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Top Management Commitment, Supplier Quality Practices and Firm Performance: Evidence from Agro-Food Processing SMEs in Tanzania

Top Management Commitment, Supplier Quality Practices and Firm Performance: Evidence from Agro-Food Processing SMEs in Tanzania

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Abstract
This study examines the role of top management commitment (TMC) as an antecedent of supplier quality management (SQM) and investigates the relationship between SQM and firm performance among agro-food processing SMEs (AFP-SMEs) in the Sub-Saharan African context. Data were collected through a structured questionnaire from 256 agro-food processing SMEs in Tanzania. A quantitative approach using structural equation modelling was used for data analysis. Results indicated a significant positive relationship between TMC, SQM, and firm performance. Additionally, results showed that the relationship between TMC and firm performance is partially mediated by SQM practices. A further post-hoc analysis of the higher-order measurement model showed that supplier selection contributed most strongly to SQM practices, followed by supplier relationship management, supplier inspection, and supplier development. The study contributes to the SQM literature and firm performance by treating SQM practices as an important organisational capability that can enhance firm performance. It also identifies TMC as an important antecedent of SQM capability and provides evidence from Sub-Saharan Africa, where empirical work on SQM remains scarce.

Introduction
Agro-food processing small and medium-sized enterprises (AFP-SMEs) represent one of the largest and most dynamic subsectors within the global manufacturing system, accounting for an estimated 80–90% of food processing firms worldwide (Tidjani et al., 2025). The importance of AFP-SMEs is particularly evident in Tanzania, where agriculture is estimated to account for 23.3% of gross domestic product (GDP) and approximately 65% of total employment (World Bank, 2025). By processing agricultural output, AFP-SMEs provide an important link between agricultural activities and manufacturing, contributing to value addition and economic transformation (Musaazi et al., 2024). However, AFP-SMEs, particularly those operating in Sub-Saharan Africa, continue to underperform despite being key input producers (Muriithi, 2017; Nkwabi et al., 2019; OECD, 2023). Among the factors explaining this underperformance, the ability to produce quality food products has been identified as a critical concern. (Balagaye & Pessa, 2022; Esther et al., 2020; Nkwabi et al., 2019)

One important factor contributing to low product quality among AFP-SMEs is the low quality of supplied inputs owing to their high dependence on the quality of agricultural materials. (Nkwabi et al., 2019; Benfica et al., 2023). This is attributed to several challenges such as fragmentation within the agricultural supply chain, ineffective supplier selection processes, limited information sharing, the absence of standardised supply management systems, and insufficient financial and technical capacities to implement quality assurance measures (Kweka, 2018; Mkuna et al., 2021; Muriithi, 2017; Nkwabi et al., 2019) These challenges underscore the importance of supplier quality management (SQM) as one of the strategic approaches for AFP-SMEs to mitigate quality risks associated with supplied materials.

SQM encompasses a set of management activities aimed at improving the quality of supplied materials (Kosmol et al., 2018; Salimian et al., 2021). These activities may include sourcing, evaluating and selecting suppliers, inspecting incoming material, creating relationships with suppliers, developing suppliers, and monitoring supplier performance (Ahmad & Mondal, 2019; Kosmol et al., 2018; Salimian et al., 2021). It offers economic benefits through cost reduction and quality improvement, which are crucial for competitive advantage (Mandal, 2021). The cost impact of SQM is underscored by the fact that procured materials and services constitute approximately 70% of total manufacturing costs (Amoako-Gyampah et al., 2019; Prajogo et al., 2018). In essence, any failure in supplier quality, such as poor product quality or delayed deliveries, can lead to considerable financial losses (Changalima et al., 2024). On the other hand, SQM practices proactively mitigate the costs of supplier uncertainty by ensuring that incoming raw materials conform to established quality specifications, simultaneously improving product quality and firm performance (Amoako-Gyampah et al., 2019).

Studies show that SQM practices have a positive and significant effect on various facets of performance, including innovation (Hong et al., 2019; Lee et al., 2021) quality (Kuwornu et al., 2023; Zhou & Li, 2020), and overall performance (Hussain et al., 2019). Nevertheless, much of the literature has examined SQM as one component of the broader SCQM construct. Although this approach has generated important insights, it fails to explain how SQM operates as a dynamic capability that requires dedicated resources, commitment, and firm routines to drive performance. Furthermore, the limited studies focusing specifically on SQM have examined its conceptualisation (Zu & Kaynak, 2012) and implementation frameworks (Kosmol et al., 2018), and Salimian et al. (2021) examined the relationship between SQM and quality performance. This leaves a theoretical gap in understanding how firm-level SQM capability drives firm performance.

Furthermore, limited attention has been given to organisational factors that enable SQM implementation. Top management commitment (TMC) is an important factor because it provides strategic direction, resources, and the support necessary for establishing an SQM practice(Haldorai et al., 2025; Jafari et al., 2026). This is particularly relevant in SMEs, where the implementation of strategic decisions is determined by top managers. Their commitment can influence organisational action (Kikwasi et al., 2023).

To advance the theoretical understanding of how firms achieve performance in dynamic markets, this study draws on Dynamic Capability Theory (DCT). The DCT suggests that firms achieve and sustain performance by mobilising resources and capabilities to seize opportunities and respond to market challenges. In this context, TMC plays the role of mobilisation, while SQM represents the capability through which supply-related dynamics are managed to achieve performance. Nevertheless, evidence from Sub-Saharan Africa, such as Tanzania, is lacking on SQM practices, TMC, and firm performance. Therefore, the study addresses these gaps by investigating the following questions: RQ1: How does top management commitment influence supplier quality management? RQ2: What is the relationship

between supplier quality management and firm performance? RQ3: Does supplier quality management mediate the relationship between top management commitment and firm performance?

By addressing these questions, the study contributes to the literature on TMC, SQM, and firm performance in three ways. First, it extends the use of DCT in SQM practices and firm performance linkages. Second, it provides empirical evidence on the relative importance of TMC in strengthening SQM practices. Third, it extends SQM research to the Sub-Saharan African context, where empirical evidence remains scarce.

The remainder of the paper provides the theoretical background of the study, reviews the literature on SQM practices, and draws associations among the study constructs to develop hypotheses. In the next section, we describe the methodology used, followed by a presentation of the results and their implications.

Theoretical background and Hypothesis Development

Dynamic capabilities theory

The Dynamic Capabilities theory (DCT) explains how firms can achieve and sustain competitive advantages in a changing market environment through their resources (Teece et al., 1997). They further define dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competencies to address a rapidly changing environment. The proposition of DCT is that capabilities are based on organisational micro-foundations (Beske, 2012). These foundations may include managerial decisions, organisational processes, and routines through which capabilities are created and deployed (Masteika & Čepinskis, 2015). Organisational capabilities therefore do not emerge automatically; they develop through deliberate managerial actions (Hong et al., 2018). Top management represents an internal competency element of dynamic capability: their capabilities arise from their role in facilitating the development and deployment of firm capabilities by providing direction, allocating resources, and creating a conducive environment. (Teece, 2007). DCT further suggests that competitive advantage is generated by complementary organisational capabilities operating together (Alsawafi et al., 2021). In this regard, SQM is positioned as a capability through which firms can respond to challenges and opportunities in the supply market and enhance their performance. It represents an operational capability through which firms translate managerial intentions into coordinated organisational routines (Pu et al., 2026). As argued by Hong et al., (2019) organisational capabilities provide collective processes for interpreting environmental changes and coordinating organisational responses. According to Moreno-Luzon et al., (2019), SQM enables firms to sense supplier related opportunities and challenges and seize them through routines that ensure better material quality. Ultimately, firms improve overall organisational performance. Therefore, this study employs DCT to explain TMC as an internal resource for mobilising SQM as a mechanism for firm performance in the dynamic supply market.

Supplier quality management practices

Supplier quality management is the systematic process by which buying firms ensure that suppliers provide materials and services that meet specified quality requirements (Salimian et al., 2021). It involves proactive engagement with suppliers through activities such as supplier selection, quality assessment, supplier development, and supplier relationship management. The importance of SQM practices is underscored by rising competition, which has led to the extension of management practices across the supply chain. As a result, many firms have recognised the growing importance of managing quality beyond the firm's boundaries (Hong et al., 2019; Pu et al., 2026). Studies show that a firm's aggregate performance depends on the performance of its suppliers (Juettner et al., 2020; Wu et al., 2024). Therefore, buying firms could rely on SQM practices to minimise potential risks of uncertainty arising from suppliers and to increase their performance (Fernandes et al., 2022; Hussain

et al., 2019). SQM enables firms to incorporate quality objectives that help them cut costs, ensure a reliable supply of quality materials, and enhance overall organisational performance (Salimian et al., 2021).

In the literature, different SQM practices are provided, and there is no universal agreement regarding their dimensions (Kosmol et al., 2018; Lo et al., 2006; Salimian et al., 2021; Zu & Kaynak, 2012). In this study, we focus on supplier selection, supplier relationship management, supplier inspection, and supplier development. The rationale for the selected practices is based on their widespread representation as key SQM practices in the literature. Second, the selected dimensions capture the entire supplier quality management lifecycle, beginning with supplier selection, followed by supplier inspection to verify compliance with quality requirements, supplier relationship management to foster collaboration and continuous quality improvement, and supplier development to enhance suppliers' capabilities over time. Third, our literature review suggests that these practices represent the key aspects in the manufacturing sector (Kosmol et al., 2018; Salimian et al., 2021). Table 1 shows the SQM practices.

Table 1: SQM Practices

SQM Dimension	Explanation	**Representative literature**
Supplier selection	Based on evaluation and selecting the characteristics of suppliers that best suit the firm's quality requirements, evaluating supplier quality systems, and past performance history during the sourcing phase	(Changalima et al., 2024; Prajogo et al., 2012; Yang & Zhang, 2017 Kosmol et al., 2018; (Changalima et al., 2024; Kisinga et al., 2024; Kosmol et al., 2018; H. Lee & Li, 2018; Prajogo & Olhager, 2012; Salimian et al., 2021; Zu & Kaynak, 2012);
Supplier inspection	Outcome-based check of incoming materials, regular quality audit, performance measurement	
Supplier relationship	Establishing mutual trust and long-term commitment, frequent two-way communication, sharing information	
Supplier development	Efforts by buying firms to improve the supplier's performance and capabilities. Direct involvement through training, technical assistance (personnel, equipment)	

Hypothesis Development and Conceptual Model

Top Management Commitment and Supplier Quality Management

TMC has been established as a critical driver of the management practices that determine firm success or failure (Haldorai et al., 2025). TMC is crucial to SQM for several reasons. First, managers play a role in controlling organisational resources, which are essential for supporting supplier management routines. This includes providing the necessary personnel and ensuring appropriate financial resources are allocated for quality materials (Singh, 2024). Second, top managers are better positioned to build trust and commitment from their suppliers (Luo et al., 2023). Lastly, top managers possess the authority to create an organisational climate that fosters SQM (Haldorai et al., 2025). Due to their importance, TMC has been linked to the implementation of various supply chain management strategies. For example, in the context of supply chain digital transformation, supportive leadership is considered important for leveraging big data analytics, enhancing both supply chain agility and overall firm performance (Jafari et al., 2026). In another study, TMC has been recognised as a key enabler of supply chain resilience capabilities (Mandal, 2021). Teoman and Ulengin (2017), in their exploration of leadership styles in Turkey, found that transformational leadership, characterised by its emphasis on inspiring followers, engaging their emotions, and fostering strong relationships within organisations, has a significant and positive impact on a firm's supply chain quality performance. Similarly, cross-functional integration in firms has been linked to top management

support (Wu et al., 2024). Top management commitment is therefore expected to have a positive effect on the implementation of SQM practices. Accordingly, the following hypothesis is proposed:

H1: *Top management commitment is positively related to supplier quality management practices.*

Supplier Quality Management Practices and Firm Performance

From the perspective of DCT, SQM practices represent operational routines that enable firms to take advantage of changes in the supply market. It involves firms' routine of sensing and seizing opportunities and challenges in the supply market as a source of performance (Pu et al., 2026). The implementation of SQM practices enables firms to improve operational efficiency and produce quality products, which results in overall organisational performance (Hong et al., 2020; Salimian et al., 2021).

Previous research shows mixed results regarding the link between SQM practices and performance outcomes. While some studies suggest SQM can lead to better performance, others find no significant connection. For instance, Leuschner et al. (2013) conducted a meta-analysis and found no significant correlation between supplier integration (an essential part of SQM and financial performance, arguing for increased costs as a reason. Similarly, Jayaram & Xu (2013) reported an insignificant relationship between supplier relationships and performance in Chinese manufacturing firms. These conflicting findings could pose a barrier for manufacturing firms considering investment in SQM practices. One potential reason for the inconsistency may be the different measures used and different research contexts (Leuschner et al., 2013). On the other hand, extensive research evidence generally suggests that supplier quality management practices contribute positively to firm performance. Studies have shown that establishing long-term relationships with key suppliers enhances supply chain competitiveness by reducing costs, improving delivery reliability, and reducing supplier uncertainty (Widjaja & Darmawan, 2022). Similarly, supplier assessment practices and specifications identified by the buyer have been found to improve buyer performance by ensuring that supplies consistently meet organisational requirements (Kosmol et al., 2018). Furthermore, supplier development initiatives, including training, technical support, mentoring, and financial assistance, have been associated with improved supplier capabilities and reliable supplies of quality raw materials (Glavee-Geo, 2019; Wu et al., 2024). In the context of supply chain management, effective supplier relationships are an important element of a cutting-edge supply chain, which influences the competitiveness of the entire supply chain (Siddh et al., 2020; Zhou & Li, 2020). On balance, the weight of evidence suggests that SQM practices are positively related to performance. Therefore, the following hypothesis is proposed

H2: *Supplier quality management practices are positively related to performance*

Top Management Commitment and Firm Performance

As the business environment becomes increasingly complex, the importance of TMC in driving organisational outcomes has intensified (Haldorai et al., 2025). TMC is often regarded as a key driver of quality management initiatives within an organisation. It reflects the extent to which top management is engaged in strategic decision-making, resource allocation, and ongoing governance to achieve desired objectives (Mandal, 2021). The significance of TMC lies in its strategic role as an internal resource for ensuring organisational success (Uddin & Jayaram, 2025). Research in quality management suggests that when top management is committed, they are more effective at shaping the strategic direction of the firm, which ultimately enhances firm performance (Luo et al., 2023; Teoman & Ulengin, 2017). In sum, firms with top leaders committed to ensuring quality in their supply chain are better positioned to achieve greater firm performance. We therefore hypothesised that

H3: *Top management commitment positively influences firm performance*

The Mediating Role of Supplier Quality Management

According to Dynamic capabilities theory, TMC acts as an important internal organisational factor needed to foster favourable climates for achieving firm performance(Alsawafi et al., 2021). An effective TMC can, therefore, be regarded as a firm-specific asset that can enable SQM practices and performance (Yang & Zhang, 2017). Teoman & Ulengin, (2017) argue that management leadership plays a crucial role in enhancing quality practices, particularly through supplier management.

Moreover, the implementation of SQM has a positive effect on performance. It is argued that firms with top management committed to SQM achieve better performance through minimising operational costs, shortening process cycles, refining quality performance, and enhancing customer satisfaction (Hong et al., 2020; Jagtap et al., 2017). Taken together, indirect mediation has been postulated from TMC to firm performance through SQM. In essence, TMC enables the allocation of resources, the setting of strategic priorities, and the establishment of governance mechanisms (Luo et al., 2023; Teoman & Ulengin, 2017) that support the development of SQM routines that enhance firm performance. Therefore, we suggest the following hypothesis

H4: *Supplier quality management mediates the relationship between top management commitment and firm performance.*

Conceptual framework

The overall conceptual framework that presents the proposed relationship among the key constructs is presented in Figure 1, with further details on each construct in Section 2.3.

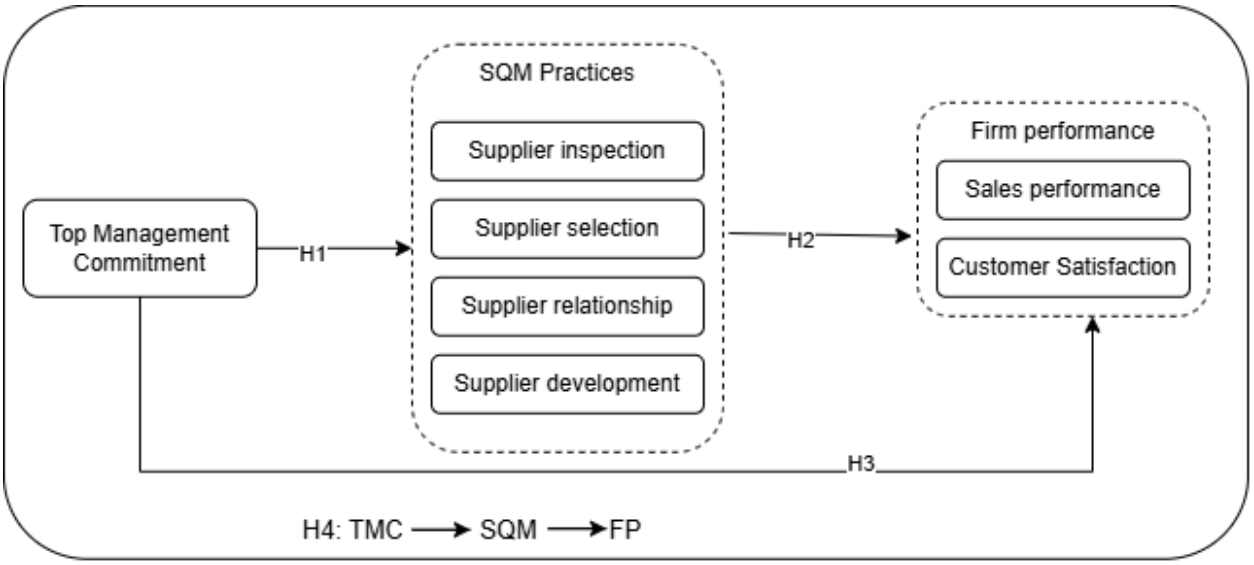

Figure 1: Conceptual Model

Methodology

Area of Study

The study was conducted in the Eastern zone of Tanzania, including the regions of Dar es Salaam, Pwani, and Morogoro. This area was selected because it has a relatively high number of AFP-SMEs, accounting for 20-25% of all such SMEs in mainland Tanzania (NBS, 2025). This allowed the sample to capture a wide category of existing firms, enhancing representativeness and generalisation in the study context.

Population, Sampling, and Data Collection

The population of the study comprised AFP-SMEs registered by the Small Industries Development Organisation (SIDO) in Eastern Tanzania. The sampling frame consisted of 2955 AFP-SMEs. The sample was estimated using the Yamane (1967) sample size determination formula, providing 352 firms at a 95% confidence level and 5% margin of error. A stratified simple random sampling technique was used to obtain a proportionate sample from each region. The unit of analysis was AFP-SMEs, and one respondent was selected purposively from each sampled firm, specifically the owner-managers or senior management representatives responsible for strategic and operational decision-making for the firm. Data were collected through structured questionnaires administered both online (Google Forms) and in-person. The online questionnaire received few responses, while most responses were obtained in-person. Of the 352 questionnaires distributed, 256 were completed and returned, a response rate of 73%, which is considered very good for survey research (Bell et al., 2022). The respondents' profile is shown in Table 2 below.

Table 2: Respondent Profile

Variable	Frequency	Percentage
Respondents Position		
Owner	125	48.8
Procurement Manager	37	14.5
Operational Manager	59	23
Quality Control Manager	18	7
Sales Manager	17	6.6
Number of Employees (Firm size)		
5-49 employees	187	73
50-99 employees	69	27
Company age		
3-6 years	125	48.8
7-9 years	94	36.7
10+ years	37	14.5
Food categories		
Cereal and cereal products	87	34
Dairy and dairy products	16	6.3
Fruit and vegetables	51	19.9
Spices and herbs	52	20.3
Edible oils, fats	32	12.5
Bakery & pastry products	17	6.6
Meat & meat product	1	0.4

Distribution of valid samples (n = 256)

Common Method Bias

Common method bias (CMB) was a potential threat to the study as all constructs were measured using a single instrument, and one respondent provided data for all study variables (Podsakoff et al., 2003). Procedural remedies were applied at the design stage: respondents were assured of anonymity and confidentiality, were told that there were no right or wrong answers, and independent and dependent items were separated within the questionnaire (Hair et al., 2019). Statistically, Harman's (1967) single-factor test was performed to assess CMB. The results revealed that the six factors with eigenvalues greater than 1 explained 72.9 percent of the total variance. The first factor accounted for 37.85% of the variance. The subsequent factors accounted for 78%, 7.69%, 6.14%,5.25%, and 4.19%, respectively, confirming that all factors are below the recommended threshold of 50% (Kock, 2015). The results suggest that CMB was not a threat to the study. Furthermore, because the questionnaires were

administered through both online and in-person modes, an independent t-test was conducted to assess potential response mode bias. The results revealed no statistically significant difference between online and in-person responses across the study construct ($p > 0.05$).

Measurement and Questionnaire Design

The measurement of the study constructs was developed based on an extensive literature review of the relevant literature. Items were adopted from the existing validated scale and reviewed by one academic expert and two practitioners operating in AFP-SMEs. The feedback was used to refine the item wording. Firm performance, the endogenous construct, was specified as a second-order reflective construct comprising two first-order reflective dimensions, sales performance and customer satisfaction, each measured with five items. The performance items were adopted from(Abrokwah-Larbi, 2024; Hussain et al., 2019; Kaynak & Hartley) SQM was specified as a second-order reflective construct, operationalised through four first-order reflective constructs: supplier inspection, supplier selection, supplier relationship management, and supplier development (Kaynak & Hartley, 2008; Krause et al., 2007; Prajogo et al., 2012; Zu & Kaynak, 2012) Top management commitment was specified as a first-order reflective construct measured with three items (Kaynak & Hartley, 2008; Uddin & Jayaram, 2025). All observed variables were measured on a five-point Likert scale from 1 - Very low extent to 5- Very great extent

Data Analysis

PLS-SEM, using SmartPLS 4, was used to analyse the collected data. The study followed the two-step approach proposed by Hair et al. (2019), whereby the first stage involved assessing the measurement model for reliability and validity, and the second stage focused on evaluating the structural model to test the hypothesised relationships between TMC, SQM, and SMEs' performance.

Results

Measurement Model Assessment

To evaluate the measurement model, this study followed the guidelines established by Hair et al. (2019), whereby construct reliability and validity were investigated.

Reliability Assessment

Reliability assessment involved measuring internal consistency using Cronbach's alpha (α), which determines the lower bound of reliability, with a recommended threshold of 0.7. Composite reliability (rho_c) is another measure of reliability that estimates the upper bound, with recommended threshold values ranging between 0.60 and 0.95 (Hair et al., 2021). The values of α and rho_c are reported in Table 3 below, which demonstrate satisfactory reliability for all measurement items.

Table 3: The results of Reliability and Convergent validity

Constructs	α	rho_c	AVE
CP	0.891	0.92	0.697
TTMC	0.824	0.894	0.738
SDEV	0.904	0.94	0.84
SINS	0.863	0.917	0.786
SP	0.9	0.926	0.716
SREL	0.699	0.833	0.625
SSEL	0.881	0.926	0.807

Convergent Validity

Convergent validity measures the theoretical relationship between the study variables. It was assessed using the Average Variance Extracted (AVE) and factor loadings for the items. The minimum threshold for AVE is 0.50, and the minimum value for factor loadings is 0.60 in exploratory research (Hair et al., 2021; Ringle et al., 2020). The results in Table 4 below indicate that all factor loadings were

above 0.6, and the AVE values in Table 3 above exceeded 0.50. Thus, the construct items used in this study demonstrated adequate convergent validity.

Table 4: Scale Reliability Analysis

	Construct	Loading
ITMC01	Degree to which top management commits adequate financial and other resources for operating supplier management activities	0.895
ITMC02	The extent to which top management establishes clear objectives for supplier quality performance.	0.816
ITMC03	The extent to which management supervises implementation of SQM activities	0.865
SINS01	The extent to which input specifications are clearly defined and available.	0.902
SINS02	The extent to which suppliers are provided with clear product specifications.	0.917
SINS03	The extent to which formal inspection of incoming materials is conducted.	0.838
SREL01	The extent to which suppliers are frequently engaged and consulted.	0.763
SREL02	The extent to which the organisation maintains long-term relationships with suppliers.	0.84
SREL03	The extent to which the organisation relies on a small number of reliable suppliers	0.766
SSEL01	The extent to which suppliers are selected based on their quality performance capabilities	0.885
SSEL02	The extent to which the supplier selection process is thorough and systematic	0.903
SSEL03	The extent to which product quality metrics are used in evaluating suppliers.	0.908
SDEV01	Extent to which training and educational support are provided to suppliers (Jayaram, 2008).	0.93
SDEV02	Extent to which the firm provides suppliers with tools, equipment, or resources necessary for quality improvement (Wen-Li)	0.939
SDEV03	Extent of technical assistance provided to suppliers to improve their capabilities (Krause 2007)	0.878
SP601	The extent to which the firm's sales volume has increased over the past three years	0.741
SP602	The extent to which the firm has achieved growth in sales revenue over the past three years.	0.872
SP603	The extent to which the firm's market share has improved over the past three years	0.867
SP604	The extent to which the firm's customer base has expanded over the past three years.	0.864
SP605	The extent to which the firm has successfully entered new market segments over the past three years.	0.88
CP701	The extent to which customer retention has improved over the past three years.	0.835
CP702	The extent to which the firm regularly receives positive feedback from customers regarding its products and services.	0.851
CP703	The extent to which the firm has acquired new customers through positive recommendations from existing customers over the past three years	0.885
CP704	The extent to which the firm has maintained strong relationships with its customers.	0.859
CP705	The extent to which customer loyalty toward the firm's products and services has improved over the past three years.	0.736

Discriminant Validity

Discriminant validity (DV) assesses whether the theoretical constructs used in the study are empirically distinct. It was evaluated using the heterotrait-monotrait (HTMT) ratio and the Fornell-Larcker criterion. The HTMT cutoff value is 0.85 (Hair et al., 2019). The results in Table 5 show that the HTMT values for all the items were below the conservative threshold, with the highest threshold being 0.822 between SSEL and SREL. The Fornell-Larcker criterion is another measure for DV. It requires that the square root of the AVE for each construct exceeds its correlations with all other constructs (Fornell & Larcker, 1981). Table 5 shows below that the diagonal bold values exceed the corresponding off-diagonal correlations in every case. Discriminant validity is therefore supported.

Table 5: HTMT ratio (on LHS) and Fornell-Larcker Criterion (on RHS)

SSEL	SREL	SP	SINSP	SDEV	TTMC	CP		CP	TTMC	SDEV	SINS	SP	SREL	SSEL
							CP	**0.835**						
						0.545	TTMC	0.477	**0.859**					
					0.334	0.281	SDEV	0.256	0.293	**0.916**				
				0.504	0.463	0.371	SINS	0.331	0.4	0.451	**0.886**			
			0.306	0.281	0.361	0.62	SP	0.562	0.322	0.257	0.273	**0.846**		
		0.516	0.763	0.48	0.513	0.557	SREL	0.444	0.393	0.381	0.589	0.41	**0.79**	
	0.822	0.541	0.582	0.644	0.535	0.551	SSEL	0.499	0.463	0.576	0.512	0.491	0.645	**0.899**

Assessment of the structural model

Coefficient and statistical significance

The structural model was assessed after the measurement model was established. Before testing the hypothesised paths, collinearity among the predictor constructs was examined. As shown in Table 6 below, all inner variance inflation factors (VIF) were below the conservative threshold of 3.3, indicating that collinearity was not a concern (Hair et al., 2019; Kock, 2015). The structural model was assessed after the measurement model was established. The PLS structural equation model was assessed by examining the path coefficients and statistical significance. The study used the bootstrapping method with 10,000 subsamples to estimate path coefficients, t-statistics, and p-values (Ringle et al., 2020). A t-value outside the range of −1.96 to +1.96 and a p-value below 0.05 indicate statistical significance. Figure 2 and Table 7 below present the results, which show that there is a statistically significant relationship between TMC and SQM practices ($\beta = 0.492$, $t = 9.998$, $p = 0.000$), supporting H1. Similarly, SQM had a significant positive effect on FP ($\beta = 0.410$, $t = 7.111$, $p = 0.000$). supporting H2.TMC positively influenced FP ($\beta = 0.254$, $t = 3.854$, $p < 0.000$), supporting H3. SQM practices mediated the relationship between TMC and FP ($\beta = 0.202$, $t = 5.929$, $p < 0.000$), supporting H4

Table 6: Collinearity Statistics Inner Model (VIF)

Construct	VIF
LV-CP	1.460
LV-SDEV	1.595
LV-SINSP	1.697
LV-SP	1.460
LV-SREL	2.040
LV-SSEL	2.214
TMC01	2.216
TMC02	1.790
TMC03	1.788

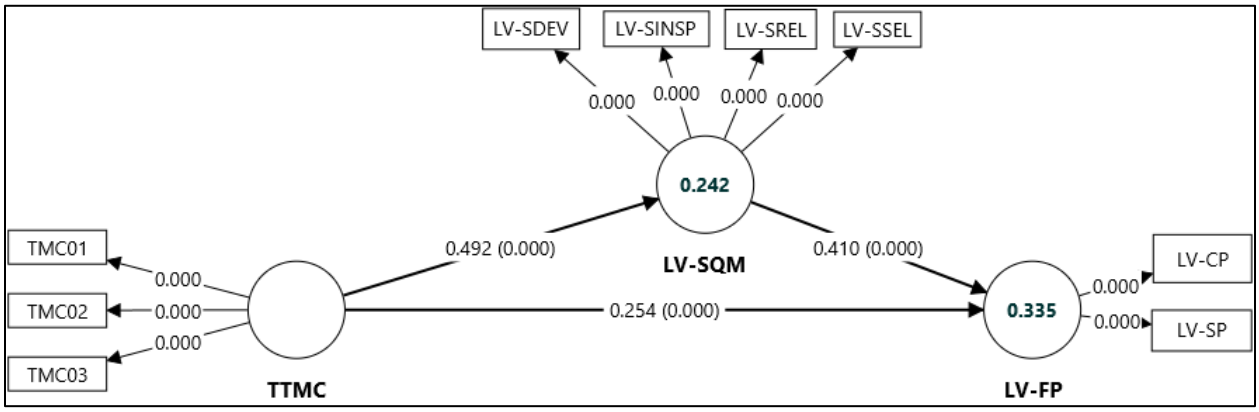

Figure 2: Estimated Structural Model

Table 7: Structural Assessment Results

Paths	β	T-statistics	P-values	Decision
TTMC -> LV-SQM	0.492	9.902	0.000	Supported
LV-SQM -> LV-FP	0.410	7.111	0.000	Supported
TTMC -> LV-FP	0.254	3.850	0.000	Supported
TTMC -> LV-SQM->LV-FP	0.204	5.929	0.000	Supported

Coefficients of determination (R^2)

Table 8 reports the R^2 values for the endogenous constructs that were assessed to determine the explained variance. According to accepted guidelines (Hair et al., 2019), R^2 values of 0.75, 0.50, and 0.25 indicate substantial, moderate, and weak explanatory power, respectively. TMC explained 24.2% of the variance in SQM practices, indicating weak explanatory power, and SQM explained 33.5% of the variance in firm performance, indicating moderate explanatory power.

Table 8: Model explanatory power

	R-Square	R-square adjusted	Q^2predict
LV-FP	0.335	0.330	0.198
LV-SQM	0.242	0.239	0.232
Note: f^2=TTMC→ LV-SQM (0.319); LV-SQM→LV-FP (0.192, TTMC→LV-FP (0.074)			

Predictive Relevance (Q2)

Predictive relevance was assessed using the PLSpredict procedure (Shmueli et al., 2019). The Q^2predict values were 0.198 for FP and 0.232 for SQM practices (Table 8). Because both values exceed zero, the model has predictive relevance (Hair et al., 2021)

Effect size (f2)

Effect sizes were assessed to determine the contribution of each exogenous construct. Values of f^2 of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively. The results in Table 8 indicate that TMC has a medium-to-large effect on SQM (f^2 = 0.319) and that SQM has a medium effect on firm performance (f^2 = 0.192), and TMC has a medium effect size on firm performance (f^2 = 0.07). Each exogenous construct therefore makes a meaningful contribution to its respective endogenous Construct.

Post-hoc Analysis of the Higher-order SQM Practices

Since SQM was specified as a second-order reflective construct, a post-hoc analysis was conducted to examine the relative contribution of each first-order dimension and thereby identify which

dimensions most strongly define SQM in the study context. Such analyses are recommended when higher-order constructs are used, because they sharpen theoretical interpretation and yield more specific managerial implications (Hair et al., 2021; Sarstedt et al., 2019). As Table 9 shows, supplier selection exhibited the highest loading on SQM (β = 0.879), followed by supplier relationship management (β = 0.840), supplier inspection (β = 0.780), and supplier development (β = 0.706)

Table 9: Post-hoc analysis

Paths	β	T-statistics	P-values	Rank
LV-SDEV ← LV-SQM	0.706	18.384	0	4
LV-SINSP ←LV-SQM	0.780	21.483	0	3
LV-SREL ←LV-SQM	0.840	41.282	0	2
LV-SSEL ←LV-SQM	0.879	64.921	0	1

Discussion

The study addresses three research questions on the influence of TMC on SQM practice, the relationship that exists between SQM practices and firm performance, and whether SQM practices mediate the relationship between TMC and firm performance. The findings demonstrate that TMC significantly and positively influences SQM practices in AFP-SMEs (β = 0.492, t = 9.998, p = 0.000). This result implies that TMC attributes such as resource allocation, supervision, and creating a climate that fosters SQM would enhance its implementation. The results are consistent with previous studies emphasising the critical role of leadership in implementing various strategic supply chain practices. For example, in the adoption of green supply chain practices, Haldorai et al. (2025), grounded in Upper Echelons theory, suggested that organisational outcomes are partially predicted by managerial characteristics, including the values, commitment, and strategic orientation of top managers.

On the relationship between SQM and FP. The findings reveal a statistically significant positive relationship (β = 0.410, t = 7.111, p = 0.000), indicating that higher levels of SQM are associated with improved FP. To gain more insight into the multidimensional nature of SQM, a post-hoc analysis indicated that supplier selection had the most influence, then supplier relationship management, supplier inspection, and lastly, supplier development. SQM is particularly important for AFP-SMEs in Tanzania because of the lack of quality assurance measures among smallholder farmers and suppliers (Jesca, 2019; Nkwabi et al., 2019). Second, existing formal quality institutions for managing agricultural quality remain weak (Musaazi et al., 2024). Thus, investing in SQM practices could potentially yield substantial performance improvements. The positive relationship observed in this study is consistent with Salimian et al. (2021), who argue that the deployment of SQM within an organisation is a key driver of organisational success and influences the production of quality products and services.

Regarding the mediation results of SQM practices, findings indicate that SQM practices play a crucial role in how TMC translates into firm performance. The mediation effect highlights the operational pathways through which management commitment to SQM influences organisational outcomes. The mediating role of SQM practices underscores the importance of firms not only committing to firm performance at a strategic level but also integrating these commitments into operational processes such as SQM practices

Theoretical implications

This study positions SQM as a dynamic capability that enables firms to respond to supply market challenges and opportunities. TMC facilitates the development and deployment of these capabilities through strategic direction and resource allocation. Thus, investment in SQM capabilities enables firms to enhance the supply of quality materials, adapt to changing market conditions, and ultimately

improve firm performance, contributing to DCT. Additionally, the study provides a framework for SQM and empirical evidence linking SQM practices to firm performance in Sub-Saharan Africa, where such evidence is scarce.

Practical Implications

In the context of AFP-SMEs, the findings highlight that strong commitment from top management is an important antecedent to successful SQM. This underscores the need to position SQM as a strategic issue within management initiatives. The study suggests that top management should concentrate on enhancing supplier quality performance, particularly through objective supplier selection and fostering ongoing relationships. Also, results highlight the importance of SQM in performance improvement of AFP-SMEs. This insight suggests that SQM is essential. Therefore, firms should establish key performance indicators when engaging with suppliers, such as setting clear quality standards for required materials (Singh, 2024).

Conclusion

This study concludes that TMC is positively associated with SQM practices, which, in turn, are positively related to performance. This is important for AFP-SMEs in Sub-Saharan Africa because they operate in supply environments characterised by variability in raw material quality. The study enriches the literature on SME performance by explaining how TMC influences SQM and its influence on firm performance. Despite its contribution, the study has limitations that should be noted when interpreting the results, thereby laying the groundwork for future research directions. First, this study focuses only on TMC as an internal antecedent of SQM, although several other internal antecedents exist, such as firm culture, employee engagement, and internal quality management practices. These factors may also influence the implementation of SQM practices, providing an area for investigation by future studies. Second, the study was limited to a cross-sectional design and focused exclusively on the AFP-SME in Tanzania. Longitudinal research could be used in future studies to capture changes in SQM, TMC, and firm performance over time.

Thirdly, the study gathered data solely from managerial respondents within the focal SMEs. As a result, the findings predominantly represent the viewpoints of managers concerning SQM. Future research might consider collecting data from both managers and suppliers to offer a more comprehensive understanding of how SQM impacts organisational performance.

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