

# Mediating role of the regulatory framework in board accountability and sustainable growth of agricultural marketing co-operative societies in Simiyu, Tanzania

Angelina Lucas Nkilijiwa

To cite this article: Angelina Lucas Nkilijiwa (2026) Mediating role of the regulatory framework in board accountability and sustainable growth of agricultural marketing co-operative societies in Simiyu, Tanzania, Cogent Social Sciences, 12:1, 2624822, DOI: [10.1080/23311886.2026.2624822](https://doi.org/10.1080/23311886.2026.2624822)

To link to this article: <https://doi.org/10.1080/23311886.2026.2624822>



© 2026 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 18 Feb 2026.



Submit your article to this journal [↗](#)



Article views: 206



View related articles [↗](#)



View Crossmark data [↗](#)

# Mediating role of the regulatory framework in board accountability and sustainable growth of agricultural marketing co-operative societies in Simiyu, Tanzania

Angelina Lucas Nkilijiwa 

Department of Co-operative Education, Moshi Co-operative University, Moshi, Tanzania

## ABSTRACT

Sustainability remains a major challenge for Agricultural Marketing Co-operative Societies (AMCOS) in Tanzania, where governance is key to growth. This study examined how the regulatory framework mediates the relationship between board accountability and the sustainable growth of AMCOS in Simiyu Region. Guided by agency and institutional theories, the study employed a convergent parallel mixed-methods design. Data were collected from 237 AMCOS managers using questionnaires and from 6 District Co-operative Officers via key informant interviews (KIIs). Quantitative data were analysed with PLS-SEM, while qualitative data were thematically analysed. Findings indicated that board accountability moderately enhanced AMCOS growth, with effective monitoring, timely reporting, and transparent disclosure fostering trust and sustainability. The regulatory framework exerted a significant direct effect and mediated the accountability-growth relationship, highlighting its dual role. Among growth indicators, membership growth was strongest, whereas asset growth and product innovation remained weak due to limited resources, traditional business models, government dependency, and limited board capacity. The study concludes that AMCOS growth, mainly through membership expansion, is moderately driven by board accountability and strongly shaped by regulatory frameworks, while innovation and asset growth remain constrained. The study urges policymakers to balance enforcement with capacity building to strengthen innovation and stability in co-operatives.

## ARTICLE HISTORY

Received 10 October 2025

Revised 13 January 2026

Accepted 27 January 2026

## KEYWORDS

Agricultural marketing Co-operative Societies; board accountability; co-operative sustainable growth; governance; regulatory framework

## SUBJECTS

Corporate Governance; African Studies; Agriculture & Related Industries

## 1. Introduction

Co-operatives play a central role in improving livelihoods, addressing socio-economic challenges, and creating employment opportunities worldwide. They operate across diverse sectors, including agriculture, finance, housing, mining, and consumer services, and are broadly categorised as financial and non-financial co-operatives (Shirima, 2022). In addition to creating jobs, co-operatives enhance household incomes, support community development, and reduce poverty. In agrarian economies such as Tanzania, agricultural co-operatives are particularly crucial for smallholder farmers' empowerment, market access, and income generation (Mmbughu et al., 2025; Pelimina & Justin, 2015). Agricultural Marketing Co-operative Societies (AMCOS) in Tanzania play an important role by engaging in production, processing, transportation, and marketing to strengthen members' livelihoods. However, similar to other co-operative institutions in Tanzania, AMCOS face sustainability challenges, with many becoming dormant and unable to provide essential services or achieve growth (Shirima, 2022). For instance, in 2021, of 9,741 registered co-operatives, 3,109 (32%) were reported as dormant, leading to the deregistration of 2,320 co-operatives in 2022 (Tanzania Co-operative Development Commission [TCDC], 2022) from the Government Register of Co-operative Societies. The high levels of dormancy and deregistration suggest that numerous co-operatives in Tanzania face difficulties sustaining operations and delivering consistent services to their members.

**CONTACT** Angelina Lucas Nkilijiwa  [angelinalucas173@gmail.com](mailto:angelinalucas173@gmail.com)  Department of Co-operative Education, Moshi Co-operative University, P.O. Box 474, Moshi, Tanzania

© 2026 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

Good governance is fundamental to effective management and sustainable growth, particularly in member-based entities such as co-operatives. It provides a framework that promotes transparency, fairness, and credibility, strengthening members' trust and supporting organisational performance (Pinto et al., 2023). Board accountability, a central component of governance, ensures that leaders justify decisions, disclose information, and accept responsibility for outcomes, enhancing legitimacy, ethical conduct, and performance (Kabyagoro et al., 2024; Pinto et al., 2023). It is a multidimensional construct that integrates management practices and transparency, contributing to effective administration, improved firm performance, and sustainable practices within governance frameworks (Pinto et al., 2023). Studies of corporate governance examine how accountability influences firm performance and growth, yet findings remain inconclusive due to contextual factors. Accountability involves transparent reporting, justification of actions, performance evaluation, responsiveness to stakeholders, active monitoring, and clear consequences (Chen & Li, 2024). Effective board monitoring strengthens oversight, reduces agency costs, and fosters growth (Beekes et al., 2016), while transparent disclosure builds stakeholder trust, reduces information asymmetry, and enhances decision-making, resource allocation, and performance (Beekes et al., 2016; Hooper et al., 2019). Timely reporting enables leaders to respond to challenges efficiently and improve operational performance (Hooper et al., 2019). The effectiveness of these mechanisms depends on internal and external factors, including board characteristics, ownership structures, and regulatory frameworks (Areneke et al., 2019). Additionally, mediators such as regulatory compliance influence the relationship between accountability and co-operative growth.

In Africa, studies have examined how board accountability affects firm performance, showing that mechanisms such as board monitoring, information disclosure, and timely reporting influence firm growth and overall performance (Chemakai et al., 2018; Mwendia, 2018; Ndibaru & Ongwae, 2023). To the best of the researcher's knowledge, no empirical study has examined the mediating role of the regulatory framework in the relationship between board accountability and AMCOS growth in Tanzania. This study addresses these gaps by examining the effect of board accountability on AMCOS growth and the mediating role of the co-operative regulatory framework using a convergent parallel mixed-methods approach. Board accountability is measured through effective board monitoring, transparent information disclosure, and timely reporting, while AMCOS growth is assessed using membership growth, new product innovation, and asset growth, with the regulatory framework captured through compliance with regulations and internal control mechanisms. By integrating governance accountability with the regulatory framework, the study provides context-specific evidence linking institutional factors to co-operative growth. It also offers practical insights for policymakers, aligning with SDG 16, the African Union's Agenda 2063, and Tanzania Vision 2050, which emphasise accountability and strong institutions for sustainable development. The study specifically seeks to answer the following questions: (i) What is the effect of board accountability on AMCOS growth in Tanzania? and (ii) Does the co-operative regulatory framework mediate this relationship? Addressing these questions fills empirical gaps and informs strategies to enhance co-operative performance and sustainability.

## 2. Literature review

### 2.1. Theoretical foundation

This study was guided by both agency theory and institutional theory. Agency theory developed by Jensen & Meckling (1976), explains the conflicts between principals (co-operative members) and agents (board and management) arising from misaligned goals, resulting from agents prioritising personal interests over members welfare (Agyemang & Castellini, 2021). Such conflict is intensified by information asymmetry, increasing agent costs that originate from external expenses due to misalignment of interests (Khandelwal et al., 2023). To mitigate these costs, organisation needs effective mechanisms such as monitoring, hiring competent agents and addressing conflicts, which are essential for promoting sustainable firm growth (Nyangau & Oluoch, 2021). In this regards accountability practices including transparent information disclosure, effective monitoring and performance evaluation align board actions with co-operative goals, minimise opportunism and provide timely insights for informed insights (Al-Faryan & Shil, 2023). These practices establish a governance framework that promotes decision making quality and

sustainable AMCOS growth. Critics argue that agency theory oversimplifies relationships, overlooks human diversity and undervalues principal responsibilities (Yalles & Fink, 2020). Agency theory remains relevant to this study as it anchors board accountability through transparency, monitoring, and oversight. By aligning board and member interests, the theory explains how accountable governance drives AMCOS growth and provides a foundation for examining sustainable co-operative practices.

Similarly, the study adopted institutional theory which suggests that organisational structures and processes are influenced by broader institutional environments, including legal, social, and cultural dimensions, rather than purely economic or technical factors (Seckin-Celik, 2020). Organisations gain legitimacy and ensure survival by conforming to prevailing norms and expectations, even if practices do not directly improve efficiency. Governance practices, including accountability aspects, are shaped by formal rules and informal practices, especially when formal rules are clear or unclear (Haxhi, 2023). Kantabutra and Ketprapakorn (2021) and Sarma et al. (2024) argue that regulatory compliance not only validates organisational practices but also builds stakeholders' trust, fostering growth and sustainability. Likewise, institutional pressure from established rules shapes governance effectiveness and influences how organisations achieve goals (Munir & Baird, 2016). This theory, relevant to the study, provides a framework for understanding how co-operative regulatory frameworks guide governance practices within AMCOS. It also supports analysing their under-investigated mediating role between board accountability and sustainable AMCOS growth, where little is currently known about their influence in Tanzanian context.

## **2.2. Empirical review and hypothesis development**

### **2.2.1. Effect of board accountability on sustainable growth of AMCOS**

Board accountability refers to the responsibility of directors to act in the best interests of members and stakeholders in co-operatives through effective monitoring, transparent information disclosure, and timely reporting (Kabyagoro et al., 2024; Pinto et al., 2023). It enables boards to oversee strategic decisions, ensure compliance, manage risks, and enhance credibility, thereby fostering stakeholder trust and supporting organisational growth (Anand et al., 2010; Pernelet & Brennan, 2023). The Tanzania Co-operative Act, Cap 211 (RE 2025), mandates boards to oversee strategy, appoint and supervise CEOs, ensure compliance, and represent members' interests, while providing leadership, monitoring performance, and reinforcing accountability. Within co-operative organisations, accountable boards contribute to overall growth by guiding strategic decisions, providing oversight, and ensuring that organisational activities support sustainable performance and long-term development (Grashuis, 2019; Kyabarongo et al., 2024; Matangaidze et al., 2023; Mlay et al., 2022). Evidence from other co-operative contexts highlights the role of transparency and financial oversight; for example, in South African agricultural co-operatives, access to financial information and sound management systems improve performance (Rukuni et al., 2020), and effective financial audits strengthen accountability in Ethiopian co-operatives (Benson, 2014). Performance appraisal, strategic leadership, and policy formulation enhance financial growth in Kenyan SACCOS (Chemakai et al., 2018), while the motivation and effectiveness of boards are crucial for co-operative performance (Chareonwongsak, 2017; Hakelius, 2018), and board assurance improves financial management and sustainability in Ugandan SACCOS (Kyabarongo et al., 2024). Transparency, timely disclosure, and effective financial monitoring further support performance and prevent stagnation (Mwendia, 2018; Ndibaru & Ongwae, 2023; Rajakulanajagam & Nimalathan, 2020), with advanced accounting systems ensuring accurate, timely reporting for strategic decision-making (Mardi et al., 2020). Collectively, these findings demonstrate that board accountability, through oversight, strategic guidance, and transparent communication, drives co-operative stability, performance, and growth. Despite these insights, evidence on the combined effect of board accountability on the sustainable growth of AMCOS as dual-nature institutions in the Simiyu Region, measured by membership growth, asset growth, and new product innovation, remains limited. This gap justifies a mixed-methods approach to quantitatively test these relationships and qualitatively explore contextual factors shaping board accountability. Based on this evidence, it is hypothesised that:

**H1:** Board accountability has direct influence on sustainable growth of AMCOS in Tanzania

### 2.2.2. Mediating effect of co-operative regulatory framework

Mishra & Kumar (2021) define a regulatory framework as the set of laws, rules, and enforcement mechanisms managed by regulatory bodies to ensure compliance and oversight, which vary across sectors and countries. A well-defined regulatory framework provides a structured environment in which board accountability can effectively influence co-operative growth. Effective reforms not only foster growth and stimulate investment but also strengthen governance mechanisms, including board accountability, thereby supporting co-operative development (Dong & Dacre, 2024). Regulatory compliance helps address agency problems (Beloy, 2021), and strong internal controls safeguard organisational resources (Américo et al., 2019). This emphasises that co-operative sustainability depends on adherence to regulations, robust control systems, and effective governance practices. Research further indicates that such frameworks are critical for the sustainable growth of SACCOS and the effective management of their assets (Mlay et al., 2022), while the effectiveness of corporate governance practices is often mediated by institutional contexts, cultural norms, and the enforcement capacity of regulatory bodies within African countries (Christine & Nyongesa, 2025). Studies in Sub-Saharan Africa highlight the importance of integrated regulatory systems that combine rule-based and principle-based approaches, supported by multi-stakeholder co-regulation strategies, to enhance governance in weak market economies (Nakpodia et al., 2018). Compliance with national governance and institutional frameworks has been shown to significantly moderate the relationship between corporate governance and firm performance, even when governance practices might otherwise be ineffective (Atugeba & Acquah-Sam, 2024). Moreover, regulatory frameworks can specifically influence the link between factors such as independent auditors and financial performance, underscoring their role in enhancing board effectiveness and transparency (Aluchna & Kuszewski, 2020). At the country level, governance structures further shape how transparency regulations influence co-operative stability and operational performance, highlighting the active role of institutional context in moderating governance outcomes (Agbloyor et al., 2022). These insights suggest that regulatory frameworks are not merely a backdrop but an active force that determines how board accountability mechanisms translate into tangible co-operative growth outcomes. Despite existing research, empirical evidence remains scarce on how regulatory frameworks in the Tanzanian context mediate the relationship between board accountability and the sustainable growth of AMCOS, highlighting a critical research gap. Accordingly, it is hypothesised that

**H2:** The regulatory framework has a significant relationship with the sustainable growth of AMCOS in Tanzania

**H3:** Co-operative Regulatory framework positively mediates the relationship between board accountability and sustainable growth of AMCOS in Tanzania.

### 2.3. Conceptual framework

The conceptual framework in Figure 1 illustrates the relationship between board accountability, co-operative regulatory frameworks, and AMCOS sustainable growth. Board accountability is expressed through effective monitoring, information disclosure, and timely reporting, ensuring that co-operative activities align with members' interests, manage risks, and enhance credibility (Kabyagoro et al., 2024;

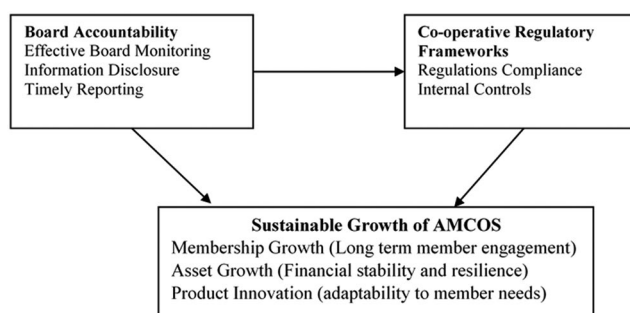


Figure 1. The conceptual framework.

Pinto et al., 2023). The co-operative regulatory framework, reflected in regulatory compliance and strong internal controls, mediates this relationship by reinforcing governance, promoting transparency, and supporting sustainability (Christine & Nyongesa, 2025; Mlay et al., 2022). Sustainable growth is captured by membership growth, asset growth, and product innovation, representing long-term member commitment, financial stability, and adaptive capacity (Grashuis, 2019; Kyabarongo et al., 2024; Matangaidze et al., 2023; Mlay et al., 2022). This study addresses the limited evidence on how regulatory frameworks mediate the relationship between board accountability and sustainable growth in AMCOS in Tanzania, showing that accountable boards, supported by effective regulatory oversight, drive co-operative sustainability.

### **3. Methodology**

#### **3.1. Research design and study area**

The study examined how board accountability influences AMCOS's sustainable growth, with particular attention to the mediating role of the regulatory framework. To address this objective, a convergent parallel mixed-methods design was adopted, as outlined by Creswell and Plano Clark (2017). This design enables the simultaneous collection of quantitative and qualitative data, allowing triangulation of findings and a fuller understanding of governance dynamics (Creswell & Plano Clark, 2017). In governance research, such methodology is advantageous because it integrates statistical evidence with lived experience to offer a balanced view of governance practices (Tzagkarakis & Kritas, 2023). The study was anchored in the pragmatism research paradigm, which provided the flexibility to capture the multidimensional nature of board accountability in the study settings (Tzagkarakis & Kritas, 2023). The study was carried out in Simiyu Region, located in Northern Tanzania, southeast of Lake Victoria. The region was purposively chosen due to its high concentration of active AMCOS, providing a reliable base for assessing the impact of governance practices and regulatory frameworks on sustainable co-operative growth. At the time of the study, Simiyu had 336 registered AMCOS (TCDC, 2023), distributed across six councils: Bariadi Town (25), Bariadi (50), Busega (46), Maswa (83), Itilima (58), and Meatu (74). Most of these AMCOS engage in cotton production and marketing, making them a suitable context for this research.

#### **3.2. Sampling design and sample size**

The study drew its sample from AMCOS managers and District Co-operative Officers (DCOs). DCOs were selected purposively as key regulators of co-operatives. For AMCOS managers, stratified random sampling was used, with one manager chosen from each AMCOS for their practical experience in governance. The population was divided into six strata, reflecting the six districts of the Simiyu region. Using Yamane's Formula (Yamane, 1967) at a 95% confidence level and 5% margin of error, the minimum sample size for each stratum was determined. Respondents within each stratum were then selected randomly to reduce bias and ensure representation. This method captured the geographical spread of AMCOS while maintaining representativeness of the population. The overall sample size across all strata was 288 respondents, as summarised in Table 1 below. Six DCOs, one from each district, were included, which was considered sufficient given their oversight responsibilities.

#### **3.3. Data collection and tool**

Data were collected between June 1 and August 10, 2025, using both quantitative and qualitative approaches. Quantitative data were collected from AMCOS managers via structured questionnaires, while qualitative data were collected from District Co-operative Officers (DCOs) through key informant interviews (KIIs). The questionnaires comprised closed and open-ended items, with closed questions rated on a five-point Likert scale to capture both the degree of agreement and the extent of responses. This scale allowed for systematic measurement of the study's dependent and independent variables, providing insights into managers' perceptions of board accountability practices, the regulatory framework, and their views on sustainable growth indicators within AMCOS (Tanujaya et al., 2022). Questionnaires were chosen as the primary data collection instrument

**Table 1.** Distribution of the sample size.

N.	Stratum	Target population (AMCOS/managers)	Calculations (Yamane formula)	Sample size
1.	Bariadi Town	25	$25 / \{1 + [25](0.05)^2\}$	23
2.	Bariadi DC	50	$50 / \{1 + [50](0.05)^2\}$	44
3.	Busega DC	46	$46 / \{1 + [46](0.05)^2\}$	41
4.	Itilima DC	58	$58 / \{1 + [58](0.05)^2\}$	50
5.	Maswa DC	83	$83 / \{1 + [83](0.05)^2\}$	68
6.	Meatu DC	74	$74 / \{1 + [74](0.05)^2\}$	62
	<b>Total</b>	<b>336</b>		<b>288</b>

due to their efficiency and suitability for gathering standardised information from a large sample across diverse geographical areas (Creswell & Creswell, 2018; Kuphanga, 2024). The researcher, supported by two trained research assistants, provided guidance during questionnaire completion and collection to ensure accuracy and consistency. Before full administration, the questionnaire was pretested with 15 AMCOS managers from Kishapu District, Tanzania, to assess clarity and content validity; minor adjustments were made thereafter. . Of the 288 targeted respondents, 237 completed and returned the questionnaires, yielding a response rate of 82%, in line with recommended survey research standards (Kelley et al., 2003).

### 3.4. Variable measurement

Board accountability was treated as the independent variable, the co-operative regulatory framework as the mediating variable, and sustainable growth of AMCOS as the dependent variable. Measurement items were adapted from established studies and refined to reflect the Tanzanian AMCOS context. Board accountability items were drawn from Silva et al. (2022), Wuryani and Harti (2020), Joannides et al. (2016), and Asahak et al. (2018). Regulatory framework items were adapted from Meira et al. (2022) and Bravo et al. (2021), as well as from regulatory requirements stipulated in the Tanzania Co-operative Act, Cap 211 (RE 2025). Sustainable growth indicators were adopted from Njoka (2021), Nowfal et al. (2024), Hidayat et al. (2022), Laosirihongthong et al. (2014), and Maydeu-Olivares and Lado (2003). The specific measurement items and their sources are summarised in Table 2. Although objective longitudinal data on membership, assets, and innovation would ideally measure growth, such records were inconsistently available across AMCOS due to weak archival systems observed during pretesting. Consequently, growth was operationalised using manager-reported perceptual indicators covering membership growth, asset growth, and product innovation, a method widely accepted where objective data are limited (Singh et al., 2016). All quantitative data were collected using structured five-point Likert-scale questionnaires, producing ordinal data suitable for analysis using structural equation modelling (SEM) (Hair et al., 2022).

### 3.5. Ethical considerations and informed consent

The study adhered to the ethical standards approved by The Co-operative University of Kenya and the Tanzania Commission of Science and Technology (COSTECH), and obtained ethical clearance from both institutions prior to data collection. Additional authorisation was secured from relevant regional authorities, including the Regional Assistant Registrar, to ensure institutional recognition and compliance with national research regulations. Informed consent was obtained from all participants before data collection. For questionnaire respondents, consent was obtained through implied written consent, in which participants voluntarily completed and submitted the questionnaire after reviewing a written introductory statement outlining the study purpose, voluntary participation, and assurances of anonymity. For interview participants, verbal consent was obtained after a full briefing on the study, and participants' agreement and interview details were documented in the researcher's field notebook while preserving anonymity. Verbal and implied consent were considered appropriate given the minimal risk nature of the study, which focused on participants' experiences with routine co-operative operations, as well as the rural research settings and face-to-face data collection procedures (COSTECH, 2020; Kopelman, 2004). All participants were informed about the study objectives, procedures, confidentiality measures, and their right to withdraw at any stage without penalty. Confidentiality and anonymity were strictly maintained throughout the study, and no minors were involved.

**Table 2.** Variable measurement.

Variable	Indicators	Items	Source
Board Accountability	Effective board monitoring	The board effectively monitors management through regular report reviews and quarterly meetings.	Othman et al. (2016);Silva et al. (2022);Evans (2010); Rukuni et al. (2020) Wuryani and Harti (2020) Joannides et al. (2016); Silva et al. (2022); Asahak et al. (2018)
		The board ensures that an external audit is conducted every year.	
		The board takes action when members raise concerns about mismanagement in AMCOS resources	
	Information disclosure	The board regularly share all important information about AMCOS finances with members	
		The board informs members about major decisions affecting the growth of AMCOS	
		The board makes it easy for members to access AMCOS financial and operational reports.	
Timely Reporting	The board allows external auditors to present audited financial statements to members on the annual general meeting		
	The board discloses relevant information in timely manner.		
	The board updates members on AMCOS performance at regular meetings.		
Co-operative Regulatory Framework	Regulations Compliance	Our AMCOS complies with all relevant government laws and regulations applicable to its operations	Meira et al. (2022); Bravo et al. (2021)
		Our AMCOS implement the policies provided by the government	
		The Co-operative Act, Cap 211, RE 2025, effectively guides AMCOS operations in the current context of co-operative activities	
	Internal Controls	Our AMCOS adhere to the periodic regulations set forth by the TCDC-regulatory body	
		The board functions in compliance with laws, regulations and bylaws	
		The AMCOS board and management regularly updates its compliance with relevant regulations	
Sustainable growth of AMCOS	Membership growth	The AMCOS by-laws clear guide our operations.	Njoka (2021) Nowfal et al. (2024)
		The AMCOS has clear written down responsibilities of the manager	
		There are operational manuals in place for AMCOS to guide activities such as input supply and marketing	
	Asset Growth	To what extent has the total number of AMCOS members increased over the past three years?	
		To what extent has your AMCOS experienced membership growth each year over the past three years?	
		To what extent have your AMCOS's membership recruitment strategies successfully attracted new members over the past three years?	
New Product Innovation	To what extent has the total value of all assets in your AMCOS increased over the past three years?	Hidayat et al. (2022)	
	To what extent has your AMCOS experienced growth in financial assets (savings, investments in shares) over the past three years?		
	To what extent has your AMCOS invested in physical assets, including office premises, storage facilities, vehicles, and operational equipment, over the past three years?		
	New Product Innovation	To what extent has your AMCOS introduced new products or services over the past three years? (e.g. improved seeds, fertilisers, storage facilities)	Laosirihongthong et al. (2014); Maydeu-Olivares and Lado (2003)
		To what extent has your AMCOS introduced products or services specifically to address member needs or market demands?	
		To what extent has your AMCOS diversified by introducing non-core or non-cotton products/services?	

### 3.6. Data analysis

The study employed Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 4 software to analyse quantitative data. Qualitative data were analysed using thematic analysis to explore the effects of board accountability and the mediating role of the regulatory framework on AMCOS sustainable growth in Simiyu, Tanzania. PLS-SEM, a second-generation statistical technique, was chosen because it handles complex models with latent governance constructs, such as board accountability and the regulatory framework, which are estimated from multiple indicators. The technique also captures

relationships between governance indicators and sustainable growth, making it an appropriate analytical tool (Hair et al., 2022; Hair & Alamer, 2022; Henseler, 2021).

The PLS-SEM was estimated in two steps. First, the measurement model was estimated to assess the reliability and validity of the constructs. This step involved evaluating indicator reliability through factor loadings, internal consistency reliability through Cronbach alpha and composite reliability (CR), and convergent validity through Average Variance Extracted (AVE). Following Hair and Alamer (2022), Cronbach alpha and CR greater than 0.7 are considered acceptable indicators of internal consistency, while AVE values above 0.50 indicate convergent validity. Discriminant validity was also established using both the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio, as suggested by Henseler et al. (2015), ensuring that constructs measuring board accountability, regulatory framework and AMCOS growth were conceptually distinct.

Similarly, in the second stage, the structural model was estimated to assess and test the hypothesised relationships between board accountability, the regulatory framework, and AMCOS growth. The structural model comprises path coefficients, their effect sizes ( $f^2$ ), and their significance levels. Moreover, predictive relevance ( $Q^2$ ) was examined to assess and confirm the model's predictive accuracy, as suggested by Shmueli et al. (2019). Bootstrapping with 5000 resamples was employed to establish the statistical significance of the path coefficients, which is considered more robust than traditional parametric tests in SEM (Hair & Alamer, 2022; Sarstedt et al., 2019).

To complement the quantitative findings, qualitative data from the KIIs were analysed thematically. Transcripts were organised around three main themes, namely board accountability, the regulatory framework, and the sustainable growth of AMCOS. Key insights and illustrative quotes were extracted to provide a richer understanding of the quantitative results.

## 4. Findings and discussions

### 4.1. Demographic profile of respondents

As summarised in Table 3, the demographic profile of the 237 respondents indicated that men constituted the majority, with 209 (88.2%) males compared with 28 (11.8%) females, reflecting a continued gender imbalance in agricultural co-operative leadership structures across Africa (Achandi et al., 2023). The age distribution showed that most respondents fell within the 31–40years (41.8%) and 41–50years (28.3%) categories, suggesting that AMCOS management consisted largely of individuals in their productive working years, supporting organisational continuity and stability (Okumu & Muchapondwa, 2020). Educational attainment was generally low, with most respondents having completed primary (45.1%) or secondary education (44.3%), while only a small proportion held post-secondary qualifications, potentially limiting the adoption of advanced governance practices and highlighting the need for targeted capacity-building initiatives (Liu et al., 2020). In terms of experience, the majority of respondents reported 1–5years (64.1%) and 6–10years (22.4%) of service, indicating a managerial base sufficiently experienced

**Table 3.** Respondents' demographic characteristics.

Demographics	Category	Frequency (n=237)	Percentage
Gender	Male	209	88.2%
	Female	28	11.8%
Age	18–30yrs	31	13.1%
	31–40yrs	99	41.8%
	41–50yrs	67	28.3%
	51–60yrs	30	12.7%
	Above 60yrs	10	4.2%
	Education	Primary	107
	Secondary	105	44.3%
	Certificate	9	3.8%
	Diploma	4	1.7%
	Bachelor Degree	12	5.1%
Work Experience	Below 1yr	12	5.1%
	1–5yrs	152	64.1%
	6–10yrs	53	22.4%
	11–15yrs	10	4.2%
	16–20yrs	4	1.7%
	21yrs and above	6	2.5%

to support co-operative operations and stability (Berge et al., 2021). Collectively, the findings indicate a workforce with sufficient experience and educational background to provide insights into and an understanding of sustainable AMCOS growth.

#### 4.2. The measurement model

The assessment of the measurement model is provided in Table 4 below, which shows that the constructs used in this study met the recommended psychometric threshold, thereby confirming the reliability and validity of the estimated model. For the board accountability construct, the outer loadings for effective board monitoring, information disclosure, and timely reporting were 0.824, 0.910, and 0.884, respectively, all exceeding the recommended threshold of 0.70, suggesting that the indicators are reliable in the model (Hair et al., 2022). The Cronbach alpha and composite reliability were 0.845 and 0.906, respectively, further confirming internal consistency reliability. The AVE of 0.762 indicated a substantial proportion of the variance explained by the latent construct, thereby satisfying the convergent validity requirements (Fornell & Larcker, 1981). On the other hand, the Variance inflation factor (VIF), which measures collinearity among the constructs, indicated the absence of multicollinearity, as the indicators had VIF ranging from 1.826 to 2.413, all below the consecutive threshold of 5 (Hair et al., 2022; Subhaktiyasa, 2024).

The regulatory framework (RF) was introduced as a mediating variable. Upon its introduction, the results also indicated robust model reliability and validity. The outer loadings for regulatory compliance and internal control were high, at 0.948 and 0.954, respectively, reflecting strong reliability of the measurement items. Furthermore, the Cronbach alpha coefficient of 0.894 and the composite reliability of 0.950 both surpassed the 0.70 threshold, while the AVE value of 0.904 substantially exceeded the 0.50 benchmark, indicating excellent convergent validity. The VIF values of 2.885 also fell within acceptable limits, as suggested by Subhaktiyasa (2024), indicating no multicollinearity concern. These results confirm that the regulatory framework is a well-specified construct, capable of functioning as a mediator in the model.

Moreover, discriminant validity was assessed using both the Heterotrait-Monotrait Ratio (HTMT) (Table 5) and the Fornell-Larcker criterion (Table 6), by comparing correlations between constructs with those within constructs. All HTMT values in this study were below the conservative threshold of 0.85 (Henseler et al., 2015), with values of 0.359 between AMCOS Growth and Board Accountability, 0.630 between AMCOS Growth and Regulatory Framework, and 0.426 between Board Accountability and Regulatory Framework.

**Table 4.** Measurement model.

Variable	Outer loadings	VIF	Cronbach alpha	Composite reliability	AVE
Board Accountability (BA)					
Effective Board Monitoring	0.824	1.826	0.845	0.906	0.762
Information Disclosure	0.910	2.413			
Timely Reporting	0.884	2.088			
Regulatory Framework (RF)					
Regulatory Compliance	0.948	2.885	0.894	0.950	0.904
Internal Control	0.954	2.885			
Growth of AMCOS					
Membership Growth	0.996				
Asset Growth	0.169				
New product Innovation	-0.104				

**Table 5.** Heterotrait-Monotrait ratio.

Variable	AMCOS growth	Board accountability	Regulatory framework
AMCOS Growth			
Board Accountability	0.359		
Regulatory Framework	0.630	0.426	

**Table 6.** Fornell-Larcker criterion.

Variable	AMCOS growth	Board accountability	Regulatory framework
AMCOS Growth	0.873		
Board Accountability	0.351	0.586	
Regulatory Framework	0.553	0.488	0.951

These findings showed that the constructs were empirically distinct and that the indicators measured their intended latent variables without significant overlap. The relatively higher HTMT value between the regulatory framework and sustainable AMCOS growth (0.630) remained well below the critical threshold, suggesting a moderate association consistent with the conceptual model in which the regulatory framework mediated part of the effect of board accountability on sustainable AMCOS growth.

On the other hand, the Fornell-Larcker criterion, presented in Table 6 as part of the discriminant validity assessment, provided the square root of the AVE for each construct (diagonal values), which should exceed the correlations with other constructs (off-diagonal values). The findings show that the square roots of the AVE were 0.873 for sustainable AMCOS growth, 0.586 for board accountability, and 0.951 for the regulatory framework. All diagonal values exceeded their respective inter-construct correlations, confirming discriminant validity.

Therefore, both the HTMT and Fornell-Larcker results indicated robust evidence that the constructs in this study were conceptually and empirically distinct. This ensured that the subsequent structural model analyses were not compromised by multicollinearity or construct overlap (Hair et al., 2022). The moderate correlations observed among the regulatory framework, board accountability, and sustainable AMCOS growth suggested that the regulatory framework served as a meaningful mediator in the relationship between board accountability and co-operative growth outcomes by transmitting the effects of board accountability practices to co-operative growth outcomes.

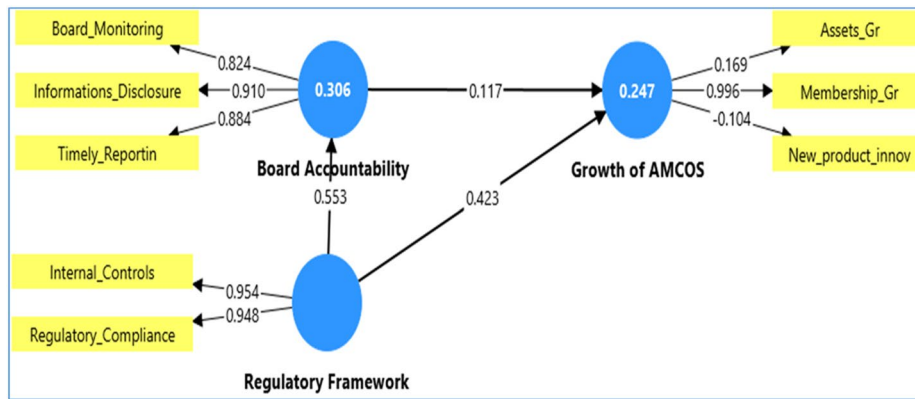
#### **4.3. Structural model results and hypothesis testing on the effect of board accountability, mediation of regulatory framework, and sustainable growth of AMCOS**

The structural model was evaluated by examining the path coefficients, t-values, and p-values in line with Hair et al. (2022). Table 7 presents the results of the hypothesised relationships among board accountability, regulatory framework, and the sustainable growth of AMCOS. The path coefficient from board accountability to sustainable AMCOS growth was 0.117, with a t-value of 2.127 and a p-value of 0.033, indicating a positive and statistically significant direct effect at the 5% level. This finding suggested that accountable board practices, including effective monitoring, timely reporting, and transparent information disclosure, contributed positively to the sustainable growth of AMCOS.

On the other hand, the relationship between board accountability and the regulatory framework was particularly strong, with a path coefficient of 0.553, a t-value of 10.725, and a p-value of 0.000, indicating statistical significance at the 5% level. This result indicated that stronger board accountability practices were associated with a more robust regulatory framework within AMCOS. The regulatory mechanisms, including internal control and compliance with co-operative laws, served as channels through which board accountability practices influenced the sustainable growth of AMCOS. Moreover, the regulatory framework was observed to have a direct and significant effect on sustainable AMCOS growth, with a path coefficient of 0.423 and a p-value of 0.000, indicating statistical significance at the 5% level. This demonstrates that adherence to regulatory standards enhances board accountability and contributes directly to co-operative performance. The significance of both the direct and mediated effects highlighted the dual role of the regulatory framework, acting as both a facilitator of board accountability practices and an independent driver of AMCOS growth. Practically, this indicates that sustainable co-operative growth is maximised when board accountability is aligned with internal and external regulatory requirements.

**Table 7.** Structural model.

	Original sample	Sample mean	Standard deviation	T- statistics	p values
Board Accountability -> Sustainable Growth of AMCOS	0.117	0.118	0.055	2.127	0.033
Board Accountability -> Regulatory Framework	0.553	0.556	0.052	10.725	0.000
Regulatory Framework -> Growth of AMCOS	0.423	0.420	0.099	4.254	0.000



**Figure 2.** Structural model.

Furthermore, as shown in the structural model (Figure 2), sustainable AMCOS growth through membership expansion had a strong loading of 0.996, compared with asset growth (0.169) and new product innovation ( $-0.104$ ), indicating that membership growth was the key driver of sustainable AMCOS growth in Simiyu. This reflects the co-operative philosophy's focus on inclusiveness and the board's emphasis on addressing members' needs in cotton production and marketing, while other aspects of growth, such as assets and product diversification, receive less attention.

#### **4.4. Qualitative results on the effect of board accountability, mediation of regulatory framework, and sustainable growth of AMCOS**

The study conducted Key Informant Interviews (KIIs) with District Co-operative Officers (DCOs) to explore board accountability practices and their influence on the growth of AMCOS in Simiyu, with the regulatory framework as a mediating factor. Data analysis was merged into three themes, namely board accountability, regulatory framework mediator, and sustainable growth of AMCOS.

##### **4.4.1. AMCOS board accountability**

The responses to board accountability highlighted key issues, including transparency in reporting, preventing resource misuse and responsiveness to members' needs. The majority of DCOs emphasised that when boards report on time and demonstrate responsible leadership, members develop trust and confidence in society, conflicts are minimised, and performance improves. Others emphasised that accountability depends on having qualified and committed board members, since the board is the main organ entrusted with co-operative governance. These views enrich the quantitative results, which indicate that board accountability had a positive and significant effect on AMCOS growth ( $\beta=0.117$ ,  $p=0.033$ ). Illustrative views from DCOs included;

When the board shares co-operative reports and information in a timely manner, members gain confidence, and even non-members are encouraged to join, strengthening growth. (KII-6)

A responsible board that fulfils its duties prevents the mismanagement of assets and directs resources to AMCOS activities. (KII-2)

Qualified and accountable boards reduce conflicts in AMCOS, enabling members to focus on important AMCOS activities. (KII-3)

These results emphasise that boards that are transparent, responsible, skilled and report in a timely manner enhance resource management and responsiveness to members' needs, build trust, reduce conflicts and support the sustainable growth of AMCOS.

##### **4.4.2. Regulatory framework as mediator**

Regarding the regulatory framework, the interview findings highlighted the importance of compliance enforcement, internal controls, and timely supervision in strengthening accountability. Most of the DCOs

noted that regulatory oversight pushes boards to improve financial reporting and adherence to co-operative bylaws, thereby enhancing the legitimacy of the societies (KII-2;4;5;6). Additionally, some noted that regulations should go beyond enforcement, and AMCOS should include regular capacity-building initiatives that help board members understand and internalise compliance requirements, since enforcement on its own may not always deliver lasting results (KII-1 & 3). These insights support the quantitative findings, which demonstrated that the regulatory framework strongly influenced board accountability ( $\beta=0.553$ ,  $p<0.001$ ) and had a direct, significant effect on sustainable AMCOS growth ( $\beta=0.423$ ,  $p<0.001$ ), thereby confirming its role as a mediator transmitting the effects of board accountability practices to co-operative growth outcomes. The results indicate that regulatory compliance, oversight, and internal controls, combined with capacity-building initiatives, strengthen board accountability and directly support sustainable growth in AMCOS.

#### **4.4.3. AMCOS sustainable growth outcomes**

The responses on sustainable AMCOS growth emphasised membership expansion, asset growth, and new product development, with both board accountability and the regulatory framework contributing most strongly to membership growth, as also indicated by the quantitative results. To explain this pattern, the qualitative findings revealed limitations in other areas of growth, particularly asset accumulation and product innovation. These challenges were attributed to traditional business practices, a predominant focus on cotton, dependency syndrome, resource constraints, and limited board capacity, which together constrained AMCOS's ability to diversify and build assets. As one DCO highlighted that;

Many AMCOS still operate under the traditional cotton marketing model and remain dependent on government support. Their capacity to innovate is limited by reliance on government or regulator directives and entrenched traditional practices within AMCOS businesses, which create a chronic resource constraint, ultimately hindering innovation. (KII-2)

However, another DCO highlighted that;

AMCOS board members in Simiyu are mostly farmers with only primary education and limited specialised skills, which restricts their ability to innovate or implement strategic changes within their co-operatives. (KII-3)

The findings suggest that, although AMCOS boards demonstrate accountability, regulatory constraints limit their autonomy to innovate, as many societies remain dependent on government directives. This dependency limits their capacity to identify and pursue new opportunities, thereby hindering innovation-driven growth. In addition, traditional business practices largely based on the collection and marketing of cotton only, together with limited financial resources and inadequately skilled personnel, restricted the boards' ability to translate strategic plans into new products, making innovation and asset growth a continuing challenge for sustainable AMCOS growth.

## **5. Discussion of findings**

The study provides evidence that board accountability, measured through effective board monitoring, information disclosure and timely reporting, significantly influences the sustainable growth of AMCOS, as reflected in membership growth. Furthermore, the findings demonstrate that a co-operative regulatory framework mediates the relationship between board accountability and the sustainable growth of AMCOS, underscoring its role in strengthening governance practices and enhancing co-operative growth. The study's findings show that board accountability positively and significantly influences AMCOS growth ( $\beta=0.117$ ,  $t=2.127$ ,  $p=0.033$ ), indicating that effective monitoring, timely reporting, and transparent information disclosure are critical to enhancing co-operative growth. This suggests that, although board accountability plays a significant role in promoting co-operative growth, its modest effect ( $\beta=0.117$ ) indicates that sustainable AMCOS growth also depends on the combined influence of other governance practices and supportive institutional frameworks. The qualitative findings support these findings by highlighting that transparent, responsible, skilled boards, along with timely reporting, improve resource management, enhance responsiveness to members' needs, build trust, reduce conflicts, and promote sustainable growth of AMCOS.

These findings are consistent with prior studies showing that accountable boards contribute to overall growth by guiding strategic decisions, providing oversight, and ensuring sustainable performance (Grashuis, 2019; Kyabarongo et al., 2024; Matangaidze et al., 2023; Mlay et al., 2022). Access to financial information and sound management systems improve performance (Rukuni et al., 2020), while effective financial transparency strengthens accountability and firm performance (Benson, 2014). Board assurance further improves financial management and sustainability (Kyabarongo et al., 2024), and transparency, timely disclosure, and effective financial monitoring support performance and prevent stagnation (Mwendia, 2018; Ndibaru & Ongwae, 2023; Rajakulanajagam & Nimalathan, 2020). Furthermore, Asahak et al. (2018) confirm that effective board functioning implicitly contributes to building trust and fosters an environment conducive to sustainable growth and reduced conflicts among stakeholders. While Mina et al. (2022) established that good governance is linked to transparency and information dissemination, and Yakar Pritchard and Çalıyurt (2021) indicated that transparency and accountability through reporting contribute to co-operative sustainability.

While previous studies align with these findings, as cited above, this study extends the evidence by using a mixed-methods approach to show how the three dimensions of board accountability, namely effective monitoring, transparent information disclosure, and timely reporting, jointly influence sustainable growth in smallholder farmers' institutions with a dual nature, such as AMCOS in Tanzania. This study further links these accountability practices to sustainable growth indicators, including membership expansion, asset accumulation, and product innovation, providing new empirical and practical insights for co-operative management. Furthermore, the results support agency theory, indicating that practices such as effective monitoring, timely reporting, and transparent information sharing help ensure that boards (agents) act in the best interests of co-operative members (principals). This alignment reduces agency conflicts and associated costs, while promoting better co-operative performance and supporting sustainable growth (Grashuis, 2019; Lucas-Martínez et al., 2020). Consistent with this, Lucas-Martínez et al. (2020) found that lower perceived agency problems are associated with higher organisational performance.

The study found that the co-operative regulatory framework mediates the relationship between board accountability and sustainable growth, with a strong association between board accountability and the regulatory framework ( $\beta=0.553$ ,  $t=10.725$ ,  $p=0.000$ ), significant at the 5% level. Additionally, the regulatory framework had a direct and significant effect on the sustainable growth of AMCOS ( $\beta=0.423$ ,  $p=0.000$ ). This means that a strong regulatory framework not only enhances board accountability but also plays a crucial independent role in driving co-operative growth, emphasising that governance alone is insufficient without supportive institutional oversight. Qualitative findings further supported this, showing that regulatory compliance, oversight, internal controls, and capacity-building initiatives collectively enhance board accountability and directly contribute to sustainable AMCOS growth, highlighting the framework's key mediating role.

The results corroborate prior studies showing that regulatory frameworks are critical for sustainable growth and effective asset management in SACCOS (Mlay et al., 2022) and that governance effectiveness is influenced by institutional context, cultural norms, and enforcement capacity (Christine & Nyongesa, 2025). They further align with evidence that integrated regulatory systems, combining rule-based and principle-based approaches with multi-stakeholder co-regulation, strengthen governance in weak market economies (Nakpodia et al., 2018), and that compliance with national frameworks can moderate the impact of governance on performance (Atugeba & Acquah-Sam, 2024). The findings also support research showing that regulatory frameworks enhance board transparency and effectiveness, including the role of independent auditors in improving financial performance (Aluchna & Kuszewski, 2020), and that country-level governance structures influence co-operative stability and operational outcomes (Agbloyor et al., 2022). Similarly, Zhang et al. (2024) emphasised that a strong legislative framework is crucial for enhancing co-operative ventures and fostering trust-based partnerships between stakeholders, government, and co-operatives.

The study's findings differ from prior research, such as Mweta et al. (2024), which found no mediating role for regulatory frameworks in governance–performance relationships. The influence of regulatory frameworks often depends on institutional context, which can vary across countries and sectors (Agbloyor et al., 2022). This study provides empirical evidence that the co-operative regulatory framework in

Tanzania mediates the relationship between board accountability and sustainable growth in AMCOS. In doing so it fills a gap in understanding how institutional mechanisms shape governance outcomes in agricultural co-operatives. These results support institutional theory by demonstrating that formal structures, rules and regulations shape organisational behaviour and performance. This reinforces the view that co-operative growth is influenced not only by internal governance but also by the broader institutional environment (Maestre-Matos et al., 2021).

Lastly, the findings indicate that AMCOS growth was largely driven by membership expansion (loading 0.996), while asset growth (loading 0.169) and new product innovation (loading  $-0.104$ ) contributed minimally, confirming membership growth as the strongest indicator of sustainable AMCOS growth in Simiyu. Qualitative findings revealed that innovation and asset growth remained a major challenge due to traditional cotton-focused practices, dependence on government directives, limited resources, and low board capacity. Although AMCOS boards demonstrated accountability, the regulatory environment constrained their autonomy to innovate, limiting their ability to identify and exploit new opportunities. This situation hindered innovation-driven growth and slowed asset accumulation. Traditional business models, financial constraints, and shortages of skilled personnel further restricted investment in physical and financial assets and prevented the translation of strategic plans into new products. Consequently, boards prioritised members' welfare and operational stability, focusing mainly on traditional cotton activities rather than pursuing new initiatives, thereby constraining both asset growth and innovation. This pattern is consistent with Galang et al. (2020), Rwekaza and Anania (2018), and Zhang et al. (2023), who argue that regulatory support enhances co-operative performance only when institutional autonomy is preserved. In Tanzania, AMCOS face constraints on self-governance because, despite legal autonomy, the Tanzania Co-operative Development Commission (TCDC) as the co-operatives regulator, operates under strong government influence, creating overlapping supervision that limits board discretion and member-driven decision-making (Zhang et al., 2023). Traditional business practices also restrict diversification (Michèle De Herde et al., 2020), while low capitalisation, variable share capital, non-transferable equity, and members' preference for patronage over retained earnings hinder strategic investments (Li et al., 2015; Montegut & Bastida, 2014). These structural and contextual barriers, compounded by historical dependence on government directives and limited board competencies, inhibit innovation, strategic autonomy, and entrepreneurial initiative, explaining why governance practices primarily strengthened membership growth rather than asset accumulation or new product innovation (López et al., 2024; Paraschou et al., 2025).

These results suggest that AMCOS in Simiyu prioritise serving member interests first, emphasising shared benefits, democratic participation, and member welfare, which strengthens member retention. However, this strong focus on social objectives comes with less emphasis on balancing the economic and business aspects necessary for financial sustainability and long-term co-operative viability. The identified limitations – restricted diversification, investment challenges arising from current capital structures, and a patronage-focused approach – highlight clear opportunities for improvement. These challenges can be addressed through the adoption of diversified business strategies (Spanevello et al., 2020), exploration of innovative capital mechanisms such as member loans, and self-financed reserves (Limnios et al., 2016), and targeted enhancement of board competencies through capacity building (Hakelius, 2018). By implementing these measures, AMCOS can strengthen strategic autonomy, stimulate entrepreneurial initiative (Holgado-Silva & Binotto, 2022), and better align decision-making with both social and economic objectives. Ultimately, sustainable growth requires a deliberate shift towards balancing member welfare with robust financial and operational strategies, ensuring long-term viability beyond mere membership expansion (Hakelius, 2018). Addressing these structural and capacity limitations will enable AMCOS to foster innovation, improve asset accumulation, and achieve more resilient and sustainable co-operative performance.

## 6. Conclusion and study implication

### 6.1. Conclusion

The study addressed the literature gap on how board accountability affects AMCOS growth, counting for contextual and institutional influences. The study concludes that board accountability, through effective monitoring, timely reporting and information disclosure, significantly influences sustainable AMCOS growth. However, its modest effect indicates that sustainable growth depends on other governance

practices and strong institutional support. The co-operative regulatory framework was found to mediate and independently enhance sustainable AMCOS growth, highlighting the importance of regulatory oversight and strengthened governance. Finally, the study concludes that membership growth is the strongest indicator of AMCOS growth, as it reflects the co-operative philosophy of inclusiveness and boards' focus on members' needs. By contrast, innovation and asset accumulation remain weak due to traditional business practices, dependence on government directives, resource constraints and limited board capacity.

## 6.2. Study implications

This study contributes to theory, practice and the knowledge base by addressing a gap in the governance of agricultural co-operative organisations, particularly AMCOS in Tanzania. From an agency theory perspective, the findings affirm that accountability mechanisms – such as effective monitoring, timely reporting and transparency – reduce agency conflicts between boards and members, foster trust and promote co-operative growth through expanded membership, thereby lowering agency costs and enhancing sustainability. From an institutional theory perspective, the study shows that external regulatory frameworks not only complement internal governance mechanisms but also independently shape growth by ensuring compliance, legitimacy and operational discipline. From a knowledge perspective, the study provides empirical evidence that accountability, as a core corporate governance principle, is equally relevant to member-based organisations and supports membership growth as a key performance indicator in AMCOS, while reinforcing the role of regulation. Managerially, the findings underscore the need for boards, regulators and policymakers to strengthen accountability systems, combine enforcement with capacity building, and provide targeted support to enhance innovation, asset accumulation and inclusive, sustainable co-operative growth.

## 7. Limitations and future research

This study was limited to AMCOS in the Simiyu Region. It relied on managers and district co-operative officers, excluding other stakeholders such as co-operative members, community members and board leaders, which may limit generalisability. Future research should include these groups and other regions to provide a more comprehensive perspective. Moreover, as this study focused only on board accountability and regulatory frameworks, future studies should examine broader governance practices alongside sustainability factors, including environmental and social impacts, ideally using longitudinal designs to assess long-term effects on co-operative sustainable growth.

## Acknowledgments

CRedit: **Angelina Lucas Nkilijiwa**: Conceptualisation, data curation, analysis, investigation, methodology, data and manuscript development.

## Ethical approval

The study received ethical approval from The Co-operative University of Kenya (CUK) and The Tanzania Commission for Science and Technology (COSTECH) under reference number CST00001362-2025-2025-00655.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Declaration of artificial intelligence (AI) tools use

The author acknowledges the use of ChatGPT and Grammarly in enhancing the readability of this article. These tools were applied to support clarity and language refinement. Following the use, the author carefully reviewed, revised and edited the content as needed and accepts full responsibility for accuracy and integrity of the published content.

## Funding

The author received research funding for data collection from Moshi Co-operative University through its cost sharing internal funding program for doctoral studies.

## About the author

**Angelina Lucas Nkilijiwa** is currently a PhD (Co-operative Business) student at The Co-operative University of Kenya (CUK), she has a bachelor of Co-operative and Accounting and Master Degree in Co-operative and Community Development from Moshi Co-operative University (Tanzania). Her current field placement is with Moshi Co-operative University as a lecturer in Co-operative Business. Her areas of interest are accounting, co-operative business and microfinance.

## ORCID

Angelina Lucas Nkilijiwa  <http://orcid.org/0009-0008-4955-7201>

## Data availability statement

The data used in this study can be accessed upon reasonable request from the author.

## References

- References, E. L., Farnworth, C. R., Galiè, A., Omore, A., & Jeremiah, A. (2023). How do local gender norms interact with local conceptualisations of empowerment to shape women's engagement in local dairy value chains in Tanzania? *Frontiers in Sustainable Food Systems*, 7, e1198181. <https://doi.org/10.3389/fsufs.2023.1198181>
- Agbloyor, E. K., Kusi, B. A., Abor, P. A., & Ntim, C. G. (2022). Corporate governance, regulations and banking stability in Africa. In: Abor, J.Y., Adjasi, C.K.D. (eds) *The economics of banking and finance in Africa*. Palgrave Macmillan Studies in Banking and Financial Institutions. [https://doi.org/10.1007/978-3-031-04162-4\\_19](https://doi.org/10.1007/978-3-031-04162-4_19)
- Agyemang, O. S., & Castellini, O. (2021). The applicability of agency theory in corporate governance. *Journal of Business Ethics*, 168(3), 589–606. <https://doi.org/10.1007/s10551-019-04205-1>
- Al-Faryan, M. A. S., & Shil, N. C. (2023). Governance as an interplay between corruption and polity: Conceptualizing from a national perspective. *Economies*, 11(2), 65. <https://doi.org/10.3390/economies11020065>
- Aluchna, M., & Kuszewski, T. (2020). Does corporate governance compliance increase company value? Evidence from the best practice of the board. *Journal of Risk and Financial Management*, 13(10), 242. <https://doi.org/10.3390/jrfm13100242>
- Américo, J. C. D S., Caleman, S. M. D Q., Costa, D. R. D M., & Campeão, P. (2019). Assessing the impact of corporate governance on performance: A case study of agricultural co-operatives in Mato Grosso do Sul, Brazil. *ESG Law Review*, 2(issue), e01601. <https://doi.org/10.37497/esg.v2issue.1600>
- Anand, A., Milne, F., & Purda, L. D. (2010). Monitoring to reduce agency costs: Examining the behavior of independent and non-independent boards. *SSRN*, 1-53,1555043. *Electronic Journal*. <https://doi.org/10.2139/ssrn.1555043>
- Areneke, G., Yusuf, F., & Kimani, D. (2019). Anglo-American governance adoption in non-Anglo-American settings. *Managerial Auditing Journal*, 34(4), 486–514. <https://doi.org/10.1108/MAJ-12-2017-1733>
- Asahak, S., Albrecht, S. L., De Sanctis, M., & Barnett, N. S. (2018). Boards of directors: Assessing their functioning and validation of a multidimensional measure. *Frontiers in Psychology*, 9, e2425. <https://doi.org/10.3389/fpsyg.2018.02425>
- Atugeba, I. L. A., & Acquah-Sam, E. (2024). Relationship between corporate governance and firm performance in Ghana: Does compliance with national governance frameworks matter? *Cogent Economics & Finance*, 12(1), 2347022. <https://doi.org/10.1080/23322039.2024.2347022>
- Beekes, W., Brown, P., Zhan, W., & Zhang, Q. (2016). Corporate governance, companies' disclosure practices and market transparency: A cross country study. *Journal of Business Finance & Accounting*, 43(3-4), 263–297. <https://doi.org/10.1111/jbfa.12174>
- Beloy, J. Q. (2021). Internal control and accountability of credit co-operatives. *International Journal of Research and Innovation in Social Science*, 05(06), 445–452. <https://doi.org/10.47772/IJRISS.2021.5624>
- Benson, T. (2014). Building good management practices in Ethiopian agricultural co-operatives through regular financial audits. *Journal of Co-Operative Organization and Management*, 2(2), 72–82. <https://doi.org/10.1016/jjcom.2014.10.001>
- Berge, S. T., Bokoumbo, K., Johnson, K. A., Yabi, J. A., & Yegbemey, R. N. (2021). Co-operative development: Sustainable agricultural planning viewed through co-operative equilibrium management theory in Togo, Africa. *Frontiers in Sustainable Food Systems*, 5, 758363. <https://doi.org/10.3389/fsufs.2021.758363>
- Bravo, M. E. G., García, K. R. H., Álava, V. P., & Moreira, J. M. S. (2021). Analysis of the internal control process in savings and credit co-operatives. *Cooperativismo y Desarrollo*, 9(1), 227–242.

- Chareonwongsak, K. (2017). Enhancing board motivation for competitive performance of Thailand's co-operatives. *Journal of Co-Operative Organization and Management*, 5(1), 1–13. <https://doi.org/10.1016/j.jcom.2017.01.001>
- Chemakai, D., Alala, O. B., & Charles, T. (2018). The contribution of board accountability on the performance of SACCOS in Kakamega County, Kenya. *International Journal of Economics, Commerce and Management*, 6(5), 416–435.
- Chen, S., & Li, Y. (2024). Accountability from cyberspace? Scandal exposure on the Internet and official governance in China. *Political Science Research and Methods*, 12(1), 130–145. <https://doi.org/10.1017/psrm.2023.13>
- Christine, O., & Nyongesa, L. (2025). Corporate governance and financial performance in East Africa. *International Journal of Latest Technology in Engineering, Management & Applied Science*, 14(7), 123–139. <https://doi.org/10.51583/IJLTEMAS.2025.1407000016>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative and quantitative mixed methods approaches* (5th ed.). SAGE Publications.
- Creswell, J. W., & Plano Clark, V. I. (2017). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.
- De Herde, V., Baret, P. V., & Maréchal, K. (2020). Coexistence of co-operative models as a structural answer to lock-ins in diversification pathways: The case of the Walloon dairy sector. *Frontiers in Sustainable Food Systems*, 4, 584542. <https://doi.org/10.3389/fsufs.2020.584542>
- Dong, H., & Dacre, N. (2024). Commutable strategies and institutional dynamics in agricultural co-operatives: A project management perspective on crisis resilience and sustainability. *SSRN Electronic Journal*, 1–22. <https://doi.org/10.2139/ssrn.5010815>
- Evans, G. (2010). Corporate governance culture: An interview-based ethnography of two boards of directors using grounded theory. *Economics and Business Review*, 10(2), 15–32. <https://doi.org/10.18559/ebv.2010.2.897>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Galang, R. M. N., Lavado, R. F., White, G. O., III, & Francisco, J. P. S. (2020). Imposing cooperation: The impact of institutions on the efficiency of co-operatives in the Philippines. *Journal of Asia Business Studies*, 14(4), 421–440. <https://doi.org/10.1108/JABS-05-2019-0135>
- Grashuis, J. (2019). The agency cost of ownership and governance adaptations in farm producer organizations. *Agricultural Finance Review*, 80(2), 200–211. <https://doi.org/10.1108/AFR-07-2019-0079>
- Hair, J. F., Sarstedt, M., Matthews, L. M., Ringle, C., & M., M. (2022). Identifying and treating unobserved heterogeneity with FIMIX-PLS: Part II – A case study. *European Business Review*, 34(1), 1–24. <https://doi.org/10.1108/EBR-09-2020-0241>
- Hair, J., & Alamer, A. (2022). Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027. <https://doi.org/10.1016/j.rmal.2022.100027>
- Hakelius, K. (2018). Understanding the board of Swedish farmer co-operatives: Cases focusing on board composition and interaction patterns. *Journal of Co-Operative Organization and Management*, 6(2), 45–52. <https://doi.org/10.1016/j.jcom.2018.06.001>
- Haxhi, I. (2023). An institutional perspective on corporate governance. In *Oxford research encyclopedia of business and management* (pp. 1–19). Oxford University Press. <https://doi.org/10.1093/acrefore/9780190224851.013.362>
- Henseler, J. (2021). *Composite-based structural equation modeling: Analyzing latent and emergent variables*. Guilford Press.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based SEM. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hidayat, S., Setiawan, M., Rohman, F., & Hussein, A. S. (2022). Development of quality digital innovation by optimally utilizing company resources to increase competitive advantage and business performance. *Administrative Sciences*, 12(4), 157. <https://doi.org/10.3390/admsci12040157>
- Holgado-Silva, H. C., & Binotto, E. (2022). Innovation performance: What is happening in agricultural co-operatives? *Brazilian Business Review*, 19(6), 626–641. <https://doi.org/10.15728/bbr.2022.19.6.3.en>
- Hooper, V. J., Liu, Y., Sim, A. B., & Uppal, A. (2019). Macro governance and profitability around the world: A methodological improvement. *Open Journal of Business and Management*, 07(03), 1504–1524. <https://doi.org/10.4236/ojbm.2019.73104>
- 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](https://doi.org/10.1016/0304-405X(76)90026-X)
- Joannides, C. C., VanPeurse, K., Old, K., & Locke, S. (2016). Socializing accounting practices in governing boards: Dairy co-operatives down-under. *Journal of Accounting & Organizational Change*, 12(1), 75–102. <https://doi.org/10.1108/JAOC-03-2013-0022>
- Kabyagoro, B., Agaba, M., Mpora, E. B., Sunday, A., & Sekuwi, D. (2024). Effect of board accountability on financial performance of selected SACCOS in Kiruhura District, Uganda. *International Journal of Social Science and Education Research Studies*, 4(1), 22–35. <https://doi.org/10.55677/ijssers/V04I1Y2024-04>
- Kantabutra, S., & Ketprapakorn, N. (2021). Toward an organizational theory of resilience: An interim struggle. *Sustainability*, 13(23), 13137. <https://doi.org/10.3390/su132313137>
- Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care: journal of the International Society for Quality in Health Care*, 15(3), 261–266. <https://doi.org/10.1093/intqhc/mzg031>

- Khandelwal, V., Tripathi, P., Chotia, V., Srivastava, M., Sharma, P., & Kalyani, S. (2023). Examining the impact of agency issues on corporate performance: A bibliometric analysis. *Journal of Risk and Financial Management*, 16(12), 497. <https://doi.org/10.3390/jrfm16120497>
- Kopelman, L. M. (2004). Minimal Risk as an International Ethical Standard in Research [Review of Minimal Risk as an International Ethical Standard in Research]. *The Journal of Medicine and Philosophy A Forum for Bioethics and Philosophy of Medicine*, 29(3), 351. Oxford University Press. <https://doi.org/10.1080/03605310490500545>
- Kuphanga, D. (2024). Questionnaires in research: Their role, advantages, and main aspects in research. *ActionAid International*, 1–10. <https://doi.org/10.13140/RG.2.2.15334.64325>
- Kyabarongo, B., Agaba, M., Caleb, T., Katabazi, B. A., & Ahabwe, O. (2024). Board assurance and performance of selected SACCOS in Kaihura District, Uganda. *Journal of Economics. Finance and Management Studies*, 7(1), 41. <https://doi.org/10.47191/jefms/v7-i1-41>
- Laosirihongthong, T., Prajogo, D. I., & Adebajo, D. (2014). The relationships between firm strategy, resources, and innovation performance: A resource-based view perspective. *Production Planning & Control*, 25(15), 1231–1246. <https://doi.org/10.1080/09537287.2013.819593>
- Li, Z., Jacobs, K. L., & Artz, G. M. (2015). The co-operative capital constraint revisited. *Agricultural Finance Review*, 75(2), 253–266. <https://doi.org/10.1108/AFR-11-2014-0034>
- Limnios, E. A. M., Watson, J., Mazzarol, T., & Soutar, G. N. (2016). Financial instruments and equity structures for raising capital in co-operatives. *Journal of Accounting & Organizational Change*, 12(1), 50–68. <https://doi.org/10.1108/JAOC-01-2013-0006>
- Liu, G., Zhang, B., Fu, X., & Zhang, R. (2020). Analysis on poverty reduction effects and its influencing factors of farmer co-operatives in contiguous and extremely poor areas: Evidence from the Qinling–Bashan mountainous regions. *E3S Web of Conferences*, 214, 02033. <https://doi.org/10.1051/e3sconf/202021402033>
- López, I. M., Barcala, M. F., & Díaz, M. G. (2024). Unraveling agricultural co-operatives' performance measurement: A literature review. *International Food and Agribusiness Management Review*, 27(1), 1–20. <https://doi.org/10.22434/IFAMR2023.0054>
- Lucas-Martínez, G., Martín-Ugedo, J. F., & Minguez-Vera, A. (2020). Members' perceptions of governance in agricultural co-operatives: Evidence from Spain. *Outlook on Agriculture*, 49(2), 145–152. <https://doi.org/10.1177/0030727020907334>
- Maestre-Matos, M., Lombana-Coy, J., Mesías, F. J., & Elghannam, A. (2021). Institutional factors that affect inclusive businesses: The case of banana co-operatives in the Magdalena Region (Colombia). *International Journal of Rural Management*, 17(1\_suppl), 69S–96S. <https://doi.org/10.1177/0973005221991603>
- Mardi, M., Perdana, P. N., Suparno, S., & Munandar, I. A. (2020). Effect of accounting information systems, teamwork, and internal control on financial reporting timeliness. *The Journal of Asian Finance, Economics and Business*, 7(12), 809–818. <https://doi.org/10.13106/jafeb.2020.vol7.no12.809>
- Matangaidze, R., Rukuni, M., Musara, J. P., Chapwanya, A., & Nyamushamba, G. B. (2023). An analysis of governance factors influencing performance of selected smallholder dairy co-operatives in Zimbabwe. *Tropical Animal Health and Production*, 55(2), 81. <https://doi.org/10.1007/s11250-023-03472-z>
- Maydeu-Olivares, A., & Lado, N. (2003). Market orientation and business economic performance. *International Journal of Service Industry Management*, 14(3), 284–309. <https://doi.org/10.1108/09564230310478837>
- Meira, D., Bandeira, A. M., & Santos, M. (2022). Accountability and transparency in co-operatives: A comparative analysis between Portugal and Germany. *REVESCO. Revista de Estudios Cooperativos*, 142, e83721. <https://doi.org/10.5209/reve.83721>
- Mina, J. C., Domingo, A. V., & Quijano, F. T. (2022). Management practices of co-operatives in Nueva Ecija: A basis for a sustainable development program. *OALib*, 09(03), e8515–21. <https://doi.org/10.4236/oalib.1108515>
- Mishra, B., & Kumar, A. (2021). How does regulatory framework impact sectoral performance? A systematic literature review. *International Journal of Productivity and Performance Management*, 72(5), 1419. <https://doi.org/10.1108/ijppm-07-2021-0398>
- Mlay, L. S., Temu, S. S., & Mataba, L. (2022). Influence of board attributes on board roles performance in savings and credit co-operative societies in Tanzania. *Business Management Review*, 25(1), 1. <https://doi.org/10.56279/bmrj.v25i1.6>
- Mmbughu, A. E., Katundu, M. A., & Mrimi, M. T. (2025). Leveraging co-operatives for community development: Insights from cashew farmers in Tanzania amid the negative impact of climate change. *Discover Sustainability*, 6(1), 228. <https://doi.org/10.1007/s43621-025-00962-y>
- Montegut, Y., & Bastida, R. (2014). Analysis of the statutory changes to adapt the share capital reimbursement regime to the co-operative accounting standards. *Intangible Capital*, 10(4), 786–810. <https://doi.org/10.3926/ic.548>
- Munir, R., & Baird, K. (2016). Influence of institutional pressures on performance measurement systems. *Journal of Accounting & Organizational Change*, 12(2), 106–128. <https://doi.org/10.1108/JAOC-09-2014-0051>
- Mwendia, R. (2018). *Corporate governance practices and financial performance on deposit-taking SACCOS in Nairobi City County* [Master's thesis]. <https://ir-library.ku.ac.ke/items/98b41000-5466-4585-8228-dac8a60a220e>

- Mweta, T. M., Jagongo, A., & Mithi, F. (2024). Regulatory framework effect on the nexus between external corporate governance mechanisms and financial performance of cross-listed companies in the East African Community region. *African Journal of Emerging Issues*, 6(5), 45–74.
- Nakpodia, F., Adegbite, E., Amaeshi, K., & Owolabi, A. (2018). Neither principles nor rules: Making corporate governance work in Sub-Saharan Africa. *Journal of Business Ethics*, 151(2), 391–408. <https://doi.org/10.1007/s10551-016-3208-5>
- Ndibaru, J. G., & Ongwae, G. J. (2023). Financial accountability practices and financial sustainability of donor funded projects in Kiambu County, Kenya. *International Academic Journal of Economics and Finance*, 3(10), 26–82.
- Njoka, A. N. (2021). Effect of competitive strategies on growth of savings and credit co-operative societies in Tharaka Nithi County, Kenya. *European Business & Management*, 7(2), 24–41. <https://doi.org/10.11648/j.ebm.20210702.11>
- Nowfal, S. H., Nanduri, S., Theresa, W. G., Samhitha, K., & Vinoth, R. (2024). The role of agricultural co-operatives in enhancing credit access, market information, and smart farming among rural farmers. *Research on World Agricultural Economy*, 6(1), 654–672. <https://doi.org/10.36956/rwae.v6i1.1536>
- Nyangau, V. M., & Oluoch, J. O. (2021). Influence of board characteristics on financial performance of deposit-taking savings and credit co-operative societies in Western Kenya. *Global Journal of Management and Business Research*, 21(2), 1–17.
- Okumu, B., & Muchapondwa, E. (2020). Determinants of successful collective management of forest resources: Evidence from Kenyan community forest associations. *Forest Policy and Economics*, 113, 102122. <https://doi.org/10.1016/j.forpol.2020.102122>
- Othman, R., Embi, R., Aris, N. A., Arif, S. M. M., Choo, H. C., & Ismail, N. (2016). Board governance and performance: An exploratory study of Malaysian co-operative organizations. *Journal of Southeast Asian Research*, 2016, 1–12. <https://doi.org/10.5171/2016.430025>
- Paraschou, M., Sergaki, P., Kalogeras, N., Nastis, S. A., & Staboulis, C. (2025). Agricultural co-operatives: Roadblocks to achieving sustainability. *Sustainability*, 17(17), 8012. <https://doi.org/10.3390/su17178012>
- Pelimina, B., & Justin, K. (2015). The contribution of farmers organizations to smallholder farmers well-being: A case study of Kasulu district, Tanzania. *African Journal of Agricultural Research*, 10(23), 2343–2349. <https://doi.org/10.5897/AJAR2014.9261>
- Pernelet, H., & Brennan, N. M. (2023). Impression management at board meetings: Accountability in public and in private. *Accounting, Auditing & Accountability Journal*, 36(9), 340–369. <https://doi.org/10.1108/AAAJ-09-2022-6050>
- Pinto, S. R., Dionizio da Silva, G., & Sepulcri, L. M. C. B. (2023). The role of accountability in social organizations: A systematic literature review. *Revista de Gestão Social e Ambiental*, 18(12), e010112. <https://doi.org/10.24857/rgsa.v18n12-162>
- Rajakulanajagam, N., & Nimalathanan, B. (2020). Corporate transparency and firm value: 6th International Conference for Accounting Researchers and Educators University of Kelaniya, Sri Lanka. [https://www.researchgate.net/publication/349301919\\_Corporate\\_Transparency\\_and\\_Firm\\_Value\\_Evidence\\_from\\_Sri\\_Lanka](https://www.researchgate.net/publication/349301919_Corporate_Transparency_and_Firm_Value_Evidence_from_Sri_Lanka)
- Rukuni, T. F., Huni, T., Tshetu, P., Leontes, I., & Takura, E. (2020). Evaluating operational competencies and the success of agricultural co-operatives in South Africa. *Journal of Entrepreneurial Innovations*, 1(1), 14–26. <https://doi.org/10.14426/jei.v1i1.571>
- Rwekaza, G. C., & Anania, P. (2018). Co-operative decision-making structure and its effectiveness in promoting sustainable co-operative organizations in Tanzania: A case of selected agricultural marketing co-operatives in Shinyanga Region. *Arts and Social Sciences Journal*, 09(01), 2–5. <https://doi.org/10.4172/2151-6200.1000320>
- Sarma, G. D., Choudhury, S., Bharadwaj, P., & Sarma, M. (2024). Navigating corporate governance and ethics: The cornerstones of sustainable business practices. *Educational Administration: Theory and Practice*, 30(5), 5442–5454. <https://doi.org/10.53555/kuey.v30i5.2889>
- Sarstedt, M., Hair, J. F., Cheah, J. H., Becker, S., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal*, 27(3), 197–211. <https://doi.org/10.1016/j.ausmj.2019.05.003>
- Seckin-Celik, T. (2020). An overview of four fundamental theories of organizations. *Afyon Kocatepe University Journal of Social Sciences*, 22(3), 730–746. <https://doi.org/10.32709/akusosbil.548390>
- Shirima, V. (2022). Critical success factors for the better performance of agricultural marketing co-operative societies in Rombo District, Tanzania: Are members aware of them? *Cogent Business & Management*, 9(1), 2144703. <https://doi.org/10.1080/23311975.2022.2144703>
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Silva, F. F., Baggio, D. K., & Santos, D. F. L. (2022). Governance model and performance of agricultural co-operatives. *Journal of Management and Economics for Iberoamerica*, 38(165), 464–478. <https://doi.org/10.18046/j-estger.2022.165.5238>
- Singh, S., Darwish, T. K., & Potočnik, K. (2016). Measuring organizational performance: A case for subjective measures. *British Journal of Management*, 27(1), 214–224. <https://doi.org/10.1111/1467-8551.12126>

- Spanevello, R. M., Boscardin, M., Ropke, E. R., Fagundes, C. C., Brizola, P. F., Lago, A., & Andreatta, T. (2020). Agricultural co-operatives and business diversification. *Research, Society and Development*, 9(10), e8253. <https://doi.org/10.33448/rsd-v9i10.8253>
- Subhaktiyasa, P. G. (2024). PLS-SEM for multivariate analysis: A practical guide to educational research using SmartPLS. *Journal of Education and Learning Innovation*, 4(3), 353-365. <https://doi.org/10.35877/454RI.eduline2861>
- Tanujaya, B., Prahmana, R. C. I., & Mumu, J. (2022). Likert scale in social sciences research: Problems and difficulties. *FWU Journal of Social Sciences*, 16(4), 89–101. <https://doi.org/10.51709/19951272/Winter2022/7>
- Tanzania Co-operative Development Commission (TCDC). (2022). *Vyama vya ushirika vilivyofutwa kwenye rejista (26 Julai 2022)* <https://www.ushirika.go.tz/index.php/resources/view/orodha-ya-vyama-vya-ushirika-vinavyofutwa-kwenye-rejista-ya-vyama-vya-ushirika-tarehe-26-julai-2022>
- Tanzania Co-operative Development Commission (TCDC). (2023). *Co-operative statistical report: July 2022–January 2023* <https://www.ushirika.go.tz/index.php/resources/view/tcdc-co-operative-statistical-report-for-jan-june-2022-2023>
- Tzagkarakis, S. I., & Kritas, D. (2023). Mixed research methods in political science and governance: Approaches and applications. *Quality & Quantity*, 57(Suppl 1), 39–53. <https://doi.org/10.1007/s11135-022-01384-y>
- Wuryani, E., & Harti, H. (2020) *Co-operative management through standard operational management and standard operating procedures to improve performance* [Paper presentation]. Proceedings of the 17th International Symposium on Management (INSYMA 2020). <https://doi.org/10.2991/aebmr.k.200127.037>
- Yakar Pritchard, G., & Çalyurt, K. T. (2021). Sustainability reporting in co-operatives. *Risks*, 9(6), 117. <https://doi.org/10.3390/risks9060117>
- Yalles, M., & Fink, G. (2020). Agency mindset theory. *Acta Europæana Systemica*, 3, 127–140. <https://doi.org/10.14428/aes.v3i1.57513>
- Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper & Row.
- Zhang, J., Zamani, E. D., & Gerli, P. (2024). Co-constructing co-operative value ecosystems: A critical realist perspective. Wiley, Special Issue Article. <https://doi.org/10.1111/isj.12549>
- Zhang, S., Wu, B., Chen, R., Liang, J., Khan, M., & Ray, R. L. (2023). Government intervention on co-operative development in poor areas of rural China: A case study of XM beekeeping co-operative in Sichuan. *Land*, 12(4), 731. <https://doi.org/10.3390/land12040731>