THE IMPACT OF DIGITAL TRANSFORMATION ON CUSTOMER SERVICE IN MALAWI'S FINANCIAL SERVICES SECTOR: A CASE STUDY OF MZUZU CITY

By

JONASI OSWALD CHOKHOTHO *

GODFREY MPUNDU **

*-** DMI St. Eugene University, Zambia, Africa.

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ABSTRACT

This study investigates the impact of digital transformation on the financial services sector in Mzuzu City, Malawi. Using a mixed-methods approach, including surveys of 300 residents and interviews with key stakeholders, the study explores adoption rates, user preferences, challenges, and implications of digital financial services. Findings reveal high adoption rates among younger demographics, with mobile apps being the preferred channel. Key challenges include an age-based digital divide, security concerns, and infrastructure limitations. The study provides insights for policymakers and financial institutions to enhance financial inclusion and tailor digital strategies in developing economies.

Keywords: Digital Transformation, Financial Services Sector, Financial Inclusion, Digital Literacy, Customer Satisfaction Drivers, Customer Experience.

INTRODUCTION

The global financial landscape is undergoing a profound transformation driven by digital technologies. This digital revolution is reshaping how financial services are delivered and consumed, particularly in developing economies. In Malawi, a landlocked country in southeastern Africa, the financial sector has been gradually embracing digital technologies to overcome geographical barriers and extend financial services to previously underserved populations.

While extensive research has been conducted on digital transformation in developed markets, there is a notable gap in understanding its impact in emerging economies like Malawi. This study aims to bridge this gap by investigating the impact of digital transformations on the



financial services sector in Mzuzu City, the third-largest urban center in Malawi.

The significance of this study lies in its potential to inform policy decisions, guide financial institutions' strategies, and contribute to the broader understanding of digital financial services in developing economies. By focusing on Mzuzu City, this study provides a microcosm of the challenges and opportunities faced by secondary cities in Africa as they navigate the digital financial landscape.

Background

The rapid digitalization of financial services has become a global phenomenon, with significant implications for developing economies. In Malawi, this digital transformation presents both opportunities and challenges for financial inclusion and economic development. This study aims to investigate the impact of digital transformations on the financial services sector in Mzuzu City, Malawi's third-largest urban center.

The primary research objectives are to assess the adoption rates and usage patterns of digital financial

services among Mzuzu residents, identify the key drivers of and barriers to digital financial service adoption, evaluate the impact of digital transformation on financial inclusion, and explore the challenges faced by financial institutions in implementing digital solutions.

1. The Digital Landscape

Malawi's financial sector has undergone significant digital transformation, driven by a combination of technological advancements, regulatory support, and changing consumer preferences. As of 2022, mobile phone penetration in Malawi has reached 52%, with internet penetration at 30%, providing a growing foundation for digital financial services. The Reserve Bank of Malawi reports that mobile money transactions have grown from 7% of GDP in 2016 to 29% in 2020, indicating rapid adoption of digital payment solutions. Traditional banks have responded by launching mobile banking apps, USSD-based services, and online banking platforms, while mobile network operators have expanded their mobile money offerings to include savings, loans, and insurance products. The government's Malawi Digital Economy Strategy (2021) has set ambitious targets for digital financial inclusion, aiming to increase the proportion of adults with access to formal financial services from 34% in 2019 to 65% by 2025. However, challenges persist, including limited digital infrastructure in rural areas, low digital literacy among certain demographics, and concerns about cybersecurity. This evolving digital landscape forms the backdrop against which this study of Mzuzu City's financial services sector is conducted, offering insights into the opportunities and challenges of digital transformation in a secondary urban center of a developing economy.

1.1 National Bank of Malawi (NBM)

NBM, one of the largest commercial banks in Malawi, has implemented several digital initiatives:

 Mo626 Digital+: Launched in 2021, this enhanced mobile banking platform allows customers to perform a wide range of transactions, including bill payments, funds transfers, and loan applications. The platform's user-friendly interface aligns with our research findings on the importance of ease of use in driving adoption.

- NBM Payment Gateway: Introduced in 2022, this ecommerce solution enables businesses to accept online payments. This initiative supports our observation of increasing digital integration in Mzuzu's business sector.
- *Biometric ATMs:* NBM has begun rolling out ATMs with biometric authentication, addressing security concerns highlighted in our study.

These innovations directly address the key satisfaction drivers identified in this Mzuzu study: ease of use, security, and accessibility. They also cater to the preference for mobile solutions among younger demographics.

1.2 Standard Bank Malawi

Standard Bank has been at the Forefront of Digital Banking in Malawi.

- 247 Digital Branch: Launched in Lilongwe in 2020 and expanded to Mzuzu in 2022, these branches offer 24/7 access to digital banking services. This initiative aligns with this study's findings on the demand for accessible banking services.
- Unayo: Introduced in 2021, this mobile money platform allows users to send money, pay bills, and access loans. It's particularly targeted at the unbanked population, supporting this study's observations on digital services driving financial inclusion.
- Enterprise Direct: A digital platform for businesses, launched in 2022, offering real-time account management and transaction capabilities.
- Standard Bank's focus on 24/7 accessibility and mobile money solutions directly addresses the needs identified in this Mzuzu study, particularly in expanding financial access to previously underserved populations.

1.3 FDH Bank

FDH Bank has made significant strides in digital transformation.

• FDH Mobile: Relaunched in 2021 with enhanced

features, including cardless ATM withdrawals and instant loan applications. This aligns with this study's findings on the popularity of mobile banking apps.

- FDH WhatsApp Banking: Introduced in 2022, this service allows customers to perform basic banking transactions through WhatsApp. This innovative approach caters to the preference for mobile-based solutions identified in this study.
- Ufulu Digital Account: Launched in 2021, this digitalonly account targets youth and low-income individuals, supporting this study's observations on digital services driving financial inclusion.

FDH's focus on mobile and chat-based banking solutions aligns with the preferences of younger users in Mzuzu, while also addressing the need for accessible banking services for underserved populations.

1.4 NBS Bank

NBS Bank has implemented several digital initiatives:

- *EazyMobile 2.0:* Upgraded in 2021, this mobile banking app includes features like cardless withdrawals and bill payments. The focus on user-friendly interfaces aligns with this study's findings on ease of use as a key satisfaction driver.
- NBS EazyApp for SMEs: Launched in 2022, this app provides digital banking solutions specifically for small and medium enterprises, supporting the growing digital needs of Mzuzu's business community.
- Bank Pafupi Agents: This agent banking network complements digital services by providing cash-in and cash-out points, addressing the need for a hybrid approach identified in this study.

NBS Bank's initiatives demonstrate a balance between digital innovation and traditional touch points, aligning with this study's findings on the need for diverse channel options to serve different demographic groups in Mzuzu.

1.5 Airtel Money and TNM Mpamba

These mobile money providers have significantly impacted Malawi's financial landscape:

• Expanded Service Offerings: Both platforms have expanded beyond basic money transfers to include

bill payments, merchant payments, and savings products. This evolution supports this study's findings on the growing role of mobile money in financial inclusion.

- Interoperability: In 2021, Airtel Money and TNM Mpamba implemented interoperability, allowing cross-platform transactions. This development addresses the need for seamless financial services identified in this Mzuzu study.
- Micro-Loans and Insurance: Both platforms offer micro-credit and insurance products, expanding financial services access to previously underserved populations.

The evolution of mobile money services aligns closely with this study's findings on the preference for mobile-based financial solutions and their role in expanding financial inclusion in Mzuzu.

The digital transformations implemented by Malawi's financial institutions closely align with the needs and preferences identified in this Mzuzu City case study. Key themes include:

- Focus on mobile-first solutions, catering to the preferences of younger users.
- Emphasis on user-friendly interfaces and accessibility, addressing key satisfaction drivers.
- Expansion of digital services to include lending, investments, and insurance, supporting greater financial inclusion.
- Implementation of enhanced security measures to address user concerns.
- Adoption of innovative approaches like chat banking and digital-only accounts to reach new user segments.

2. Literature Review

2.1 Theoretical Framework

The study of digital transformation in financial services is underpinned by several theoretical frameworks:

• Financial Inclusion Theory: This theory posits that access to a wide range of financial services is crucial for individuals and businesses to participate in the

modern economy (Demirguc-Kunt et al., 2018). Digital financial services are seen as a key enabler of financial inclusion, particularly in developing economies.

- Innovation Diffusion Theory: Developed by Rogers (1962), this theory explains how, why, and at what rate new ideas and technologies spread. It is particularly relevant in understanding the adoption patterns of digital financial services across different demographic groups.
- Technology Acceptance Model (TAM): Proposed by Davis (1989), TAM suggests that perceived usefulness and ease of use are primary factors in technology adoption. This model has been widely applied in studies of digital banking adoption.

The digital transformation sweeping across industries, particularly the financial services sector, has profoundly reshaped customer service delivery and experiences. As financial institutions embrace digital (banking) channels such as mobile applications, online self-service portals, and conversational Al like chatbots, they aim to enhance efficiency, accessibility, and customer convenience (Grozea & Troancă, 2023; Shaikh & Karjaluoto, 2016). Mobile banking, in particular, has gained significant traction globally, empowering customers to conduct transactions and access financial services remotely, transcending the limitations of traditional branch banking (Baptista & Oliveira, 2015; Ukpabi et al., 2018).

Madusanka and Kumari (2021) and Hai et al. (2021) emphasized the challenges associated with digital transformation, especially in developing economies like Malawi. These challenges include ensuring robust data security and privacy measures, building customer trust in digital systems, and addressing the digital divide that can hinder financial inclusion for underserved populations (Kshetri, 2021; Servon, 2008).

Thottoli et al. (2023) and Banda (2021) argued that successful digital transformation in the financial services sector requires a balanced approach that leverages cutting-edge technologies while maintaining personalized and human-centric customer service experiences. This sentiment is echoed by Brunetti et al. (2020) and Rossmann et al. (2020), who highlighted the importance of upskilling and adapting customer service personnel to new service delivery models, ensuring a seamless integration of digital channels with existing processes.

Susanto et al. (2023) and Abuhasan and Moreb (2021) explored the impact of digital transformation on customer experience (CX) in the financial services sector. Their findings suggested that while digital channels have enhanced accessibility and convenience, there is a need for financial institutions to prioritize customer trust, data privacy, and personalized support to foster longterm customer satisfaction and loyalty (Lolemo & Pandya, 2024; Omarini, 2017).

Ahmad et al. (2020), Banda (2021), and Siddik and Kabiraj (2020) underscored the potential of digital transformation in driving financial inclusion in Malawi and other African countries. By leveraging mobile banking, digital wallets, and innovative fintech solutions, financial services can be extended to underserved populations, promoting economic empowerment and inclusive growth (Demirgüç-Kunt et al., 2018; Ozili, 2018).

Dahlberg et al. (2015) and Bhatt et al. (2014) delved into the role of digital transformation in reshaping traditional banking models, with the rise of branchless banking, digital-only banks, and the integration of financial services into digital ecosystems. This paradigm shift has implications for customer service strategies, as financial institutions must adapt to meet the evolving preferences and expectations of tech-savvy customers (Polyakov & Stepanova, 2020; Mughal & Ali, 2023).

Shanti et al. (2022) and Mughal and Ali (2023) highlighted the importance of agile organizational cultures and leadership in facilitating successful digital transformation in the financial services sector. Effective change management, employee engagement, and a customer-centric mindset are crucial for financial institutions to navigate the complexities of this transition while delivering exceptional customer experiences (Porfírio et al., 2024; Schuchmann & Seufert, 2015).

Makoza (2023) and Harb et al. (2022) provided insights into the adoption patterns and customer perceptions of digital banking channels, highlighting the need for customized strategies that address local cultural and socioeconomic factors. Van Niekerk and Phaladi (2020) and Banda (2021) explored the regulatory and policy implications of digital transformation in Malawi's financial services sector, emphasizing the importance of a supportive ecosystem that fosters innovation while safeguarding consumer interests.

2.2 Digital Transformation in Developing Economies

Studies in emerging markets have demonstrated that digital transformation can significantly reduce transaction costs, increase access to financial services, and enable new business models (Bhatt et al., 2022). The World Bank (2017) found that mobile money services have been particularly successful in Sub-Saharan Africa, with countries like Kenya leading the way.

However, challenges such as limited digital infrastructure, low digital literacy, and regulatory hurdles hinder the full realization of these benefits (Ozili, 2018). In Malawi specifically, a study by the Malawi Communications Regulatory Authority (MACRA, 2018) highlighted the urban-rural digital divide as a significant challenge to widespread adoption of digital services.

2.3 Financial Services Landscape in Malawi

Malawi's financial sector has been evolving rapidly. The Reserve Bank of Malawi (2020) reported a significant increase in mobile money transactions, growing from 7% of GDP in 2016 to 29% in 2020. However, overall financial inclusion remains low, with only 34% of adults having access to formal financial services as of 2019.

The government of Malawi has recognized the potential of digital financial services to drive financial inclusion. The Malawi Digital Economy Strategy (Malawi Government, 2021) outlined plans to leverage digital technologies to enhance access to financial services, particularly in rural areas.

3. Research Methodology

This study adopts a mixed methods approach to explore the impact of digital transformation on customer service within Malawi's financial services sector, focusing on Mzuzu City. The study is conducted in two main phases: qualitative and quantitative. The qualitative phase includes in-depth interviews with key stakeholders such as bank managers, customer service representatives, and IT professionals in Mzuzu City. These interviews aim to uncover perceptions, challenges, and experiences related to the integration of digital technologies in customer service. The data collected is subjected to thematic analysis to identify key patterns and insights. The quantitative phase involves the distribution of structured surveys to a broader audience, including bank customers and employees, to measure the effectiveness and customer satisfaction levels of digital service channels. Statistical tools, such as correlation and regression analysis, are used to analyze the survey data, determining the relationship between digital transformation initiatives and customer service outcomes. The study employs a case study approach to provide detailed insights into specific instances of digital transformation in customer service within selected financial institutions in Mzuzu.

3.1 Data Collection Methods

- Quantitative Survey: A structured questionnaire was administered to 300 respondents in Mzuzu City. The survey captured data on demographics, digital service usage patterns, preferences, satisfaction levels, and perceived challenges.
- Qualitative Interviews: Semi-structured interviews were conducted with 15 key stakeholders, including representatives from banks, mobile network operators, fintech companies, and regulatory bodies.
- Secondary Data Analysis: Data from reports by the Reserve Bank of Malawi, MACRA, and other relevant institutions were analyzed to provide context and support primary data findings.

3.2 Sampling

Survey respondents were selected using a convenience sampling method, stratified to ensure representation across different age groups, genders, and education levels. Interview participants were selected purposively based on their roles in the financial services sector.

3.3 Data Analysis

Quantitative data were analyzed using SPSS, employing descriptive statistics, cross-tabulations, correlation analyses, and multiple regression. Qualitative data were analyzed using thematic analysis to identify key themes and insights.

3.4 Ethical Considerations

The study adhered to ethical research principles, including informed consent, confidentiality, and data protection. Approval was obtained from the relevant ethics committee before commencing data collection.

4. Case Study: Mzuzu City, Malawi

4.1 Demographic and Economic Profile

Mzuzu City, located in Northern Malawi, has a population of approximately 220,000 as of 2022. It serves as the administrative and economic hub for the Northern Region. The city's economy is primarily based on agriculture, small-scale manufacturing, and services.

4.2 Digital Infrastructure

Mobile phone penetration in Mzuzu has grown rapidly, reaching 80% in 2022. However, internet usage remains relatively low at 30%, primarily due to high data costs and limited fixed broadband infrastructure. The city has seen improvements in 4G coverage, with major mobile operators expanding their networks.

4.3 Financial Services Landscape

Mzuzu hosts branches of major commercial banks, microfinance institutions, and a growing number of mobile money agents. Financial institutions have implemented various digital initiatives, including:

- Mobile Banking Apps
- USSD-Based Services
- Agent Banking Networks
- Integration With Mobile Money Platforms

These efforts aim to expand financial access in a region where traditional banking infrastructure is limited.

5. Data Analysis and Discussion

5.1 Adoption Rates and Usage Patterns

Survey results revealed high adoption rates of digital

financial services in Mzuzu City, with 70% of respondents using such services at least weekly. The breakdown of preferred channels is

- Mobile Banking Apps: 55%
- USSD Services: 25%
- Internet Banking: 20%

These findings indicate a strong preference for mobilebased solutions, likely due to the high mobile phone penetration in the city.

5.2 Demographic Factors

A notable age-based digital divide emerged from the data:

- 18-34 Age Group: Strong preference for mobile apps (70% usage)
- 35-54 Age Group: Mixed preference, with higher USSD usage (40%)
- 55+ Age Group: Preference for USSD and traditional channels (60%)

Education level also correlated with digital service adoption, with higher education levels associated with increased use of mobile apps and internet banking.

5.3 Satisfaction Drivers

Multiple regression analysis revealed the factors as significant predictors of overall satisfaction with digital services:

- Ease of Use ($\beta = 0.45$, p < 0.001)
- Security Perception ($\beta = 0.30$, p < 0.001)
- Accessibility ($\beta = 0.25, p < 0.001$)

These findings align with the Technology Acceptance Model, highlighting the importance of user-friendly interfaces and robust security measures in driving adoption and satisfaction.

5.4 Impact on Financial Inclusion

The study found that digital transformation has had a positive impact on financial inclusion in Mzuzu City:

- 40% of respondents reported accessing financial services for the first time through digital channels.
- 60% stated that digital services had increased their frequency of financial transactions.

• 35% reported using digital channels to access credit or savings products.

These findings suggest that digital financial services are playing a crucial role in expanding access to formal financial services in Mzuzu.

5.5 Challenges and Barriers

Despite the positive trends, several challenges were identified:

- *Digital Literacy:* 30% of respondents, particularly older adults and those with lower education levels, reported difficulty in using digital financial services.
- Network Reliability: 45% of users experienced issues with network connectivity, affecting their ability to complete transactions.
- Security Concerns: While 70% of respondents reported being satisfied with digital services, 50% expressed concerns about the security of their financial data and transactions.
- Regulatory Environment: Interviews with stakeholders revealed challenges in navigating the regulatory landscape, particularly for new fintech entrants.

5.6 Institutional Perspectives

Interviews with financial institution representatives highlighted several key points:

- Digital channels have significantly reduced operational costs.
- There's a growing focus on partnerships between banks and fintech companies.
- Institutions are investing in cybersecurity to address customer concerns and regulatory requirements.
- There's a need for continued investment in customer education and support.

6. Implications and Recommendations

6.1 For Financial Institutions

- Tailored digital strategies can be developed for different age groups, balancing innovative mobile solutions with user-friendly traditional channels.
- Investments can be made in cybersecurity

infrastructure, while customers can be educated on safe digital banking practices.

- Intuitive user interfaces can be created to enhance ease of use.
- Collaborations with fintech companies can be pursued to leverage innovative technologies and reach underserved segments.

6.2 For Policymakers

- Investments can be made in digital infrastructure to improve internet connectivity and reliability.
- Policies can be implemented to reduce the cost of data and smartphones, enhancing digital access.
- A conducive regulatory environment can be developed to encourage innovation while ensuring consumer protection.
- Support can be provided for digital literacy programs, particularly targeting older adults and rural populations.

6.3 For Future Research

- The impact of digital financial services on rural areas surrounding Mzuzu can be explored.
- The role of agent banking networks in complementing digital services can be investigated.
- Longitudinal studies can be conducted to track changes in adoption patterns and financial inclusion over time.

Conclusion

This study demonstrates that digital transformation is significantly impacting the financial services sector in Mzuzu City, driving increased financial inclusion and changing how customers interact with financial institutions. The high adoption rates of digital services, particularly among younger demographics, suggest a promising future for digital financial services in the region.

However, the this study also highlights critical challenges, including the digital divide, infrastructure limitations, and security concerns, which must be addressed to ensure equitable access to financial services.

The findings from Mzuzu City provide valuable insights that can be applied to other secondary cities in Malawi and

similar developing economies. By addressing the identified challenges and leveraging the opportunities presented by digital transformation, Malawi can accelerate its journey towards greater financial inclusion and economic development.

Limitations of this study include its focus on urban populations and reliance on convenience sampling. Future research could explore rural areas and employ more representative sampling methods to provide a comprehensive picture of digital transformation in Malawi's financial sector.

As Malawi continues to embrace digital financial services, it is crucial for all stakeholders, financial institutions, policymakers, technology providers, and consumers, to work collaboratively to create an inclusive, secure, and innovative digital financial ecosystem.

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ABOUT THE AUTHORS

Jonasi Oswald Chokhotho, DMI St. Eugene University, Zambia, Africa.

Godfrey Mpundu, DMI St. Eugene University, Zambia, Africa.