African Journal of Emerging Issues

Peer reviewed | Double blind | Interdisciplinary

African Journal of Emerging Issues (AJOEI)
Online ISSN: 2663 - 9335
Available at: https://ajoeijournals.org

FINANCE

EFFECT OF FINANCIAL INNOVATION ON FINANCIAL INCLUSION IN MICRO FINANCE INSTITUTIONS IN GULU DISTRICT, UGANDA

[1]William Wairegi Mwago, [2]Dr. Stephen Kanini Ndung'u & [3]Peter Ontere Nyamira
[1,2&3]St. Paul's University, School of Business

[*]Email of the corresponding author: mbalmr403121@spu.ac.ke; williamwago@outlook.com

Publication Date: November 2024

ABSTRACT

Purpose of the Study: The purpose of the study was to examine the impact of financial innovations on financial inclusion within microfinance institutions (MFIs) in Gulu District, Uganda, specifically focusing on the roles of agency banking, automated teller machines (ATMs), mobile financial services, and digital payments.

Methodology: The study employed an explanatory research design with a multiple regression model. The sample consisted of 85 respondents from registered microfinance institutions in Gulu District, representing managers, technical staff, and agents. Data were collected using structured questionnaires and analysed through both descriptive and inferential statistics, including Pearson correlation and multiple regression analysis. Reliability was validated through Cronbach's Alpha and various diagnostic tests including Variance Inflation Factor, Breusch-Pagan, and Durbin-Watson tests.

Findings: The study established that agency banking and mobile financial services significantly enhanced financial inclusion by extending access points and reducing barriers for rural communities, with positive correlation coefficients of 0.30 ($p = 0.01$) and 0.28 ($p < 0.01$) respectively. However, ATMs showed limited effectiveness with only a marginal improvement ($\beta = 0.15$, $p = 0.04$) in financial inclusion, primarily due to operational limitations and high costs in rural settings. Digital payment services demonstrated mixed results, improving transaction convenience but facing adoption challenges due to cost constraints.

Conclusion: The study concludes that financial innovations, particularly agency banking and mobile financial services, play a pivotal role in advancing financial inclusion in Gulu District. These innovations effectively address critical barriers such as physical access and affordability, thus extending services to rural populations. However, the limited impact of ATMs and cost-related challenges in digital payment services highlight areas requiring strategic intervention for improved effectiveness in rural contexts.

Recommendations: The study recommends that financial institutions should prioritize the expansion of agency banking and mobile financial services in rural areas, supported by comprehensive training programs and robust security measures. Additionally, stakeholders should develop cost-effective solutions for digital payment services, implement targeted financial literacy programs, and establish regulatory frameworks that promote innovation while ensuring consumer protection. It is also recommended to establish a coordinated approach to financial inclusion initiatives through centralized monitoring systems and regular stakeholder engagement.

Keywords: *Financial innovation, financial inclusion, micro finance institutions, Uganda*

INTRODUCTION

Financial inclusion represented a fundamental driver of economic growth and development, particularly in developing nations where significant portions of the population remained excluded from essential financial services (Demirguc-Kunt et al., 2018). The transformation of financial services through innovation had become crucial for economic advancement and poverty reduction (Allen et al., 2016), especially in developing economies where traditional banking infrastructure was limited. Research by Mader (2018) demonstrated that financial inclusion empowered individuals by facilitating savings, investment, and risk management, while also promoting better health, education, and entrepreneurial opportunities for individuals and small businesses (Demirguc-Kunt et al., 2018; Allen et al., 2016; Mader, 2018).

In Uganda, the financial sector had experienced remarkable transformation through innovations designed to expand access to financial services, with microfinance institutions (MFIs) emerging as central players in reaching underserved populations (Nabatanzi, 2021). These institutions, as noted by Chinoda and Kwenda (2019), had gradually improved financial inclusion through collaborative efforts between governmental institutions and private sector actors, demonstrating significant progress in expanding financial access to previously excluded populations. The integration of innovative financial solutions, according to Hasan et al. (2021), had particularly benefited rural communities, though challenges persisted in achieving comprehensive coverage (Nabatanzi, 2021; Chinoda & Kwenda, 2019; Hasan et al., 2021).

The emergence of innovative financial technologies had revolutionized service delivery in the financial sector, particularly through the introduction of new financial products, services, and processes that enhanced efficiency, accessibility, and affordability of financial transactions (Akkaya, 2019). Kim et al. (2018) observed that these innovations had transformed traditional banking by enabling financial institutions to serve previously unreachable demographics, while simultaneously reducing operational costs and expanding service reach. The democratization of financial services through technology, as studied by Pelletier et al. (2019), had created new opportunities for financial inclusion, especially in areas where traditional banking infrastructure was limited (Akkaya, 2019; Kim et al., 2018; Pelletier et al., 2019).

In Gulu District, like many other rural areas, the implementation of agency banking and mobile financial services had significantly improved financial accessibility (Mutua, 2018), though challenges persisted due to infrastructural limitations, regulatory hurdles, and low financial literacy levels. Maliwichi et al. (2021) noted that the adoption of digital financial services had shown promising results in bridging the financial inclusion gap, particularly in remote areas where traditional banking infrastructure was sparse. However, according to Byegon et al. (2019), the effectiveness of these innovations varied depending on factors such as infrastructure development, digital literacy, and regulatory support (Mutua, 2018; Maliwichi et al., 2021; Byegon et al., 2019).

Hence, the study assessed the role of various financial innovations in enhancing financial inclusion, focusing specifically on agency banking services, ATMs, mobile financial services, and digital payment solutions. The research examined how these innovations collectively impact ease of use, affordability, and overall access to financial services, particularly in rural and underserved areas. Understanding these relationships was crucial for developing effective strategies to promote financial inclusion not only in Uganda but also in similar developing economies, where financial exclusion remained a significant barrier to economic development.

LITERATURE REVIEW

Theoretical Framework

This study draws from the Schumpeter Theory of Innovation, the Agency Theory, and the Diffusion of Innovation Theory. These frameworks collectively underscore the transformative role of innovation in expanding economic access and the adoption dynamics that can either facilitate or hinder financial accessibility. The theoretical foundations of financial innovation are grounded in the Schumpeter Theory of Innovation, which views innovation as a driving force behind economic growth and development. Schumpeter posits that financial innovations stimulate competition and efficiency, resulting in widespread benefits for consumers, especially those in emerging markets (Schumpeter, 1939). The Agency Theory also applies, as it elucidates the dynamic between financial institutions and third-party agents who extend banking services to clients. By aligning the interests of financial providers with those of agents, agency banking can effectively bridge the accessibility gap (Jensen & Meckling, 1976).

Empirical Evidence

Financial inclusion is broadly defined as the process of ensuring access to affordable, timely, and adequate financial services to underserved populations, particularly low-income individuals, rural communities, and other marginalized groups. According to Demirguc-Kunt et al. (2018), financial inclusion is a crucial driver of economic development and poverty reduction, as it empowers individuals by facilitating savings, investment, and risk management. The World Bank's Global Findex Database underscores the benefits of financial inclusion in advancing social and economic outcomes, including better health, education, and entrepreneurial opportunities for individuals and small businesses. However, many rural populations, especially in sub-Saharan Africa, remain unbanked, necessitating innovations that can bridge this gap (Allen et al., 2016).

In Uganda, financial inclusion has gradually improved due to efforts from both governmental institutions, such as the Bank of Uganda, and private sector actors, including microfinance institutions and fintech companies (Nabatanzi, 2021). Despite these gains, challenges persist due to infrastructural limitations, regulatory hurdles, and low financial literacy levels. In this context, financial innovations are seen as pivotal in scaling financial services to reach rural and underserved populations effectively.

Financial innovation refers to the introduction of new financial products, services, or processes that enhance the efficiency, accessibility, and affordability of financial transactions (Akkaya, 2019). Innovations in financial technology (fintech) have transformed traditional banking, enabling financial institutions to serve previously unreachable demographics. For instance, mobile banking and agency banking have reduced dependency on physical bank branches, allowing clients to access services remotely and at lower costs. As Mader (2018) suggests, financial innovations play an instrumental role in democratizing access to financial services by lowering transaction costs and increasing service reach. Existing literature highlights the positive influence of financial innovations on financial inclusion, particularly in remote areas. Mobile financial services, for instance, have enabled secure, cost-effective transactions in regions lacking traditional banking infrastructure. Similarly, agency banking has increased outreach by establishing convenient access points in underserved areas. However, challenges such as transaction costs, digital literacy, and infrastructural limitations persist, affecting adoption rates.

Agency banking Service and Financial inclusion

Agency banking, which enables banks and MFIs to offer services through third-party agents, has emerged as a cost-effective method of delivering financial services to remote areas (Mutua, 2018). Studies by Allen et al. (2016) indicate that agency banking not only expands service reach but also enhances customer trust by establishing service points within communities. Nabatanzi (2021) notes that agency banking is particularly effective in sub-Saharan Africa, where infrastructure constraints make traditional branch-based banking challenging. Research from Kenya and Nigeria supports these findings, showing that agency banking has increased customer deposits and transaction volumes while reducing the need for physical bank visits (Byegon et al., 2019). However, challenges persist in agency banking. Issues such as agent liquidity, transaction limits, and regulatory compliance can hinder its effectiveness (Chinoda & Kwenda, 2019). Moreover, the success of agency banking heavily depends on regulatory support and financial literacy among users, as many rural clients may lack familiarity with financial services (Maliwichi et al., 2021). Consequently, efforts to boost agency banking in Uganda must consider these factors to ensure scalability and sustainability.

Digital Payment Service, Mobile Financial Services and Financial Inclusion

Digital payment services, including online banking, mobile money, and digital wallets, are increasingly becoming essential tools for financial inclusion. These services offer a flexible alternative to cash-based transactions, enabling users to transfer money, pay bills, and access credit digitally. Digital payment systems are particularly beneficial for micro, small, and medium enterprises (MSMEs), as they facilitate business transactions and improve cash flow management (Hasan et al., 2021). Mobile financial services, particularly mobile money, have been instrumental in promoting financial inclusion across Africa. Mobile financial services allow users to conduct transactions, save, and access credit using mobile devices, making them a convenient option for rural populations (Pelletier et al., 2019). The rise of mobile money services, as evidenced by platforms such as M-Pesa in Kenya, demonstrates the potential of mobile financial services to provide widespread financial access (Kim et al., 2018).

Research indicates that digital payment and mobile financial services significantly improve financial inclusion by offering accessible, affordable, and reliable services. Chinoda and Kwenda (2019) highlight that mobile money adoption correlates with increased savings rates and reduced reliance on informal financial systems, thus offering a secure alternative for the unbanked. However, mobile financial services face challenges, including transaction costs, security concerns, and digital literacy gaps. Effective mobile financial service implementation in Uganda thus requires addressing these challenges to ensure broad adoption.

However, digital payments and mobile financial services are not without limitations. While they enhance transaction convenience, affordability remains a concern for many low-income users (Lyimo & Mbesigwe, 2022). Studies show that transaction fees can deter low-income individuals from adopting digital payments fully, and digital illiteracy may further impede accessibility (Mugenda & Mugenda, 2013). For digital payment services to contribute meaningfully to financial inclusion in Uganda, regulatory bodies and financial institutions must address affordability and financial literacy barriers.

Automated Teller Machines (ATMs) and Financial Inclusion

While ATMs have long been a staple of modern banking, their impact on financial inclusion in developing regions has been mixed. ATMs are advantageous in urban centers, where they provide convenient, round-the-clock access to financial services. However, in rural areas, ATMs are often limited by high operational costs, low transaction volumes, and poor infrastructure (Omondi & Otieno, 2023). Research by Akileng and Otieno (2018) shows that in rural sub-Saharan Africa, ATMs often have limited reach and are underutilized compared to mobile and agency banking services. Studies reveal that ATMs contribute modestly to financial inclusion, primarily by facilitating cash withdrawals in semi-urban areas (Nabatanzi, 2021). However, due to maintenance costs and the low return on investment in rural areas, many MFIs and banks are focusing on more scalable solutions, such as agency banking and mobile financial services, to meet the needs of remote communities.

RESEARCH METHODOLOGY

The study employed an explanatory research design with a multiple regression model to examine the impact of financial innovations on financial inclusion in Gulu District, Uganda.

The sample consisted of 85 respondents from registered microfinance institutions (MFIs) in the district, representing a diverse range of roles within these institutions. Data were collected using structured questionnaires targeting MFI stakeholders, including managers, technical staff, and agents. A structured questionnaire served as the primary data collection instrument, collecting both quantitative and qualitative data. Key independent variables included agency banking, ATMs, mobile financial services, and digital payment services, while the dependent variable, financial inclusion, was measured in terms of accessibility, affordability, and usage. The study's operationalization of variables aligned each financial innovation with measurable indicators, allowing for a comprehensive analysis.

Data analysis included descriptive statistics to understand general trends and inferential statistics, such as Pearson correlation and multiple regression analysis, to assess the strength and significance of relationships between variables, while diagnostic tests (Variance Inflation Factor, Breusch-Pagan, and Durbin-Watson tests) ensured the robustness and reliability of the model. Reliability was further validated through Cronbach's Alpha, ensuring internal consistency in the survey responses. This rigorous methodological framework enables a thorough exploration of the relationship between financial innovations and financial inclusion, providing valuable insights for policymakers and financial institutions.

FINDING AND RESULTS

Agency Banking Services

Agency banking emerged as a major driver of financial inclusion, particularly in rural areas. Respondents noted that agency banking services increased customer deposits, expanded customer reach, and enhanced access points across Gulu District. The regression analysis yielded a beta coefficient of 0.30 ($p = 0.01$), indicating that for every unit increase in agency banking activities, financial inclusion improved by 30%. The statistically significant p-value demonstrates that this impact is not due to chance and affirms agency banking's role in facilitating proximity to financial services, reducing travel time, and lowering barriers for rural populations.

Automated Teller Machines (ATMs)

ATMs showed limited effect on financial inclusion, with only 35% of respondents reporting significant improvements in transaction processes. High operational costs, combined with limited ATM access in rural areas, restricted ATM usage. The regression analysis found a beta coefficient of 0.15 ($p = 0.04$), indicating a marginal positive effect on financial inclusion. These findings align with previous studies indicating that ATMs are less effective in low-infrastructure settings, underscoring the need for more accessible alternatives.

Mobile Financial Services and Digital Payments

The study's findings reveal that digital payment and mobile financial services collectively play a transformative role in advancing financial inclusion within microfinance institutions (MFIs) in Gulu District, Uganda. These services, characterized by enhanced accessibility, affordability, and transaction efficiency, have significantly improved financial access for underserved and rural populations. Mobile financial services received overwhelmingly positive responses, with the majority of respondents rating them as "good" or "very good." These services were praised for their flexibility and cost-effectiveness, which allows users to overcome traditional barriers such as distance and high fees. The p-value for mobile financial services was statistically significant (**$p < 0.01$**), confirming a strong positive relationship with financial inclusion. Digital payment services were also beneficial but faced challenges related to cost, which could limit access for lower-income users.

The results confirm that digital payment and mobile financial services are effective tools for improving financial inclusion in Gulu District. They enable MFIs to reach a wider population, providing a convenient and affordable means for financial transactions. By addressing affordability concerns and enhancing digital literacy programs, these services have the potential to further embed financial inclusion in rural and underserved communities. These insights offer valuable guidance for policymakers and financial service providers aiming to strengthen financial ecosystems in similar settings.

CONCLUSION

The study concludes that agency banking services played a pivotal role in enhancing financial inclusion within microfinance institutions in Gulu District, Uganda. The implementation of agency banking demonstrated significant positive effects on financial accessibility, particularly in rural areas where traditional banking infrastructure was limited. The availability of agency banking outlets within communities not only increased convenience but also reduced dependency on traditional bank branches, making financial services more accessible to previously underserved populations. The proximity and cost-effectiveness of agency banking emerged as key drivers of adoption, with data showing increased transaction volumes and customer deposits through agency banking channels. This transformation in service delivery effectively bridged the gap between formal financial institutions and rural communities, marking a significant step toward comprehensive financial inclusion.

In addition, it is concluded that mobile financial services emerged as a transformative force in promoting financial inclusion within the study area. The research findings revealed strong positive correlations between mobile financial services and various measures of financial inclusion, including accessibility, affordability, and usage. Mobile financial services demonstrated remarkable adaptability to local needs and contexts, with high acceptance rates among users across different demographic segments. The technology's ability to facilitate remote transactions, coupled with its user-friendly interface, effectively addressed traditional barriers to financial access. The success of mobile financial services in the region highlighted their potential as a cornerstone of financial inclusion strategies in rural areas.

Moreover, the study established that ATMs had limited effectiveness in promoting financial inclusion within Gulu District's rural areas. While ATMs served their purpose in urban centers, their impact in rural areas was constrained by various factors including high operational costs, infrastructure challenges, and maintenance requirements. The research revealed that ATM services, despite their technological sophistication, failed to adequately address the unique needs of rural populations, particularly in areas with limited infrastructure. This finding underscored the importance of context-specific solutions in promoting financial inclusion, rather than relying on conventional banking infrastructure.

Besides, digital payment services demonstrated mixed results in advancing financial inclusion objectives. While these services enhanced transaction convenience and increased transaction volumes, their effectiveness was hampered by cost considerations, particularly among low-income populations. The study revealed that digital payment systems, despite their technological advantages, faced adoption challenges related to affordability and digital literacy. The analysis showed that while digital payments held significant potential for advancing financial inclusion, their impact was moderated by cost barriers and infrastructure limitations.

Lastly, the comprehensive assessment of financial innovations revealed their collective impact on financial inclusion in Gulu District. The study demonstrated that while certain innovations, particularly agency banking and mobile financial services, significantly advanced financial inclusion objectives, others faced implementation challenges in rural contexts. The research highlighted the importance of adopting a multi-faceted approach to financial inclusion, one that considers local context, infrastructure limitations, and population needs. The findings underscored the need for targeted interventions that address both access and affordability concerns, while acknowledging the varying effectiveness of different financial innovations in rural settings.

RECOMMENDATIONS

The study recommends that financial institutions and policymakers should prioritize the expansion and strengthening of agency banking services in rural areas of Gulu District. This should include increasing the number of agencies banking outlets, providing comprehensive training programs for agents, implementing robust security measures, and establishing clear operational guidelines. Financial institutions should also consider offering incentives to agents who maintain consistent service quality and reach predetermined transaction volumes in rural areas. Additionally, regulatory bodies should develop frameworks that specifically address the unique challenges of agency banking in rural settings, while ensuring adequate consumer protection measures are in place.

In addition, it is recommended that mobile financial service providers should enhance their service offerings by developing more user-friendly interfaces, introducing local language options, and implementing tiered transaction fees based on user categories. Service providers should invest in expanding network coverage to remote areas, establish partnerships with local businesses to create a wider acceptance network, and introduce innovative products tailored to rural populations' needs. Furthermore, providers should implement comprehensive financial literacy programs specifically focused on mobile financial services usage, targeting both current and potential users in rural communities.

Moreover, microfinance institutions should reconsider their ATM deployment strategies in rural areas, focusing instead on alternative service delivery channels that better suit local contexts. Where ATMs are maintained, institutions should explore cost-sharing arrangements with other financial institutions to reduce operational costs, implement solar-powered ATMs to address power supply challenges, and introduce mobile ATM services for remote areas. Financial institutions should also consider developing hybrid solutions that combine ATM services with other delivery channels to maximize resource utilization.

Besides, stakeholders should develop and implement comprehensive strategies to make digital payment services more accessible and affordable for rural populations. This should include introducing simplified registration processes, reducing transaction fees for basic services, and implementing interoperability between different payment platforms. Financial institutions should also consider developing offline payment solutions for areas with limited internet connectivity, establishing digital payment education centers in rural areas, and creating specialized digital payment products for small businesses and farmers.

Also, regulatory authorities should establish a comprehensive policy framework that promotes innovation while ensuring consumer protection in financial services. This framework should include guidelines for data protection, dispute resolution mechanisms, and minimum service standards for all financial service providers. The framework should also address issues of interoperability between different financial services platforms, pricing regulations for basic financial services, and requirements for financial institutions to serve rural areas.

Further, it is recommended that stakeholders should establish a coordinated approach to financial inclusion initiatives, including creating a centralized database for monitoring financial inclusion progress, developing standardized performance metrics for financial innovations, and implementing regular impact assessments. Financial institutions should be required to set and meet specific targets for rural financial inclusion, while government agencies should provide appropriate support through infrastructure development, tax incentives, and capacity-building programs. Regular stakeholder forums should be established to share experiences, address challenges, and develop collaborative solutions for advancing financial inclusion in rural areas.

REFERENCES

Allen, F., Demirguc-Kunt, A., Klapper, L., & Martinez Peria, M. S. (2016). The foundations of financial inclusion: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation, 27*, 1-30. https://doi.org/10.1016/j.jfi.2015.12.001

Akkaya, A. (2019). Financial innovation and its impact on economic growth: Evidence from Turkish economy. *Economic Research, 30*(2), 1231-1242. https://doi.org/10.1080/1331677X.2019.1616560

Byegon, C., Kibet, L., & Kiprop, J. (2019). Agency banking and financial inclusion in Kenya: Evidence from commercial banks. *African Journal of Business Management, 13*(16), 551-559. https://doi.org/10.5897/AJBM2019.8797

Chinoda, T., & Kwenda, F. (2019). The role of mobile money in promoting financial inclusion among the marginalized: A case study of Zimbabwe. *Journal of African Business, 20*(2), 256-273. https://doi.org/10.1080/15228916.2019.1584216

Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The Global Figure index Database 2017: Measuring financial inclusion and the fintech revolution*. World Bank. https://doi.org/10.1596/978-1-4648-1259-0

Hasan, M., Fatima, J., & Shaikh, A. (2021). Digital financial services and financial inclusion: Empirical evidence from emerging economies. *Emerging Markets Finance & Trade, 57*(2), 679-694. https://doi.org/10.1080/1540496X.2020.1717479

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics, 3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Kim, J., Yoo, S., & Park, Y. (2018). Mobile payment and financial inclusion: A case of M-Pesa in Kenya. *Journal of Information Technology & Politics, 15*(2), 155-170. https://doi.org/10.1080/19331681.2018.1449707

Lyimo, G., & Mbesigwe, A. (2022). Challenges of digital payment adoption among low-income earners in Tanzania. *East African Business Journal, 3*(1), 112-127.

Mader, P. (2018). Contested meanings of financial inclusion in global development. *Third World Quarterly, 39*(1), 34-52. https://doi.org/10.1080/01436597.2017.1368384

Maliwichi, L., Chikoko, L., & Chivhanga, S. (2021). Financial literacy and agency banking adoption in rural Zimbabwe. *Journal of Finance and Accounting, 9*(2), 88-97. https://doi.org/10.12691/jfa-9-2-4

Mugenda, O. M., & Mugenda, A. G. (2013). *Research methods: Quantitative and qualitative approaches*. Acts Press.

Mutua, A. (2018). Digital financial systems and financial inclusion. *African Journal of Finance, 7*(2), 112-127.

Nabatanzi, R. (2021). The role of agency banking in financial inclusion. *Journal of Microfinance and Development, 6*(1), 67-83.

Omondi, G., & Otieno, M. (2023). Challenges and prospects of ATM adoption in financial inclusion. *East African Financial Journal, 12*(3), 144-158.

Pelletier, A., Ndiaye, B., & Tano, S. (2019). Mobile money and economic inclusion in sub-Saharan Africa. *Journal of Development Economics, 140*, 120-131. https://doi.org/10.1016/j.jdeveco.2019.05.004