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Resilience in E-Banking: Challenges and Prospects at the Commercial Bank of Ethiopia, Wolaita Sodo Branch

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ABSTRACT

This study explores the challenges and prospects of electronic banking (e-banking) services in the Commercial Bank of Ethiopia (CBE), with a particular emphasis on the importance of resilience in sustaining and improving these services. Data was primarily collected from bank employees and customers, using a

qualitative research approach based on literature review and the researcher's professional experience with CBE's e-banking system. The study identified customer and staff attitudes, operational challenges, growth prospects, and the overall performance of CBE's e-banking platform. In addition, authors investigated importance of resilience for financial institutions. Namely, building resilience is critical for the sustainability of financial institutions in Ethiopia, particularly in the context of e-banking. Resilience ensures that banks can maintain service continuity, security, and customer trust despite disruptions such as cyber threats, infrastructure failures, or economic shocks. For CBE and other Ethiopian banks, strengthening digital resilience through robust cybersecurity, reliable IT systems, disaster recovery strategies, and adaptive service models is essential. This approach not only minimizes risks but also enhances customer confidence and positions banks for long-term competitiveness in a rapidly digitizing financial landscape, concluded authors.

Keywords: E-banking, Challenges of e-banking prospects, Mobile banking, Internet banking, Resilience

JEL classification: G21, G32, O33

INTRODUCTION

The banking industry has undergone a significant transformation over the past few decades, driven by advancements in information and communication technology (ICT). Among the most impactful innovations is electronic banking (e-banking), which has redefined the way financial institutions deliver services and interact with customers. Initially introduced in the mid-1990s,

e-banking has evolved from a supplementary channel into a core component of banking operations worldwide, shaping the future of financial service delivery.[10]

E-banking refers to the provision of banking products and services through electronic delivery channels, enabling customers to access account information, execute transactions, and purchase products via digital platforms. As defined by Allen [1], it involves the delivery of banking services through computers, televisions, or other electronic devices. A more advanced form, as noted by Daniel [3], allows customers to manage their accounts and conduct financial transactions online, eliminating the need for physical visits to banking halls.

The adoption of e-banking not only enhances customer satisfaction through convenience and efficiency but also enables banks to strengthen operational efficiency and cost-effectiveness. As the banking sector transitions from traditional branch-based models to digitally driven ecosystems, understanding the challenges, prospects, and resilience strategies of e-banking becomes essential for sustainable growth and financial inclusion. Importantly, e-banking underscores the expanding role of ICT in financial services, enabling digital innovations such as mobile wallets, real-time payments, and agent banking. These developments not only enhance customer satisfaction and inclusion but also position banks to achieve operational efficiency and competitive advantage in a rapidly evolving market.[11] However, this digital shift introduces significant challenges, notably around security, trust, and systemic resilience. The proliferation of digital channels has exposed banks to elevated cyber threats—including phishing, malware, ransomware, and data breaches—while also highlighting the need for robust regulatory frameworks and risk management protocols [9]. The resilience of e-banking systems is

increasingly vital for maintaining service continuity, safeguarding customer trust, and adapting to both technological disruptions and regulatory expectations.

In the Ethiopian context—particularly for the Commercial Bank of Ethiopia (CBE)—e-banking represents a strategic lever for modernization and financial inclusion. Yet the journey toward full digital adoption remains hindered by infrastructure constraints (e.g., unstable internet and power supply), language barriers, legal ambiguities, and cybersecurity concerns [2]. Strengthening e-banking resilience through regulatory reform, cybersecurity enhancements, and digital literacy initiatives is essential for unlocking its potential.

The primary aim of this research is to assess the challenges and prospects of e-banking in the Commercial Bank of Ethiopia, with a special focus on the role of resilience in ensuring secure, reliable, and inclusive digital financial services. The study seeks to identify existing barriers, analyze opportunities for growth, and propose strategies that enhance system robustness, improve customer experience, and support sustainable adoption of e-banking technologies in Ethiopia.

REVIEW OF LITERATURE

Resilience refers to the capacity of an organization to absorb disruptions, adapt to changing environments, and emerge stronger from adverse events. Radović-Marković [7] defines organizational resilience not merely as survival or continuity, but as a proactive capability that enables firms to reorient, respond, and thrive amid unforeseen challenges. Namely, she emphasizes that resilience is a strategy of transformation rather than mere defense. In addition, her framework underscores the need for adaptive mechanisms that allow firms to respond swiftly to unexpected shocks—whether

economic, technological, or infrastructural ([5],[8]). This aligns with Hollnagel's [4] concept of resilience engineering, which views resilience as the ability to anticipate, monitor, respond, and learn. Applying these concepts to financial institutions suggests that e-banking systems require robust digital infrastructures, cybersecurity mechanisms, and contingency strategies to ensure continuity under adverse conditions.

E-banking introduces both opportunities and vulnerabilities. While it enhances efficiency and customer convenience, it also exposes banks to risks such as cyberattacks, service outages, and operational disruptions [9]. Building resilience in e-banking involves:

- Technological resilience: Secure IT systems, redundant servers, and disaster recovery plans.
- Organizational resilience: Skilled workforce, adaptive processes, and rapid decision-making mechanisms.
- Customer resilience: Digital literacy programs and trust-building initiatives.

These elements echo Radović-Marković's [6] argument that resilience requires a culture of adaptability and continuous innovation to maintain competitiveness in a rapidly digitizing financial landscape.

In Ethiopia, resilience in e-banking is crucial due to infrastructural weaknesses (frequent power cuts, unstable internet), low digital literacy, and emerging cybersecurity risks [2]. Applying resilience frameworks helps banks like the Commercial Bank of Ethiopia anticipate disruptions, invest in backup systems, and build customer confidence, ensuring the sustainability of e-banking services (Figure 1).

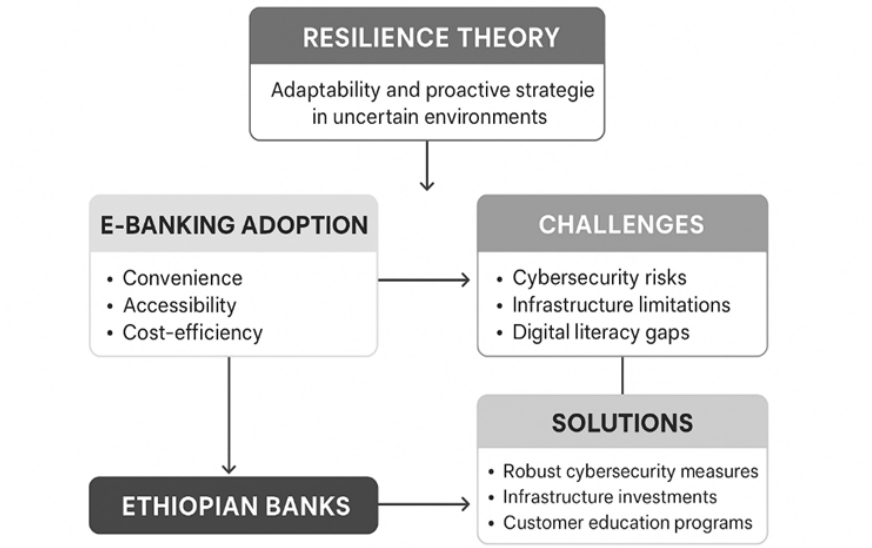

Fig. 1 Conceptual Framework for Resilience in E-Banking Systems of Financial Institutions

***Source**: Adapted from Radović-Marković's previous work*

RESEARCH METHOD

The research method employed in this study is a descriptive survey, chosen to identify and explain the challenges and prospects of implementing electronic banking in the Commercial Bank of Ethiopia. Data were collected from 150 employees and 150 literate customers using structured questionnaires designed through an iterative process to ensure clarity, relevance, and completeness. Sampling was conducted in twelve randomly selected branches in Wolaita Sodo, with participants chosen based on accessibility, literacy, and activity level. The study focused on Wolaita Sodo due to the similarity of e-banking services across urban branches and to minimize the high costs of reaching widely scattered rural branches. The total population included literate account-holding

customers, branch managers, customer service officers, and other bank staff.

The questionnaires were tailored for two groups: employees and customers. Employee questionnaires gathered information on staff qualifications, benefits of e-banking, customer attitudes, challenges, and external factors affecting service such as network and power interruptions. Customer questionnaires assessed experiences with e-banking, types of electronic services used, awareness levels, security perceptions, and challenges faced. Data collection instruments also included observation and document review to ensure validity and reliability. Closed-ended questionnaires were used to simplify data collection and allow respondents to select options closest to their views, facilitating accurate representation of the larger population.

KEY FINDINGS

The adoption of electronic banking in Ethiopia has been gradual, reflecting a slower uptake of new technology compared with global trends. In the Commercial Bank of Ethiopia (CBE), 54% of surveyed customers reported willingness to use e-banking once employees provided awareness and guidance, while 12% were reluctant, 28.7% were indifferent, and only 5.3% actively rejected the services (Figure 2).

These findings suggest that customer adoption largely depends on the bank's efforts to educate and inform users through effective communication and promotional strategies, highlighting the importance of awareness campaigns in encouraging the use of new technologies.

Although e-banking services in Ethiopia are still developing, there are signs of steady growth. The CBE dominates the sector, offering four main services: Automated Teller Machines (ATMs),

Point of Sale (POS), internet banking, and mobile banking with alerts. ATMs are the most widely used service due to their early introduction and familiarity among customers, followed by POS, while internet banking is the least utilized because of limited computer literacy, restricted internet access, and its more recent launch. Overall, the data indicate that while challenges remain, customer interest and incremental infrastructure improvements are driving the gradual expansion of electronic banking services in Ethiopia.

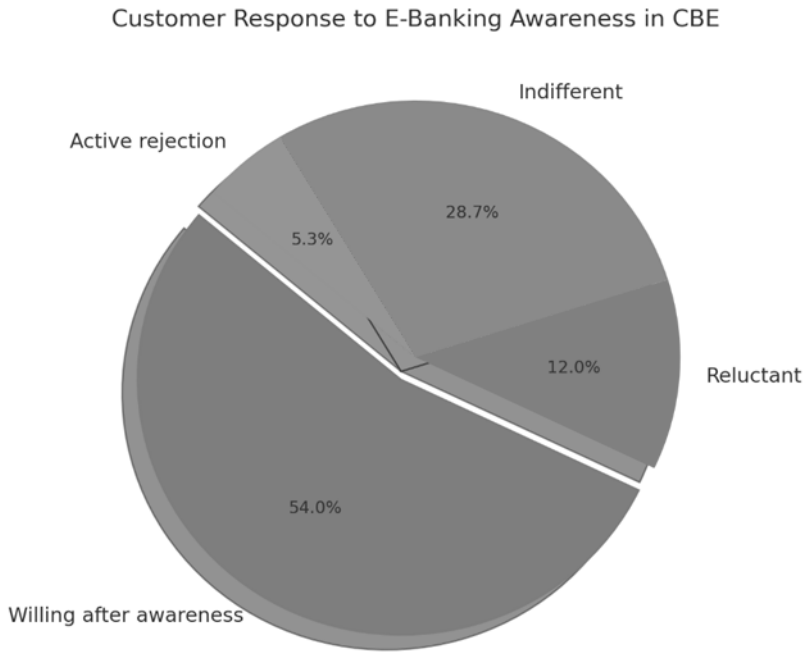

Fig. 2. Customer responses to e-banking awareness at CBE

***Source**: Authors*

The adoption of new information systems and electronic banking services in the Commercial Bank of Ethiopia faces several challenges. The data indicate that customers generally lack

awareness of the various features and benefits of electronic banking. Specifically, 80 respondents (53.3%) agreed that customers are not fully aware of these benefits, while 49 respondents (32.7%) strongly agreed. Nine respondents (6%) remained neutral on this issue, whereas 8 respondents (5.3%) disagreed, and 4 respondents (2.7%) strongly disagreed with the assertion that customers lack awareness of electronic banking.

Customer acceptance of new payment mechanisms and technology also presents challenges. According to the data, 33 respondents (22%) strongly agreed that there is resistance among customers to adopting new payment technologies, while 51 respondents (34%) agreed. Thirty-seven respondents (24.7%) were neutral regarding customer acceptance, and a smaller number, 8 respondents (5.3%) and 4 respondents (2.7%), disagreed or strongly disagreed, respectively. The new payment mechanisms and technologies examined in this study include ATMs for withdrawals, transfers, and balance inquiries; mobile and internet banking for transfers, remittances, balance checks, and check orders; and POS systems for purchasing goods and services. Overall, the data show that approximately 56% of respondents perceive resistance among customers toward these technologies.

Cybersecurity is another significant challenge for the Commercial Bank of Ethiopia. Fifty-two respondents (35.7%) agreed that cybersecurity problems exist, while 43 respondents (28.7%) were neutral, indicating a lack of information regarding cybersecurity issues. Additionally, 33 respondents (22%) strongly agreed that cybersecurity problems are present. On the other hand, 18 respondents (12%) disagreed, and 8 respondents (5.3%) strongly disagreed about the existence of cybersecurity issues in the bank.

Electricity interruptions were identified as a critical obstacle affecting the smooth operation of electronic banking services. Seventy-four respondents (49.3%) strongly agreed that power interruptions pose serious challenges to day-to-day operations, particularly for automated services such as ATMs and POS terminals. Fifty-one respondents (34%) agreed, 9 respondents (6%) were neutral, and 5.3% and 5.4% of respondents disagreed or strongly disagreed, respectively, regarding the impact of power interruptions on electronic banking adoption.

Finally, the high installation cost of electronic banking technologies was also highlighted as a significant barrier. Fifty respondents (33.3%) agreed that the cost of implementing technologies such as ATMs, POS systems, and related infrastructure is high, while 46 respondents (30.7%) strongly agreed with this concern.

Findings Related to Resilience:

1. **Customer Awareness and Resistance**
    - Lack of awareness (53.3% agree; 32.7% strongly agree) and resistance to new payment technologies (56% perceive resistance) reduce the system's adaptability.
    - **Resilience strategy:** Customer education programs, workshops, and targeted communication campaigns can improve understanding and acceptance, increasing adaptive capacity.
2. **Cybersecurity Concerns**
    - 35.7% agree and 22% strongly agree that cybersecurity is a problem; 28.7% remain neutral.

- **Resilience strategy:** Strengthening cybersecurity protocols, continuous monitoring, and customer guidance can reduce vulnerabilities and improve trust.

3. **Electricity Interruptions**
   - 49.3% strongly agree and 34% agree that power outages disrupt electronic banking operations.
   - **Resilience strategy:** Investing in backup power solutions (generators, UPS) and operational redundancies ensures continuity of services.
4. **High Technology Costs**
   - 33.3% agree and 30.7% strongly agree that high installation costs hinder adoption.
   - **Resilience strategy:** Phased investments, cost-sharing partnerships, and adopting scalable technology can sustain growth despite financial constraints.

Figure 3. shows the main challenges affecting the adoption of electronic banking and new payment mechanisms in the Commercial Bank of Ethiopia include customer lack of awareness, resistance to new technology, cybersecurity concerns, electricity interruptions, and the high cost of technology installation.

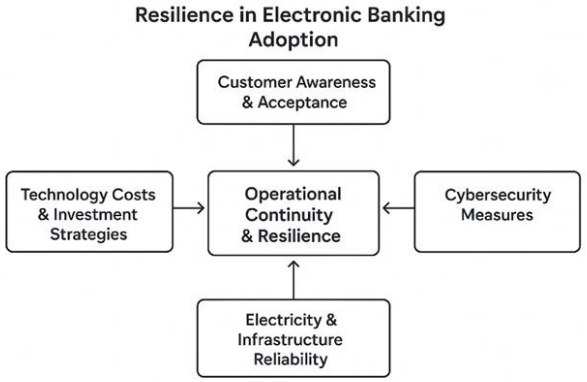

Fig. 3. Resilience in Electronic Banking Adoption
Source: *Adapted from Radović-Marković's previous work*

CONCLUSION

The study identifies several challenges affecting the adoption of electronic banking services in the Commercial Bank of Ethiopia, including customers' lack of awareness, resistance to new payment mechanisms, cybersecurity concerns, electricity interruptions, and the high cost of technology installation. Addressing these challenges requires building resilience within both the bank and its customers. Enhancing customer education, implementing robust cybersecurity measures, ensuring reliable power solutions, and adopting cost-effective technological infrastructure can strengthen the system's ability to adapt and maintain functionality despite disruptions.[11] By fostering resilience, the bank can not only improve the adoption and effective use of electronic banking services but also ensure continuity and sustainability in the face of future technological, operational, and environmental challenges.

REFERENCES

[1] Allen, H. and Hawkins, J. (2002), Electronic Trading in Wholesale Financial Markets: Its Wider Impact and Policy Issues. *Bank of England Quarterly Bulletin*, Available at SSRN: https://ssrn.com/abstract=708142

[2] Bahru, Y., 2022. *10 Challenges E-banking faces in Ethiopia.* [Online]
Available at: https://addisinsight.net/2022/06/21/10-challenges-e-banking-faces-in-ethiopia

[3] Daniel E (1999), "Provision of electronic banking in the UK and the Republic of Ireland".*International Journal of Bank Marketing*, Vol. 17 No. 2 pp. 72–83, doi: https://doi.org/10.1108/02652329910258934

[4] Hollnagel, E. (2011). *Resilience Engineering in Practice: A Guidebook.* Ashgate Publishing.

[5] Radović-Marković, M. (2021). *Organizational resilience in times of crisis: A new paradigm for business sustainability.* Journal of Engineering Management and Competitiveness.

[6] Radović-Marković, M., & Salamzadeh, A. (2022). *Resilience of SMEs during global crises: Lessons from COVID-19.* Journal of Entrepreneurship, Business and Economics.

[7] Radović Marković, M. (2020). RESILIENCE AND ENTERPRISE RECOVERY IN RESPONSE TO COVID 19 CRISIS. Journal of Entrepreneurship and Business Resilience, 3(2), 7–13. Retrieved from https://jebr.fimek.edu.rs/index.php/jebr/article/view/38

[8] Radović Marković, M. (2018). ORGANISATIONAL RESILIENCE AND BUSINESS CONTINUITY: THEORETICAL AND CONCEPTUAL FRAMEWORK. Journal of Entrepreneurship and Business Resilience, 1(1), 5–11. Retrieved from https://jebr.fimek.edu.rs/index.php/jebr/article/view/710

[9] Waliullah, M., Hossain George, Z., Hasan, M. T., et al. (2025). *Assessing the influence of cybersecurity threats and risks on the*

adoption and growth of digital banking: A systematic literature review.

[10] Akmel, M., Japee, G. & Ahmed, E., 2025. Future of Banking in the Digital Era: A Systematic Literature Review. *International Journal of Management, Public Policy and Research,* Volume 5, pp. 136-146

[11] Yashodha, G., Venkatesha,T.K.; & Roopa, Dr. (2025). The Future of Digital Banking and Financial Inclusion in 2025. International Journal of All Research Education and Scientific Methods. 13. 163-167. 10.56025/IJARESM.2025.1311250163.

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