



THE CO-OPERATIVE UNIVERSITY OF KENYA

Proceedings  
of The Eighth Co-operative  
University of Kenya (CUK)  
Annual Scientific Conference &  
The Third Co-operative Movement  
stakeholders' Conference,

"THE JOINT CO-OPERATIVE CONFERENCE 2025"

ON

Co-operatives Build a  
Better World: Re-energizing  
the Collective Power of  
Co-operatives in Africa

July 22<sup>nd</sup>-24<sup>th</sup>, 2025

Isaac K. Nyamongo - Editor

# **EXPLORING THE USAGE AND ADOPTION OF FINANCIAL TECHNOLOGIES BY SACCOS MEMBERS: A STUDY OF FINTECH DEPLOYMENT IN SAVING AND CREDIT CO-OPERATIVES.**

Shadrack Stephen Madila

Information Communication Technology Department, Moshi Co-operative University, Email address: [shadrack.madila@mocu.ac.tz](mailto:shadrack.madila@mocu.ac.tz)

**ABSTRACT:** The adoption and usage of financial technologies (fintech) in Savings and Credit Cooperatives (SACCOS) have become increasingly relevant in enhancing financial inclusion and service delivery. However, there remains a gap in understanding how SACCOS members interact with these technologies, the factors influencing their adoption, and the challenges they face. This study explores the deployment of fintech in SACCOS, focusing on usage patterns, adoption drivers, and barriers among members. The study employing a mixed-methods research design, the study integrates qualitative insights from key informant interviews with quantitative data collected through structured surveys. The analysis is guided by the technology acceptance model (TAM), the study finds that all respondents they are aware of the fintech services provided by their SACCOS. Most of the fintech tools used by members are loan application tools, digital saving platforms as well as SMS notifications for transaction. Members face challenges like poor internet connectivity, high transactions cost and lack of trust in digital transactions. Majority of the SACCOS members are satisfied with the fintech tools they are using. Final the study recommends that the SACCOS management to educate members on the usage of fintech tools and to add more fintech tools to be used by members.

**Keywords:** Fintech, SACCOS, members

## **INTRODUCTION**

Savings and Credit Cooperative Societies (SACCOS) are member-owned financial institutions that provide savings and credit services to their members, primarily in underserved or low-income communities. Established on the principles of self-help, mutual benefit, and democratic control, SACCOS play a critical role in mobilizing savings and offering affordable credit to individuals who often lack access to formal banking systems (Birchall, 2013). The role of SACCOS in advancing financial inclusion cannot be overstated. By offering essential financial services such as microcredit, savings, insurance, and payment platforms, SACCOS contribute significantly to integrating financially excluded populations into the formal economy (World Bank, 2022). In recent years, the global financial sector has undergone rapid transformation with the emergence and expansion of Financial Technology (fintech). Fintech encompasses the use of innovative digital technologies to enhance and automate the delivery of financial services, promoting efficiency, accessibility, and financial inclusion (Arner, Barberis, & Buckley, 2016). This digital revolution is not limited to commercial banks and tech startups it is also influencing semi-formal financial institutions such as Savings and Credit Cooperative societies (SACCOS). As SACCOS strive to modernize and meet the evolving needs of their members, the integration of fintech has

become a strategic priority. Digital solutions enable SACCOS to automate core functions such as savings mobilization, loan disbursement, and member registration, thereby improving operational efficiency and member satisfaction (Kivuva, 2021). Additionally, mobile applications and online platforms allow SACCOS to reach underserved populations in rural and remote areas, enhancing financial inclusion. As SACCOS embrace digital transformation through fintech integration, it becomes increasingly important to understand how their members adopt and use these technologies. Despite the availability of digital platforms, many members may face barriers such as limited digital literacy, lack of trust in digital systems, or inadequate access to internet-enabled devices (Gomber, Kauffman, Parker, & Weber, 2018). Without a clear understanding of these factors, SACCOS risk investing in technologies that remain underutilized, thereby failing to achieve their intended goals of efficiency, outreach, and financial inclusion. This study will explore the adoption and usage of these fintech technologies to members of SACCOS.

## **LITERATURE REVIEW**

**Adoption of FinTech Technology by Financial Institutions:** The integration of Financial Technology (Fintech) into financial institutions has become a transformative force reshaping service delivery, customer engagement, and operational efficiency. Fintech encompasses innovations such as digital payments, blockchain, robo-advisory, peer-to-peer lending, and mobile banking, which are increasingly embedded within traditional financial systems (Arner, Barberis, & Buckley, 2016). The adoption process is influenced by a variety of internal and external factors, often analysed using models such as the Technology-Organization-Environment (TOE) framework and the Unified Theory of Acceptance and Use of Technology (UTAUT). According to Tornatzky and Fleischer (1990), organizational readiness, regulatory environment, and perceived technological benefits are key drivers of adoption. In the banking sector, for example, perceived competitive advantage and pressure from Fintech startups have accelerated digital transformation (Gomber et al., 2017). Several studies highlight both enablers and inhibitors of fintech adoption among financial institutions. Technological readiness, top management support, and customer demand have been found to facilitate successful integration (Zavolokina et al., 2016). Conversely, barriers such as legacy systems, cybersecurity risks, regulatory uncertainty, and resistance to change pose significant challenges. Furthermore, institutional trust, data privacy concerns, and infrastructure disparities affect adoption levels across different regions and institution types (Nicoletti, 2017). In emerging markets, the push for financial inclusion has made mobile-based and branchless banking solutions more attractive, yet the lack of digital literacy and robust legal frameworks remains a concern. The literature suggests that financial institutions adopting FinTech must not only invest in technology but also re-engineer processes, upskill personnel, and establish partnerships with FinTech firms to remain competitive and compliant in a dynamic financial ecosystem.

**Adoption of FinTech Technology Among SACCO Members:** The adoption of Financial Technology (FinTech) in Savings and Credit Cooperative societies (SACCOS) has emerged as a pivotal strategy for enhancing financial inclusion, operational efficiency, and member

engagement. Empirical studies across sub-Saharan Africa indicate a growing but uneven adoption of FinTech tools such as mobile banking, USSD services, and SACCOS specific apps. Factors such as digital literacy, trust in technology, age, and income level significantly influence usage patterns among SACCOS members (Nganga & Muturi, 2019). Trust plays a central role in SACCOS, given the long-standing reliance on interpersonal relationships and community ties. Moreover, the digital divide between urban and rural members continues to limit equitable access to FinTech innovations (Omondi & Jagongo, 2020). While some SACCOS have successfully integrated mobile platforms and digital loan management systems, others face resistance due to limited member awareness or inadequate ICT infrastructure. As such, effective FinTech adoption requires not only technological readiness but also a comprehensive strategy for member sensitization, capacity building, and policy support (Adelaja et al., 2024).

**Technology acceptance model:** This study adopts the technology acceptance model (TAM), originally developed by (Davis ,1989) to examine SACCOS members' adoption and usage of Fintech services. TAM uses two primary constructs perceived usefulness (PU) and perceived ease of use (PEOU) determine an individual's attitude toward using a new technology, which in turn influences their behavioural intention and actual system use. In the context of this study, perceived usefulness refers to the extent to which SACCOS members believe that using Fintech solutions will enhance their financial interactions and service access. Perceived ease of use denotes the degree to which members find these technologies simple, user-friendly, and convenient. By applying TAM, this research aims to understand not only the acceptance levels among SACCOS members but also the key motivational and technical factors influencing adoption. Several studies have employed TAM to explore FinTech adoption across various financial and cooperative sectors (Nganga & Muturi, 2019) investigated mobile banking adoption among SACCO members in Kenya using TAM constructs. They found that perceived usefulness, trust, and ease of use significantly influenced adoption, while demographic factors moderated these effects. (Kivuva, 2021) applied TAM to examine SACCO members' uptake of mobile applications. The study introduced social influence and technological infrastructure as additional variables impacting behavioural intention.

## **METHODOLOGY**

In this study quantitative and qualitative data were collected. The study involves selected SACCOS members from Dar es salaam and Kilimanjaro regions, these regions are rich of SACCOS, and they utilize much digital technologies in their operations. Data were collected using online KoboToolbox forms using open-ended questionnaires. A total of 107 completed and submitted the online survey. Convenience sampling was deployed to obtain the participants of the study as the questionnaire link was sent to the emails and WhatsApp profiles of the SACCOS members. Those felt convenient to participate fill and submit the questionnaires. The submitted data were prepared and analysed using SPSS version 27, descriptive and statistics were presented in forms of tables, frequencies and percentage.

## RESULTS

### 1.1 Respondents' information

Respondents Information		Respondents (n=107)	
		Frequency	Percentage
<b>Respondents gender</b>	Male	71	66%
	Female	36	34%
<b>Respondents age</b>	18-25	3	3%
	26-45	61	57%
	Above 45	43	40%
<b>Education level:</b>	Primary Education		
	Secondary education (A-level)	0	0%
	Diploma	11	11%
	Bachelor's degree	69	64%
	Postgraduate degree	27	25%

The study involved a total of **107 respondents**, providing a broad representation of SACCO members. In terms of **gender distribution**, the majority were male (**66%**, n=71), while females constituted **34%** (n=36). This gender composition may reflect broader trends in SACCO membership participation or accessibility among male and female members. Regarding **age**, the largest proportion of respondents (**57%**) fell within the **26–45 years** age bracket, followed by those **above 45 years (40%)**, and a small percentage (**3%**) aged between **18–25 years**. In terms of **educational background**, a significant portion of respondents held a **bachelor's degree (64%)**, while **25%** had attained **postgraduate qualifications**. Only **11%** held **diploma-level** education, and no respondents reported having completed A-level secondary education or less.

**Awareness and Usage of Fintech:** All 107 respondents indicated that they are aware of the FinTech services offered by their respective SACCOS. This suggests that the concept and availability of digital financial technologies such as mobile banking, online savings and loan applications, and digital payment platforms are well communicated and recognized among members.

**Fintech technology frequently used:** The study reveals that a variety of FinTech services are frequently utilized by members of SACCOS, reflecting a growing trend toward digital financial engagement within cooperative societies. Among the most used services are online loan applications 66%, which allow members to conveniently apply for credit without the need for physical visits to SACCOS offices. This has streamlined the loan processing experience, reducing both time and administrative burdens. Mobile banking applications are also widely adopted 31%, enabling members to access their accounts, transfer funds, and manage savings through their smartphones enhancing financial accessibility and convenience. Additionally, the use of USSD-based banking platforms, 23% has proven particularly useful for members without internet-enabled devices, as these services offer basic transaction capabilities through simple mobile codes. SMS transaction notifications 53%, further

enhance transparency and trust by keeping members informed of their account activities in real-time. Figure 1 summarized the respondent's responses.

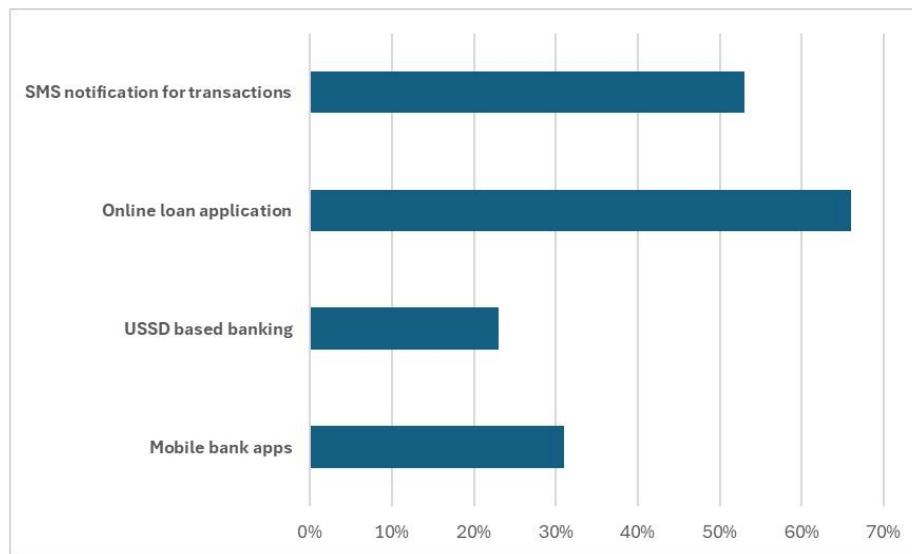


Figure 1: Fintech technology frequently used by SACCOS members

**SACCOS members' motivation on starting using fintech:** The study explored the underlying factors that motivate members of SACCOS to adopt and use FinTech services. Respondents were asked to identify the key reasons that influenced their initial engagement with these digital financial tools. The findings revealed several motivating factors. Ease of use emerged as a prominent driver with 70% responses, indicating that user-friendly interfaces and straightforward procedures encourage members to embrace technology with minimal training or support. Access to better financial services was another major motivator 67%, as members perceived FinTech platforms to access faster, more efficient, and more reliable financial services compared to traditional, manual systems. Convenience (70%) responses were also frequently cited members appreciated the ability to conduct transactions, check balances, or apply for loans from any location at any time, removing the constraints of physical visits and long queues. Additionally, recommendations from friends and family (45%) played a significant role, highlighting the importance of social influence and peer networks in technology adoption. Lastly, encouragement from SACCOS management (40%) was a motivating factor, suggesting that institutional support, awareness campaigns, and guidance from SACCOS leadership significantly boost members' confidence and willingness to adopt FinTech solutions. One of the respondents replied that *“I started using the SACCOS mobile app because it's very easy to access my account anytime, even when I'm far from the SACCO office. I can check my balance, transfer money, and apply for a loan from my phone without any delays.”*

**SACCOS members' satisfaction on the usage of fintech:** The study assessed members' satisfaction with the FinTech services offered by their respective SACCOS. Findings revealed that a significant majority 91 respondents, representing 85% On the other hand, 16

respondents, accounting for 15% of the sample, reported dissatisfaction with the fintech services of the total sample expressed satisfaction with the digital financial services provided. One respondent mentioned that *“I’m very satisfied with the FinTech services because they save me time and transport costs.”*

**Challenges faced by SACCOS members while using fintech tools:** The study findings reveal that, despite the growing adoption of FinTech services among SACCOS members, several challenges hinder optimal utilization of these digital tools. Respondents identified several key barriers that affect their experience and confidence in using fintech platforms. Most respondents (63%) cited a lack of technical knowledge as a major challenge. This suggests that many users struggle with understanding how to operate mobile applications, USSD codes, or online platforms pointing to a digital literacy gap that needs to be addressed through targeted training and user support. Additionally, 59% of respondents expressed a lack of trust in digital platforms, indicating concerns about data privacy, system reliability, and the safety of online transactions. These fears may stem from limited cybersecurity awareness or past experiences with service failures, fraud, or lack of transparency. Another significant barrier was high transaction costs, mentioned by 49% of respondents. This reflects concerns over fees charged for mobile transactions, withdrawals, or loan processing through digital channels costs which may discourage frequent usage, especially among low-income members. Finally, 28% of the respondents pointed to poor internet connectivity, especially in rural or underserved areas. This challenge restricts access to online services and disrupts the reliability of real-time interactions with SACCO platforms, making it difficult for members to consistently benefit from FinTech innovations. The table 1 summarized the respondent’s feedback.

Challenge	Frequency	Percentage
Lack of technical knowledge	67	63%
Poor internet connectivity	30	28%
High transaction costs	52	49%
Lack of trust in digital platforms	63	49%

Table 1. Challenges faced by SACCOS members when using fintech tools

## DISCUSSION

The study's findings demonstrate a high level of awareness and usage of fintech services among SACCOS members in Tanzania. All respondents (100%) indicated familiarity with digital financial services provided by their SACCOS. This aligns with global trends showing increasing digital penetration in financial services, particularly in developing economies where mobile-based solutions have enabled greater financial inclusion (Ozili, 2018; World Bank, 2022). The broad awareness observed may be attributed to deliberate efforts by SACCOS to modernize service delivery and leverage mobile technology to reach more members efficiently. Among the most frequently used fintech tools were **online loan applications (66%), SMS transaction notifications (53%), mobile banking applications (31%),** and **USSD platforms (23%).** These services enhance convenience and reduce the

need for physical interaction, thus improving operational efficiency and accessibility. Previous studies have emphasized the importance of such tools in improving financial access and minimizing administrative burdens in cooperative institutions (Gikandi & Bloor, 2010; Ngugi et al., 2021). The study further revealed that **ease of use (70%)**, **convenience (70%)**, and **access to better financial services (67%)** were primary motivators for fintech adoption. These findings are consistent with the **Technology Acceptance Model (TAM)** proposed by Davis (1989), which identifies perceived ease of use and perceived usefulness as central to technology acceptance. Moreover, **peer recommendations (45%)** and **SACCOS management encouragement (40%)** played a role. Despite these positive indicators, the study uncovered **several barriers** that inhibit the optimal use of fintech services. The most cited challenge was a **lack of technical knowledge (63%)**, suggesting a need for digital literacy interventions. This aligns with findings from Boateng et al. (2016), who emphasized the role of ICT training in facilitating fintech adoption in cooperative settings. Moreover, **lack of trust in digital platforms (59%)** indicates persistent concerns about security, privacy, and reliability issues commonly highlighted in fintech literature, especially in contexts with limited consumer protection frameworks (Arner et al., 2015). Other barriers included **high transaction costs (49%)** and **poor internet connectivity (28%)**. Transaction costs have been recognized as a significant factor affecting FinTech adoption among low-income users (Demirgüç-Kunt et al., 2018). Similarly, limited infrastructure especially in rural and peri-urban areas continues to impede consistent access to internet-based financial services (GSMA, 2020). These findings emphasize the need for affordable pricing models and infrastructural investment to ensure equitable access to digital services.

## CONCLUSION

This study aimed to assess the awareness, usage, satisfaction, motivation, and challenges associated with the adoption of fintech services among members of Savings and Credit Cooperative Societies (SACCOS) in Tanzania. The findings reveal that there is a high level of awareness of fintech services among SACCO members, with all respondents acknowledging familiarity with digital financial tools provided by their respective institutions. This awareness has translated into significant usage of fintech platforms, particularly in services such as online loan applications, SMS transaction notifications, mobile banking applications, and USSD-based banking. The study also identified several key motivating factors driving the adoption of fintech services, including ease of use, convenience, improved access to financial services, social influence, and institutional encouragement from SACCO leadership. These factors highlight the increasing relevance of digital transformation in enhancing the operational efficiency and service delivery of cooperative societies. Furthermore, the findings show that most respondents (85%) are satisfied with the fintech services they receive. This reflects positively on the efforts made by SACCOS to digitize and modernize their operations. However, the study also uncovered significant challenges that hinder full utilization and satisfaction, including limited technical knowledge, lack of trust in digital platforms, high transaction costs, and poor internet connectivity especially in underserved areas. In conclusion, while the integration of fintech in SACCOS has yielded substantial benefits in terms of accessibility, efficiency, and user satisfaction, there remains a need for targeted interventions to address the existing barriers. These include digital literacy training, trust-building initiatives, cost management strategies, and infrastructure improvements.

## REFERENCES

- Adelaja, A. O., Umeorah, S. C., Abikoye, B. E., & Neziyanya, M. C. (2024). Advancing financial inclusion through fintech: Solutions for unbanked and underbanked populations. *World Journal Of Advanced Research and Reviews*. <https://doi.org/10.30574/wjarr.2024.23.2.2379>
- Arner, D. W., Barberis, J., & Buckley, R. P. (2016). The evolution of FinTech: A new post-crisis paradigm? *Georgetown Journal of International Law*, 47(4), 1271–1319.
- Birchall, J. (2013). *Resilience in a downturn: The power of financial cooperatives*. International Labour Office.
- Boateng, R., Heeks, R., Molla, A., & Hinson, R. (2016). *Advancing E-finance research in developing economies: A review and research agenda*. *Information Technology for Development*, 22(3), 381–407.
- Davis, F. D. (1989). *Perceived usefulness, perceived ease of use, and user acceptance of information technology*. *MIS Quarterly*, 13(3), 319–340.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*. World Bank Group.
- Gikandi, J. W., & Bloor, C. (2010). *Adoption and effectiveness of electronic banking in Kenya*. *Electronic Commerce Research and Applications*, 9(4), 277–282.
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the Fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of Management Information Systems*, 35(1), 220–265. <https://doi.org/10.1080/07421222.2018.1440766>
- GSMA. (2020). *The Mobile Economy Sub-Saharan Africa 2020*.
- Kivuva, M. (2021). *The role of FinTech in transforming SACCO operations in Kenya*. *International Journal of Finance and Accounting*, 10(2), 45–53
- Kivuva, M. (2021). *The role of FinTech in transforming SACCO operations in Kenya*. *International Journal of Finance and Accounting*, 10(2), 45–53.
- Nganga, M. M., & Muturi, W. (2019). *Factors influencing the adoption of mobile banking technology by SACCO members in Kenya*. *International Journal of Business and Social Science*, 10(6), 50–58.
- Nganga, M. M., & Muturi, W. (2019). *Factors influencing the adoption of mobile banking technology by SACCO members in Kenya*. *International Journal of Business and Social Science*, 10(6), 50–58.

- Ngugi, B. K., Gichira, R., & Iravo, M. (2021). *Factors influencing the adoption of financial technology by SACCOs in Kenya*. *Journal of Finance and Accounting*, 9(2), 36–42.
- Nicoletti, B. (2017). *The future of FinTech: Integrating finance and technology in financial services*. Springer.
- Omondi, D. O., & Jagongo, A. (2020). *Mobile technology adoption and SACCO performance in Kenya*. *International Journal of Finance and Accounting*, 5(3), 95–103.
- Ozili, P. K. (2018). *Impact of digital finance on financial inclusion and stability*. *Borsa Istanbul Review*, 18(4), 329–340.
- Tornatzky, L. G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexington Books.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). *User acceptance of information technology: Toward a unified view*. *MIS Quarterly*, 27(3), 425–478.
- World Bank. (2022). *Financial inclusion overview*. Retrieved from: <https://www.worldbank.org/en/topic/financialinclusion>
- Zavolokina, L., Dolata, M., & Schwabe, G. (2016). *FinTech—What's in a name?* In *Thirty Seventh International Conference on Information Systems (ICIS 2016)*, Dublin, Ireland.

The Co-operative University of Kenya  
P.O. Box 24814-00502, KAREN, NAIROBI  
TEL: +254 202430127/202679256  
Mobile(office): +254 724311606  
Conference link: <https://conference.cuk.ac.ke/>