONCEPTUAL FRAMEWORK**

The conceptual framework outlines the essential process that serves to illustrate the study's progression. It demonstrates the relationship between the variables: financial regulation, technology, and compatibility, and the Telebirr mobile money project (Figure 1).



**Figure 1.** Conceptual framework.

## **RESEARCH OBJECTIVES AND RESEARCH QUESTIONS**

### **Research Objectives**

This study is guided by the following specific objectives:

1. To assess the impact of technology on the implementation of the Telebirr mobile money project at Ethio Telecom.
2. To examine the influence of compatibility on the implementation of the Telebirr mobile money project at Ethio Telecom.
3. To analyze the effect of financial regulation on the implementation of the Telebirr mobile money project at Ethio Telecom.

### **Research questions**

*RQ1:* How does technology affect the implementation of the Telebirr mobile money project at Ethio Telecom?

*RQ2:* How does compatibility influence the implementation of the Telebirr mobile money project at Ethio Telecom?

*RQ3:* How do financial regulations impact the implementation of the Telebirr mobile money project at Ethio Telecom?

## **RESEARCH METHODOLOGY**

This study adopts a mixed-methods approach, integrating both qualitative and quantitative research designs within a descriptive framework. Data collection was conducted using a survey method, supported by interviews to enrich the findings [11]. To analyze the collected data, SPSS software was

employed, and the results were presented using descriptive statistical tools, including frequencies, percentages, means, and standard deviations, to effectively address the research objectives.

The target population comprises permanent employees of Ethio Telecom who are directly involved in the Telebirr project and are based at the Lebu and Ayertena branch offices in Addis Ababa. A total of 75 employees constituted the study population. Given the manageable size, the researcher employed a census survey, including the entire population in the data collection process [12].

## DATA ANALYSIS AND RESULT/FINDINGS

This section analyzes data from questionnaires to assess factors affecting the implementation of the Telebirr project at Ethio Telecom. The analysis focuses on three key areas: Financial Regulation, Technology, and Compatibility, using descriptive statistics such as frequencies, percentages, means, and standard deviations.

### Descriptive Statistics of Variables

Three descriptive variables were analyzed: Technology, Financial Regulation, and Compatibility [13–17]. The standard deviation was used to show how closely the data values were distributed around the mean, where smaller values indicate a greater concentration of responses. For interpretation purposes, mean scores were categorized into three levels: values below 3.39 were considered low, those between 3.40 and 3.79 were regarded as moderate, and those above 3.80 were classified as high. A 5-point Likert scale served as the measurement tool, with responses ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The mean values and standard deviations for each of the studied variables are presented as follows:

The results indicate that respondents view Telebirr as a responsive system, with a weighted mean of 3.77 (SD=0.649), reflecting high responsiveness. However, the lowest mean score of 2.96 (SD=1.108) suggests that there are flexibility issues concerning API integration with third-party systems (Table 1).

The project team respondents expressed concern that agency-related laws, regulations, and procedures hindered the implementation of Mobile Money/Telebirr activities, with a weighted mean of 3.69 (SD=0.735). In contrast, a mean score of 2.96 (SD=1.108) suggested that the cash withdrawal limit directive did not discourage the use of digital financial services (Table 2).

**Table 1.** Descriptive statistics on technology.

Statements	SD	D	N	A	SA	Mean	SD
Poor mobile network is a challenge that currently affects Telebirr practice	0	15(20%)	18(24%)	39(52%)	3(4%)	3.4	.854
Telebirr is a responsive system	0	3(4%)	17(22.7%)	49(65.3%)	6(8%)	3.77	.649
Telebirr has proper Fraud management feature	0	12(16%)	30(40%)	24(32%)	9(12%)	3.4	.900
There a flexibility issues regarding API integration with the third-party system	10(13.3%)	12(16%)	29(38.7%)	19(25.3%)	5(6.5%)	2.96	1.108
There are limitations in availability and quality of infrastructure	0	5(6.7%)	20(26.7%)	43(57.3%)	7(9.3%)	3.69	.735
There is lack of proficient skill from third parties during integration process	8(10.7%)	12(16%)	31(41.3%)	20(26.7%)	4(5.3%)	3.0	1.040
Telebirr is flexible enough to update itself with the upcoming global innovation	0	12(16%)	30(40%)	24(32%)	9(12%)	3.4	.90

**Table 2.** Descriptive statistics on financial regulation.

Statements	SD	D	N	A	SA	Mean	SD
Customers and Partner (Agent and Merchants) have awareness on the NBE directive of Mobile Money and agent banking service	0	17(22.7%)	17(22.7%)	40(53.3%)	1(1.3%)	3.33	.844
Cash Withdrawal Limit Directive discourages of digital financial services	10(13.3%)	12(16%)	29(38.7%)	19(25.3%)	5(6.7%)	2.96	1.108
I believe that agency related laws, regulations and procedures have restricted the implementation of the Mobile Money/Telebirr activities in general	0	5(6.7%)	20(26.7%)	43(57.3%)	7(9.3%)	3.69	.735

In the Compatibility section, respondents agreed that Telebirr aligns well with the values and needs of the current financial and business landscape, with a highest mean of 3.69 (SD=0.735). However, a lower mean score of 3.48 (SD=0.777) indicates concerns about the system's compatibility for integration with third-party systems, such as Merchant API, Partner API, Mini APP API, and others (Table 3).

**Table 3.** Descriptive statistics on compatibility.

Statements	SD	D	N	A	SA	Mean	SD
Telebirr fits the values and needs of the current financial and business aspect	0	5(6.7%)	20(26.7%)	43(57.3%)	7(9.3%)	3.69	.735
Tele berr system is compatible enough to integrate with other third-party systems	0	16(16%)	16(21.3%)	46(61.3%)	1(1.3%)	3.48	.777

## Result/Findings

Data from 75 respondents were analyzed using both quantitative and qualitative methods. Descriptive statistics: percentages, frequencies, and standard deviations, were used alongside insights from open-ended responses and interviews [18–22].

1. *Regulatory Constraints:* Agency-related laws and procedures were found to hinder the effective implementation of Telebirr. While stakeholders are aware of National Bank of Ethiopia (NBE) directives, the cash withdrawal limit directive slightly discourages broader use of digital financial services.
2. *Technology Performance:* "Technology Feedback" received the highest mean score (M=3.77), suggesting that Telebirr is well-adapted to user behavior and various device interfaces.
3. *System Compatibility:* Respondents generally agreed that Telebirr aligns with Ethiopia's financial environment; however, enhancements are needed to improve integration with third-party systems.

## CONCLUSION AND RECOMMENDATION

### Conclusion

Ethio Telecom operates a dedicated mobile money service department to deliver and improve digital financial services through the Telebirr platform. Survey results indicate that Technology, Financial Regulation, and Compatibility are key factors influencing the implementation of the Telebirr project.

However, additional challenges were identified, including limited training opportunities, weak system integration with third-party platforms, and gaps in the selection of project managers, particularly in terms of technical competence, management experience, and interpersonal skills. Addressing these issues is essential for enhancing the effectiveness and scalability of Telebirr services.

### Recommendations

Based on the study findings, the following recommendations are proposed to improve the implementation of the Telebirr mobile money project at Ethio Telecom:

*Customer Awareness:* Ethio Telecom should launch targeted awareness campaigns to educate users and potential adopters about the benefits of mobile money, while addressing concerns related to privacy and security.

*Enhanced Security Measures:* Strengthening the security features of the Telebirr platform is essential. Communicating these improvements to users can help build trust and increase adoption.

*API Integration:* Telebirr should enhance its API development to ensure flexible and seamless integration with third-party systems, including merchants and partner platforms.

*Regulatory Revisions:* Financial regulations should be updated to align with market demands and include robust fraud management mechanisms, such as AML (Anti-Money Laundering) and CFT (Combating the Financing of Terrorism).

*Skilled Project Staffing:* The project team should include experienced personnel with strong technical, managerial, and interpersonal skills to support effective planning, minimize scope changes, and maintain project timelines through informed decision-making and knowledge transfer.

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