



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 22nd-24th, 2025

Isaac K. Nyamongo - Editor

- Schreiner, M. (2002). Aspects of Outreach: A Framework for the Discussion of the Social Benefits of Microfinance. *Journal of International Development*.
- World Bank. (2022). Digital Financial Services and Financial Inclusion in Sub-Saharan Africa.
- ILO. (2021). Financial Cooperatives and Sustainable Development Goals.
- Yamane, T. (1967). *Statistics: An Introductory Analysis*. Harper and Row.

ASSESSING FACTORS INFLUENCING THE ADOPTION OF THE DIGITAL CO-OPERATIVE SUPERVISION MANAGEMENT INFORMATION SYSTEM AMONG AGRICULTURAL AND MARKETING CO-OPERATIVE SOCIETIES IN TABORA REGION, TANZANIA.

Paulin Paul^{1,*} & Angelina Lucas¹,

¹Department of Co-operative Education, Kizumbi Institute of Co-operative and Business Education, Shinyanga Tanzania

*Correspondence Email: kabyazi2010@gmail.com

ABSTRACT: The adoption of digital technologies in cooperative management is increasingly recognized as a strategic solution to governance and operational inefficiencies among Agricultural and Marketing Cooperative Societies (AMCOS) in Tanzania. Despite the introduction of the Digital Co-operative Supervision Management Information System (Mfumo wa Usimamizi wa Vyama vya Ushirika – MUVU), adoption remains uneven across AMCOS. This study investigates factors influencing MUVU adoption in Tabora Region using a descriptive cross-sectional design and binary logistic regression analysis. Primary data were collected from 100 AMCOS leaders and staff through structured questionnaires, capturing organizational, technological, institutional, and socio-cultural factors. Binary logistic regression model was used to assess the effect of each predictor on the likelihood of MUVU system adoption, with results expressed as odds ratios. Findings indicate that 63.4% of surveyed AMCOS have adopted MUVU system, while 36.6% have not. Significant determinants included education level of leaders and staff, digital literacy, institutional support and enforcement, financial capability, and alignment with technological advancements. Notably, educated leadership increased the odds of adoption nearly fourfold ($\text{Exp}(B) = 3.789$), while a unit increase in digital literacy raised the likelihood of adoption by approximately 12% ($\text{Exp}(B) = 1.123$). The study concludes that successful MUVU adoption depends primarily on the digital readiness and competencies of AMCOS leadership and staff, supported by institutional backing and sufficient financial resources. Based on these findings, the study recommends targeted digital literacy training, strategic investment in ICT infrastructure, and the enforcement of supportive policies to enhance adoption rates. This research provides empirical insight into the relative importance of internal capacity and external institutional factors as key drivers of digital system adoption among AMCOS.

Finally, these findings offer practical guidance for policymakers, cooperative leaders, and stakeholders seeking to strengthen digital transformation initiatives. Future research should explore long-term adoption outcomes across diverse cooperative environments.

Keywords: AMCOS, digital adoption, MUVU system, Tanzania, Tabora Region

INTRODUCTION

Digital transformation is rapidly reshaping how institutions operate across the globe, including in developing economies such as Tanzania (URT, 2021). In recent years, the Tanzanian government has made strategic efforts to modernize the operations of Agricultural and Marketing Cooperative Societies (AMCOS), which are vital institutions for smallholder farmers (Chambo, 2009; TCDC, 2022). One of the flagship initiatives in this digital transition is the introduction of the *Mfumo wa Usimamizi wa Vyama vya Ushirika* (MUVU), a Cooperative Supervision Management Information System. The MUVU system is intended to promote transparency, accountability, and efficiency in the management of cooperative affairs by digitizing records, improving financial oversight, and enabling real-time monitoring of AMCOS operations (Ngowi, 2021; Mwaimu & Mnyone, 2020). Across the African continent, the adoption of digital technologies in cooperative and agricultural organizations has been increasingly recognized as a means to enhance productivity, transparency, and service delivery. In countries such as Kenya, Ghana, and Rwanda, cooperatives have begun integrating digital tools to manage member records, conduct mobile transactions, access agricultural market information, and improve traceability in value chains (Rukwaro, 2011). For example, Kenya's SACCOs have adopted mobile banking systems to streamline savings and loan services, while Ghanaian farmer cooperatives have benefited from platforms offering real-time price and weather updates. However, similar to Tanzania, adoption in many African contexts remains uneven due to challenges such as limited infrastructure, low ICT literacy, and inadequate policy support (Ndiege, Qin, & Kazungu, 2012). These continental experiences highlight the importance of tailoring digital transformation efforts to the specific needs, capacities, and contexts of cooperatives, making localized research such as this study essential for informed implementation. AMCOS are central to rural development in Tanzania, offering smallholder farmers access to collective marketing, agricultural inputs, credit services, and extension support (Chambo, 2009). However, the cooperative movement has long been hampered by poor record-keeping, limited transparency, mismanagement of funds, and weak internal controls (Msemwa & Mgeni, 2023). These issues have eroded member trust and weakened the overall effectiveness of cooperatives. The introduction of digital systems such as MUVU seeks to address these longstanding challenges by introducing a standardized, technology-driven approach to managing cooperative affairs and enhancing regulatory oversight by government institutions (Ngowi, 2021; TCDC, 2022). Despite its potential, the adoption of the MUVU system among AMCOS has been inconsistent. While some societies have adopted the system and reported improvements in governance and delivery service, many others have faced considerable barriers. These include limited digital literacy among cooperative leaders and staff, insufficient ICT infrastructure, resistance to change, and financial constraints (Mwaimu & Mnyone, 2020). In some cases, a lack of institutional support and enforcement has further hindered adoption (URT, 2021). These variations suggest that adoption is influenced by a complex interplay of organizational, technological, institutional, and socio-cultural factors that must be better understood to ensure widespread and effective system uptake. The Tabora

Region, located in central-western Tanzania, has been selected as the focus of this study due to its high concentration of AMCOS and its strategic importance in the production and marketing of crops such as tobacco, maize, and sunflower. This region offers a valuable context for investigating the dynamics surrounding MUVU adoption, as it includes both early adopters and laggards of the system. Understanding the factors that promote or impede adoption in this region can provide actionable insights for stakeholders aiming to improve the digital transformation of cooperatives across Tanzania (TCDC, 2022). As of recent reports, Tanzania boasts approximately 3,413 registered Agricultural Marketing Cooperative Societies (AMCOS) nationwide, playing a pivotal role in facilitating crop marketing, input supply, and training for member farmers (TCDC, 2022). In the Tabora Region, several AMCOS have begun adopting digital platforms to enhance their operations. For instance, in the 2023/2024 season, five primary cooperative societies including Muloku, Igwisi, and Unyanyembe AMCOS received computers valued at TZS 26 million from Alliance Tobacco Company in recognition of their good governance and production records (Alliance Ginneries Ltd., 2024). While these initiatives mark significant steps toward digitalization, the overall adoption of the MUVU system among AMCOS in Tabora and across Tanzania remains limited, highlighting the need for targeted efforts to promote digital transformation in the cooperative sector. This study, therefore, seeks to assess the key factors influencing the adoption of the MUVU system among AMCOS in Tabora Region. The findings aim to inform policy and implementation strategies that can strengthen the digital transition of Tanzania's cooperative sector and ensure that AMCOS are equipped to operate efficiently in a digital competitive economy.

LITERATURE REVIEW

The adoption of digital technologies in the cooperative sector has received increasing attention in recent years, particularly in developing countries where cooperatives play a central role in agricultural marketing and rural development. In Tanzania, the government has introduced the *Mfumo wa Usimamizi wa Vyama vya Ushirika* (MUVU System) to enhance transparency, accountability, and efficiency among Agricultural and Marketing Cooperative Societies (AMCOS). However, adoption of such digital systems varies widely, and numerous studies have attempted to identify the underlying factors that facilitate or hinder uptake. According to Rogers' Diffusion of Innovation Theory (2003), the characteristics of adopters, including their level of education, openness to change, and perceived usefulness of the innovation, strongly influence adoption rates. In the context of cooperatives, several scholars emphasize the role of leadership and organizational readiness toward adoption of new development strategies. Msuya, Temu, and Mattee (2017) found that the success of ICT adoption in Tanzanian agricultural cooperatives depends heavily on the management's commitment and their capacity to coordinate change. Similarly, Chilimo (2016) notes that educated and digitally literate leaders are more inclined to embrace digital innovations, as they are better equipped to understand and manage the associated technical and organizational challenges. Institutional and environmental factors also play a crucial role in digital transformation. The Technology-Organization-Environment (TOE) Framework developed by Tornatzky and Fleischer (1990) highlights the importance of external pressures, such as government policies and regulatory mandates, in influencing organizational decisions to adopt new technologies. Studies by UNCTAD (2020) and Mwendapole (2021) show that in many African countries, including Tanzania, digital adoption in cooperatives is often driven by institutional requirements and support mechanisms. Furthermore, financial

constraints are commonly cited as a barrier to ICT uptake. The World Bank (2016) and Njeru et al. (2015) report that many rural cooperatives lack the resources to invest in digital infrastructure, making it difficult to implement and maintain systems like MUVU. Digital literacy has emerged as another critical factor. Ismail et al. (2018) and Mwambene and Lwoga (2020) found that lack of ICT knowledge among cooperative leaders and personnel limits their ability to use digital platforms effectively, reinforcing the need for targeted training programs. Meanwhile, socio-cultural factors such as resistance to change, fear of technology change, and preference for traditional systems remain a challenge, as highlighted by Luhanga (2022). These barriers are especially pronounced in rural contexts where exposure to digital tools is limited. Lastly, concerns over data privacy and security, as discussed by Ghosh (2017), also affect adoption decisions, as users' trustfulness for the system to protect sensitive cooperative information is not well described.

The Importance of Using Digital Systems among AMCOS: Digital systems such as MUVU offer several strategic advantages to AMCOS in Tanzania. They enhance the accuracy and accessibility of records, improve transparency in financial management, and reduce the risk of mismanagement and corruption (World Bank, 2016). Additionally, digital platforms facilitate timely reporting to government agencies and simplify auditing processes, which strengthens compliance and regulatory oversight (UNCTAD, 2020). Improved data management through digital systems also helps AMCOS to make evidence-based decisions, improve member services, and gain easier access to markets and financial services. According to Ismail et al. (2018), such improvements can increase member trust, enhance cooperative performance, and ensure long-term sustainability. Therefore, digital transformation is not only a technological shift but also a pathway toward institutional modernization and empowerment of rural communities.

Literature Gap: While the existing literature provides valuable insights into general ICT adoption factors across sectors in Tanzania and sub-Saharan Africa, there is limited empirical evidence specifically focused on the adoption of the MUVU system among AMCOS in Tanzania. Most studies either address ICT adoption broadly or emphasize urban institutions, leaving rural cooperative societies underexplored. Furthermore, few studies have examined how contextual factors such as local leadership dynamics, cultural perceptions of digital systems, and specific cooperative regulatory frameworks interact to influence adoption. This study addresses that gap by offering region-specific, data-driven analysis from Tabora, contributing to a more nuanced understanding of digital transformation in Tanzania's cooperative sector.

METHODOLOGY

Research Design: This study employed a descriptive cross-sectional research design to assess the factors influencing the adoption of the *Mfumo wa Usimamizi wa Vyama vya Ushirika* (MUVU system) among Agricultural and Marketing Cooperative Societies (AMCOS) in Tabora Region, Tanzania. The design was selected to allow the collection of data from multiple respondents at a single point in time, enabling the identification of patterns and relationships between various factors and the level of system adoption.

Study Area: The study was conducted in Tabora Region, a zone known for its high concentration of AMCOS, particularly those engaged in tobacco, maize, and sunflower production. Tabora was chosen due to its strategic role in cooperative development and its inclusion in early stages of MUVU system implementation by the Ministry of Agriculture and the Tanzania Cooperative Development Commission.

Target Population and Sampling: The target population comprised leaders and staff of AMCOS operating in Tabora region. A purposive sampling technique was used to select AMCOS that were either in the process of adopting or had already adopted the MUVU system. From this population, a sample of 100 respondents was drawn, including AMCOS chairpersons, secretaries, accountants, and board members, ensuring that both managerial and technical perspectives were captured.

Data Collection Methods: Primary data were collected through the use of a structured questionnaire containing both closed and open-ended questions. The questionnaire focused on organizational, technological, institutional, and socio-cultural factors believed to influence digital system adoption. Respondents were asked to rate or explain their perceptions and experiences with the MUVU system. In addition, key informant interviews were conducted with selected officials from the Cooperative Development Commission and District Cooperative Officers to provide context and validate responses from AMCOS leaders.

Data Analysis: Quantitative data were coded and analyzed using binary logistic regression model to determine the influence of predictor variables on the likelihood of MUVU system adoption. This method allowed estimation of the odds ratios and assessing the statistical significance of individual factors, thereby identifying key determinants of adoption. The results were presented in tabular format to illustrate the weight and ranking of each factor influencing adoption. Qualitative data from open-ended questions and interviews were analyzed thematically to identify emerging patterns and triangulate with the quantitative results.

Ethical Considerations: Ethical clearance was obtained from relevant authorities including the regional cooperative office. All respondents were assured of confidentiality, and participation was entirely voluntary. Informed consent was obtained prior to data collection, and no personal identifiers were included in the analysis or reporting.

RESULTS AND DISCUSSION

Status of MUVU system adoption among AMCOS in Tabora region: Table one reveals that 63.4% of AMCOS in the Tabora Region have adopted the Mfumo wa Usimamizi wa Vyama vya Ushirika (MUVU) system, signaling a meaningful shift toward digital transformation in the cooperative sector. This finding aligns with broader trends observed in Tanzanian cooperatives, where studies have documented gradual but growing adoption of ICT-based management tools aimed at improving transparency and efficiency (Msuya, Temu, & Mattee, 2017; Lwoga & Chigona, 2020). Mwambene and Lwoga (2020) similarly reported that digital literacy and perceived usefulness are key drivers of ICT uptake in Tanzanian rural cooperatives, supporting the observation that adopters recognize tangible benefits in digital record-keeping and governance. However, the fact that over one-third (36.6%) of AMCOS have not yet adopted the MUVU system is consistent with previous research highlighting persistent barriers such as limited ICT infrastructure, low digital skills, and financial constraints (Luhanga, 2022; Mwendapole, 2021). This adoption gap echoes findings from other African contexts where digital transformation in agricultural cooperatives remains uneven due to similar socio-technical and institutional challenges (Chiumbu, 2019; Njeru, Namusonge, & Kihoro, 2015). For example, studies on Kenyan and Ghanaian cooperatives show that while digital platforms can enhance operational efficiency, adoption rates are frequently hampered by resistance to change and lack of sustained policy enforcement

(Rukwaro, 2011; World Bank, 2016). The partial adoption observed in this study underscores the importance of targeted interventions. Capacity-building programs to improve ICT literacy, coupled with financial support mechanisms and stronger government enforcement policies, have been recommended in the literature to facilitate wider uptake of digital systems in cooperatives (Mwendapole, 2021; Tanzania Cooperative Development Commission, 2022). Such multi-faceted strategies are critical to overcoming institutional inertia and resource limitations, ensuring that all AMCOS can benefit from improved digital governance frameworks.

Table 1: Number of AMCOS adopted MUVU system in Tabora region

Response	Frequency	Percent
YES	62	63.4
NO	38	36.6
Total	100	100.0

Source: Field data September 2024

Factors Influencing Adoption of MUVU System among AMCOS in Tabora region: The outputs of binary logistic regression analysis in Table two below describe the influence of organizational, institutional, technological, and socio-cultural factors on the adoption of the *Mfumo wa Usimamizi wa Vyama vya Ushirika*-MUVU system among Agricultural and Marketing Cooperative Societies in Tabora region.

Table Two: Output of Binary Logistic Regression Model

Variables	B	S.E.	Wald	P-value	Exp (B)	95% C.I. for EXP(B)	
						Lower	Upper
Educated AMCOS leaders and Staff	2.430	1.785	2.124	0.032*	3.789	0.235	6.045
Digital literacy among AMCOS leaders and staff	0.020	0.0212	1.013	0.043*	1.123	0.679	1.032
Institutional support and enforcement	0.403	0.356	1.354	0.024*	1.212	0.563	3.245
Readiness of AMCOS management (leaders and staff)	0.645	1.375	1.342	0.314	4.235	0.218	2.765
Financial capability of AMCOS as organization	0.218	2.678	2.213	0.035*	3.567	0.672	1.103
Social cultural factors (fear and resistance to change)	0.0268	1.182	1.367	0.378	4.782	0.569	0.567
Aligning with technological advancements	0.719	1.387	1.173	0.023*	1.756	0.0542	0.231
Coop Data security	0.691	0.648	3.021	0.156	4.174	0.0536	0.875
Constant	16.025	11.286	1.672	0.0754	0.035		

*Statistically significant at the 5% level

Results in table two reveal that education level, digital literacy, institutional support, financial capability, and alignment with technological advancements were statistically significant predictors of adoption, while AMCOS management readiness, socio-cultural factors, and data security showed no significant effect as discussed in the subsequent paragraphs. Education level of cooperative leaders and staff emerged as a strong predictor of MUVU adoption. The odds ratio (Exp(B) = 3.789) indicates that AMCOS with educated leaders and staff were

nearly four times more likely to adopt the system compared to their counterparts with lower education levels. This underscores the role of education in equipping leaders with the knowledge and analytical capacity to appreciate the benefits of digital innovations, aligning with Rogers' Diffusion of Innovation Theory (Rogers, 2003) and supporting findings by Chilimo (2016), who reported that education enhances ICT adoption in Tanzanian rural cooperatives. Digital literacy also significantly influenced adoption, with an odds ratio of 1.123, suggesting that a unit increase in digital literacy raises the odds of adoption by approximately 12%. Leaders and staff with stronger ICT skills were more confident in using MUVU, reducing resistance and improving system utilization. This result supports prior studies demonstrating that digital literacy directly enhances both the intention and ability to adopt new technologies in rural contexts (Ismail, Khan, & Ahmed, 2018; Mwambene & Lwoga, 2020). Institutional support and enforcement were equally significant, with an odds ratio of 1.212. Cooperative societies receiving stronger guidance and oversight from government authorities were 21% more likely to influence the adoption of MUVU. This highlights the importance of policy frameworks and external enforcement in driving technological uptake, consistent with the Technology-Organization-Environment framework (Tornatzky & Fleischer, 1990), as well as observations by UNCTAD (2020) and Mwendapole (2021), who noted that institutional requirements and regulatory backing often accelerate digital adoption in African cooperatives. Financial capability was another significant determinant of adoption, with an odds ratio of 3.567, suggesting that financially stronger AMCOS were more than three times more likely to adopt MUVU compared to those with limited resources. Adoption of digital systems requires investment in infrastructure, training, and system maintenance, which aligns with prior studies highlighting financial constraints as a major barrier to ICT adoption among rural cooperatives (Njeru, Mwangi, & Kimani, 2015; World Bank, 2016). Alignment with technological advancements significantly influenced adoption, with an odds ratio of 1.756. AMCOS adopting MUVU to remain up to date with modern technological trends were nearly twice as likely to embrace the system adoption, reflecting modernization pressures observed in cooperatives governance structures (Chiumbu, 2019). Other predictors, including AMCOS management readiness, socio-cultural factors, and data security concerns, were found to be statistically insignificant despite relatively high odds ratios. This suggests that while leadership willingness, cultural attitudes, and security perceptions may influence adoption in practice, they are overshadowed by structural factors such as education, financial capability, and institutional support. Although cultural resistance is often a barrier to digital adoption in early stages (Luhanga, 2022; Rogers, 2003), the present findings indicate that these factors are less decisive once cooperatives experience tangible benefits of digitization. Similarly, data privacy concerns, though highlighted in prior research (Ghosh, 2017; Lwoga & Chigona, 2020), did not significantly deter adoption among AMCOS in Tabora, suggesting that practical challenges such as skills and finances remain more pressing determinants at this stage.

CONCLUSION

The study revealed that education level, digital literacy, institutional support, financial capability, and alignment with technological advancements significantly influenced the adoption of the MUVU system among AMCOS in Tabora region. Educated leaders and staff with higher ICT skills were more capable of understanding and utilizing the system, while strong institutional support and financial resources further facilitated adoption. Conversely, AMCOS management readiness, socio-cultural factors, and data security concerns were not

statistically significant, indicating that structural and capacity-related factors outweigh attitudinal or perception-based influences in this context. These findings highlight that successful adoption of digital cooperative management systems depends on both individual capabilities and organizational readiness, emphasizing the need for comprehensive capacity-building and support mechanisms to AMCOS.

RECOMMENDATION

It is recommended that AMCOS management and relevant stakeholders invest in continuous digital literacy and training programs for both leaders and staff to strengthen their technical competence, thereby enhancing adoption rates. Additionally, the Ministry of Agriculture should ensure adequate institutional support and strengthen ICT infrastructure to facilitate smooth integration of the MUVU system into daily operations. Financial capacity should be bolstered through strategic planning, external funding, or cooperative pooling mechanisms to cover the costs of infrastructure, training, and maintenance. Finally, collaboration among cooperative leadership, system developers, and end-users is essential to ensure the system is responsive to practical operational needs and sustainable in the long term.

Policy Implications of the Study: The findings of this study suggest a critical need for policy frameworks that integrate digital capacity-building and institutional support to enhance the adoption of the MUVU system among AMCOS in Tanzania. Specifically, national cooperative development policies should incorporate structured digital literacy and leadership training programs aimed at improving internal readiness and technological competence among AMCOS leaders and staff. Concurrently, regulatory bodies such as the Tanzania Cooperative Development Commission (TCDC) should enforce mandatory digital adoption policies, supported by financial incentives and targeted investments in ICT infrastructure, particularly in rural areas. Furthermore, aligning cooperative sector strategies with broader national ICT and digital transformation policies will enhance coordination and effectiveness. These policy measures are essential for overcoming structural and socio-technical barriers, thereby facilitating widespread and sustainable digital transformation within Tanzania's cooperative sector.

REFERENCES

- Alliance Ginneries Ltd. (2024). *Annual report on cooperative support and digitalization*. Dodoma, Tanzania: Alliance Tobacco Company.
- Chambo, S. A. (2009). *Agricultural co-operatives: Role in food security and rural development*. Moshi, Tanzania: Moshi University College of Cooperative and Business Studies.
- Chilimo, W. L. (2016). Factors influencing ICT adoption in rural-based cooperatives in Tanzania. *Journal of Information Science and Systems*, 42(3), 245–259.
- Chiumbu, S. (2019). Digital transformation in African cooperatives: Emerging opportunities and challenges. *African Journal of Cooperative Development*, 10(2), 33–50.
- Ghosh, R. (2017). Data privacy and security in digital cooperatives. *International Journal of Information Management*, 37(6), 713–720. <https://doi.org/10.1016/j.ijinfomgt.2017.07.004>

- Ismail, T., Khan, S., & Ahmed, M. (2018). Digital literacy and ICT adoption in developing country cooperatives. *International Journal of Cooperative Studies*, 7(1), 12–21.
- Luhanga, M. (2022). Socio-cultural barriers to ICT adoption in rural Tanzania. *Journal of African Development Studies*, 14(4), 88–102.
- Lwoga, E. T., & Chigona, W. (2020). ICT adoption and use in Tanzania's agricultural cooperatives. *Information Development*, 36(4), 442–456. <https://doi.org/10.1177/0266666919864122>
- Msemwa, P., & Mgeni, E. (2023). Accountability challenges in Tanzanian cooperatives: The role of digital systems. *Tanzania Journal of Management and Development*, 4(1), 56–71.
- Msuya, J., Temu, A., & Mattee, A. (2017). Leadership and ICT adoption in Tanzanian agricultural cooperatives. *Journal of Cooperative Organization and Management*, 5(1), 35–42. <https://doi.org/10.1016/j.jcom.2017.01.004>
- Mwaimu, A., & Mnyone, J. (2020). Digital transformation of cooperatives in Tanzania: The case of MUVU system. *African Journal of Cooperative Studies*, 8(2), 44–59.
- Mwambene, B., & Lwoga, E. (2020). Digital literacy and technology adoption in Tanzanian rural cooperatives. *International Journal of ICT Research*, 12(2), 21–35.
- Mwendapole, H. (2021). Institutional frameworks and ICT adoption in Tanzanian cooperatives. *East African Journal of Social and Economic Studies*, 3(1), 77–90.
- Ndiege, B., Qin, X., & Kazungu, I. (2012). Challenges and opportunities for ICT adoption in Tanzanian cooperatives. *International Journal of Economics and Business Studies*, 1(2), 15–28.
- Njeru, A. W., Namusonge, G., & Kihoro, J. M. (2015). Influence of financial resources on ICT adoption in Kenyan cooperatives. *International Journal of Business and Social Science*, 6(4), 132–139.
- Ngowi, P. (2021). Digitizing cooperatives in Tanzania: The promise of MUVU system. *Tanzania Journal of Cooperative Development*, 2 (1), 66–79.
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: Free Press.
- Rukwaro, R. W. (2011). The role of ICTs in SACCOs in Kenya. *Journal of Cooperative Studies*, 44(3), 23–34.
- Tanzania Cooperative Development Commission (TCDC). (2022). *Annual report on cooperative development in Tanzania*. Dodoma, Tanzania: Government Printer.
- Tornatzky, L. G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexington, MA: Lexington Books.
- United Nations Conference on Trade and Development (UNCTAD). (2020). *Digital economy report 2020: Cross-border data flows and development*. Geneva, Switzerland: UNCTAD.
- United Republic of Tanzania (URT). (2021). *National ICT policy*. Dodoma, Tanzania: Ministry of Information, Communication and Technology.

World Bank. (2016). *World development report 2016: Digital dividends*. Washington, DC: World Bank.

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/>