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Full Length Article

An Investigation of the Extent of Implementation of the Financial Management Practices of Agri-SMEs in developing countries: Evidence from Tanzania

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ABSTRACT

The success of agricultural Small and Medium Enterprises (agri-SMEs), among other factors, heavily relies on their ability to manage finances effectively. This study examined the extent to which agricultural SMEs in Tanzania practice financial management activities. The study employed a cross-sectional survey design to collect data from 427 agri-SMEs in three regions of Tanzania. Descriptive statistics and higher-order reflective-formative Structural Equation Model (SEM) were employed for data analysis. The findings indicated moderate adoption of financial management practices. Specifically, agri-SMEs were found to frequently engage in working capital management practices, such as maintaining sufficient cash flows and records for payables and receivables. However, financial reporting is less frequently practiced, with sporadic financial statements preparation and financial analysis. The findings indicate further that other financial management practices such as financial accounting, capital budgeting and financing management were moderately and infrequently implemented, with external financing sources being utilized less frequently compared to internal financing sources. The path analysis indicates that all lower-order constructs significantly contributed to the higher-order financial management practice construct with capital budgeting demonstrating the strongest impact. The findings highlight the need for improving financial reporting, analysis, and external financing usage in Tanzanian agri-SMEs. These findings offer valuable insights agri-SMEs in developing countries to appropriately strategize on implementation of financial management practices that will lead to improved access to finance and high performance.

Introduction

Agricultural SMEs dominates economic activities of most developing countries. The implication of this dominance is that any attempts to upgrade SME activities in developing countries have eventual consequences on SME performance leading to significant contribution to economic development especially in terms of employment creation and improved government revenue collection. According to [Mang'ana et al. \(2022\)](#), one way to upgrade SME operations in developing countries is to enable SMEs implement Financial Management Practices (FMP) which are defined as the standard operating procedures designed to improve the proper execution of financial accounting, reporting, budgeting, and other related tasks in order to increase SMEs performance. Examples of FMP include working capital management, financial reporting, capital

structure management and capital budgeting.

The literature has underscored the importance of implementation of FMP in SMEs linking it to the developing countries' economic growth. Effective implementation of FMP is essential for SMEs' access to finance, growth and survival in competitive business environments. In developing countries, where the agriculture sector is a significant contributor to GDP and employment, the importance of financial management practices is particularly relevant. It provides numerous benefits to SMEs, including improved decision-making, financial performance, and long-term sustainability. Since the developing world has many agricultural-led economies, implementation of FMP in agri-SMEs in these countries is imperative ([Matare & Sreedhara, 2020](#)).

With the understanding of the importance of FMP implementation in agri-SMEs, there raise a critical question on whether agri-SMEs in

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developing countries implement FMPs and if yes, to what extent? This question is central to the study at hand. Guided by the Positive Accounting Theory (PAT), we study primarily surveyed agri-SMEs from Tanzania and report about the extent of their implementation of FMP. To this end, we use Tanzania as a case for the developing country context.

Recent empirical studies on agri-SMEs posit on the relationship between a set of variables and performance of SMEs. Some of the variables mostly related to performance of SMEs include human resource based variables (Mashene & Kumburu, 2020), Financial based variables (Turyahebwa et al., 2013; Mang'ana et al., 2022). Other studies report on SME challenges in accessing finances (Nkwabi, 2019) and the impact of FMP on SME growth (Kimiti, 2020). However, empirical studies are silent about the extent to which SMEs implement FMP and how is the extent of implementation affect the SME business performance. The current study was undertaken to partly contribute to that effect.

The remainder of this paper proceeds as follow: Next to this introduction is the literature review in which prior empirical research and theories are presented to consolidate conceptual premises of the study. This is followed by methodology that clarifies the sampling strategy and analytical framework. Results and discussion succeed the methodology to articulate the study findings. Finally, the key messages and recommendations conclude the paper.

Literature review

Conceptual background - financial management practices

The importance of financial management practices in the context of agri-SMEs has been well documented in the literature. As indicated above, financial management practices refer to the techniques and strategies that agri-SMEs use to manage their finances effectively. These practices are critical to the financial performance of agri-SMEs, as they enable SMEs to plan and control their finances, analyze their financial performance, and make informed financial decisions (Hunjra et al., 2012; Mang'ana et al., 2022; Sooriyakumaran et al., 2022). Studies have identified several financial management practices that are critical to the financial performance of agri-SMEs. For instance, Turyahebwa et al. (2013) identified six critical financial management practices namely: financial planning and control, financial accounting, financial analysis, management accounting, capital budgeting, and working capital management. Nkundabanyanga et al. (2017) identified four financial management practices critical to SMEs, namely financial planning, financial analysis, financial control, and financial reporting. All these concepts align with the framework presented by Sa'eed et al. (2020), where they categorize financial management practices into four groups: financing practices, financial accounting, reporting and analysis, working capital management, and capital budgeting. This study has also adopted the same grouping methodology as suggested by Sa'eed et al. (2020).

Working capital management involves optimizing working capital levels by managing inventory levels, reducing receivables, and managing cash flow. Efficient management of working capital, including cash, inventory, and receivables, is essential for agri-SMEs to meet short-term obligations, manage liquidity, and minimize the risk of financial strain. Financial accounting involves maintaining reliable financial records, including balance sheets, income statements, and cash flow statements (Sawe et al., 2022; Mang'ana et al., 2023). These records help agri-SMEs to assess their financial health, comply with regulatory requirements, and provide transparent financial information to stakeholders. Accurate and timely financial accounting is crucial for agri-SMEs to track and report their financial transactions. In addition to the core practices, there are supplementary practices that, although important, their extent of implementation by agri-SMEs is not known. The Financial analysis, which involves evaluating financial statements, ratios, and performance indicators to gain insights into the financial health of agri-SMEs. These practices help identify areas of

improvement, assess profitability, and make informed financial decisions.

Capital budgeting involves assessing and selecting long-term investment projects in agri-SMEs. By employing appropriate evaluation techniques, such as net present value (NPV) and internal rate of return (IRR), agri-SMEs can make informed investment decisions that align with their financial goals. Financing practices are also an essential part of financial management practices for agri-SMEs. Financing practices involve obtaining the necessary funding to support the agri-SME's operations and growth plans. The practices may include a mix of debt and equity financing. Debt financing involves borrowing funds from banks, financial institutions, or other sources, and repaying the loan over time with interest. Debt financing can provide agri-SMEs with the necessary working capital to meet their short-term financing needs. However, agri-SMEs must be cautious about taking on too much debt as it can lead to financial strain and increased risk. Equity financing involves raising funds from investors in exchange for a share of ownership in the agri-SME. This form of financing can provide agri-SMEs with long-term financing to support their growth plans, without incurring debt. However, equity financing can also dilute the ownership of the agri-SME and reduce the control of the original owner. Studies (Nkwabi, 2019; Matare & Sreedhara, 2020; Ismail Albalushi & Naqshbandi, 2022) have shown that agri-SMEs often face difficulties in obtaining financing due to their limited financial resources, lack of collateral, and high-risk nature of agricultural production. However, effective financing practices can help agri-SMEs to overcome these challenges and secure the necessary funding.

Agri-SMEs

The definition of SMEs has been a controversial phenomenon worldwide, in this study we have referred to the Small and Medium Enterprise Development Policy (2003) of Tanzania, that categories SMEs as follows: Micro Enterprises with up to 4 employees or up to TAS 5 million capital investments; Small enterprises engaging between 5 and 49 employees or with capital investment from TAS 5 million to TAS 200 million; Medium enterprises that employ between 50 and 99 people or use capital investment from TAS 200 million to TAS 800 million; relatively large enterprises employing at least 100 people or have capital investment above TAS 800 million. Agri-SMEs will mean the agricultural small and medium enterprises refereeing to small business operating within the agricultural value chain or similarly known as agribusiness (SAFIN, 2021).

Empirical studies

Analysis of studies on the financial management practices of agri-SMEs have revealed various diverse findings on specific practices such as working capital management, financing, capital budgeting, and financial accounting and reporting.

Working capital management is crucial for the day-to-day operations of agri-SMEs, and studies have shown that many agri-SMEs face challenges in managing their working capital effectively. For instance, a study by Briones et al. (2022) in Ecuadorian SMEs found that many struggles with inventory management, which affects their cash flow and profitability. Similarly, a study by Sensini (2020) revealed that agri-SMEs face challenges in managing their accounts receivable, leading to delayed payments and cash flow problems.

Financing is another critical aspect of financial management, and studies have shown that agri-SMEs face significant challenges in accessing finance. For instance, a study by Zada et al. (2021) in Pakistan found that most agri-SMEs rely on internal sources of finance, such as personal savings, and have limited access to external finance. Similarly, a study by Kesale (2017) in Tanzania revealed that MSMEs struggle to meet the collateral requirements of banks, limiting their access to credit. Studies have shown that, many SMEs would prefer to use internal source of financing more compared to external sources (Lubawa et al., 2018).

Capital budgeting is important for agri-SMEs, as it enables them to

make informed investment decisions. However, studies have shown that many agri-SMEs lack the knowledge and skills required to undertake capital budgeting effectively. For instance, a study (Nketsiah, 2018) in Ghana found that most agri-SMEs do not use formal methods of capital budgeting and rely on intuition to make investment decisions.

Financial accounting and reporting play a crucial role for agri-SMEs, enabling them to monitor their financial performance and adhere to regulatory requirements. Studies (Ben Amara & Chen, 2022) have revealed that many agri-SMEs lack the necessary skills and resources to effectively undertake financial accounting and reporting. For example, research conducted by Lanlan and Ahmi (2019) and Sawe et al. (2022) highlighted that numerous SMEs struggle with maintaining proper financial records, leading to challenges in tracking their financial performance and accessing external financing. Interestingly, a study conducted by Nketsiah (2018) presented contrasting findings, showing that 85% of small business operators do maintain financial records, mainly focused on customer debts. However, this study also noted a limited usage of IT-based tools in reporting practices, suggesting the importance of providing training on computer-assisted software for record keeping, particularly for entrepreneurs with limited education. Such training would enhance small business management and taxation practices.

Review on the extent of use of FMPs was also observed from a study conducted by Tharmini (2021) in Sri Lanka explored the impact of financial management practices (FMPs) on the performance of Small and Medium Enterprises (SMEs), using the lens of the Legitimacy theory. The study collected primary data from SME owners/managers through self-administered questionnaires, focusing on registered SMEs. The data obtained was then analyzed and evaluated using Descriptive Statistics. The findings of the study indicated that working capital management and financial reporting and analysis were highly and moderately adopted, respectively, among SMEs. However, financial planning and control had a low level of adoption. The study also identified that SMEs faced challenges in adopting FMPs, primarily due to a lack of accounting knowledge and the cost associated with hiring professional accountants. similar study was conducted in Kenya (Nyabwanga, 2012) discovered that working capital management practices were generally low among small-scale enterprises. The majority of these enterprises had not adopted formal working capital management routines. Additionally, the study revealed a significant relationship between working capital management and the financial performance of small-scale enterprises. These two different studies reported conflicting findings that necessitate more empirical analysis.

Another study was carried out by Turyahebwa et al. (2013) to determine the extent of financial management practices in Small and Medium Enterprises (SMEs) in selected districts in Western Uganda. The study revealed that the extent of financial management practices among SMEs was low, as evidenced by an average mean score of 2.19. The study supported the theory of pecking order which suggests that management prefers to choose internal financing before external financing. This finding was demonstrated by the fact that SMEs in Western Uganda tended to use internally generated funds rather than borrowed funds and recommended that relevant authorities provide a favorable platform for SMEs to access financing and sensitize owners on bookkeeping, financial reporting, and financial analysis practices.

The review of existing studies on the adoption of financial management practices reveals a research gap in understanding the nature and extent of these practices. While some studies have examined specific practices such as working capital management, financing, capital budgeting, and financial accounting and reporting, there is a lack of comprehensive research that investigates the overall landscape of financial management practices in agri-SMEs. Therefore, further research was needed to provide a comprehensive understanding of the nature and extent of financial management practices in African agri-SMEs. This research has contributed to filling the gap in knowledge and inform policy interventions and support programs aimed at improving the financial management capabilities of agri-SMEs in

Tanzania and Africa.

Theoretical framework

Positive accounting theory (PAT)

PAT was developed by two accounting scholars, Ross L. Watts and Jerold L. Zimmerman, in the late 1970s and early 1980s. Watts and Zimmerman argued that accounting research should focus on explaining how accounting policies are chosen rather than how they should be chosen. They proposed that accounting policies are shaped by a firm's incentive structure, and that firms will choose accounting policies that align with their objectives (Demski, 1988).

PAT's central assumption is that accounting policies are chosen to maximize the wealth of the firm's managers, subject to the constraints imposed by external factors such as regulation and market forces. In other words, managers will choose accounting policies that serve their self-interest, which may not necessarily be in the best interest of other stakeholders, such as investors and creditors. The theory assumes that firms and individuals are rational, that is why they make decisions that maximize their own self-interest, and that there is information asymmetry between managers and external stakeholders (Watts & Zimmerman, 1990). In addition, PAT assumes that firms are characterized by agency relationships, where managers act as agents on behalf of principals, and that markets are efficient and that investors respond rationally to accounting information.

In this study, PAT provides a theoretical framework on the nature and extent of financial management practices and for understanding why firms make certain choices to accounting policies. The financial management practices adopted by agri-SMEs in Tanzania can be viewed as accounting policies, as they involve decisions on how financial resources are managed and reported. The study assumes that agri-SME managers' choices of financial management practices are influenced by their self-interest and objectives of maximizing wealth, as suggested by PAT.

The framework below (Fig. 1) posits that, managers or owners are more likely to prioritize financial management practices that align with their self-interest; for example, working capital management practices, agri-SMEs that have effective cash management practices, such as managing their cash flow and maintaining sufficient cash reserves, are better equipped to deal with unexpected expenses or a temporary decline in revenue. Also, agri-SMEs that adhere to sound financial accounting reporting practices, such as preparing accurate financial statements and maintaining proper record-keeping, are more likely to have a better understanding of their financial position leading to a better decision-making and improved financial performance. Furthermore, agri-SMEs that have a sound financing or capital structure, such as an appropriate mix of debt and equity, are likely to have better financial performance for example, agri-SMEs that have a lower debt-to-equity ratio may have lower financing costs and be less susceptible to financial distress, likewise agri-SMEs that effectively manage their capital budget, such as through the use of appropriate investment appraisal techniques and cost-benefit analysis, are likely to have better financial performance since they are more likely to invest in projects that generate positive returns and avoid projects that are likely to be unprofitable.

Methodology

Study design and sampling strategy

This study adopted a cross-sectional design under the positivist paradigm. The paradigm advocates the objective measurement of knowledge through empirical means by capturing a snapshot of practices at a specific point in time. The target population for this study comprised of registered agri-SMEs from three selected regions of Tanzania namely Dar es salaam, Mara and Morogoro. The databases of the Small Industries Development Organization (SIDO) and the

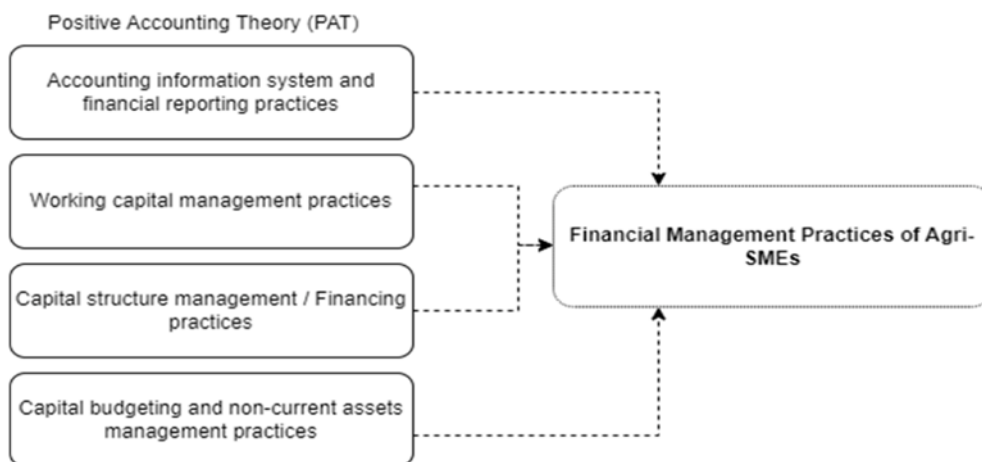


Fig. 1. Conceptual framework. Source: Musah et al. (2018) and Researcher’s conceptualization (2022)

Tanzania Chamber of Commerce, Industry, and Agriculture (TCCIA) in the selected regions were used to randomly select 427 agri-SMEs that constituted the sample of the study. The three regions were selected due to their high concentration of registered agri-SMEs.

Data collection

A questionnaire was structured and used as the data collection instrument in this study. To ensure the quality and reliability of the questionnaire, it was initially piloted with a small sample of 30 agri-SMEs, and feedback was received on its content and addressed accordingly. The questionnaire consisted of four dimensions of financial management practices, including working capital management, accounting and financial reporting, financing management, and capital budgeting management.

The survey questionnaire was created using KoboCollect Forms and administered by trained enumerators to collect data from 427 agri-SMEs in Tanzania. Participants were informed of the study objectives, guaranteed anonymity and confidentiality, and reminded that the data were intended solely for academic purposes. The KoboCollect tool was used to ensure data quality and consistency. After the data collection, the responses were checked for completeness, consistency, and accuracy. The survey was conducted between June and October 2022.

Data analysis

The analysis of data was conducted using SPSS Version 23, to assess the extent of implementation of financial management practices by agri-SMEs. Mean values and standard deviations were calculated to that effect. Decision criteria were applied, based on a previous study by Tharmini and Lakshan (2021), categorizing the implementation extent levels into low, moderate, and high. The criteria used were as follows: Low level (1 ≤ Xi ≤ 2.5), Moderate level (2.5 < Xi ≤ 3.5), and High level (3.5 < Xi ≤ 5.0). The results were effectively presented using tables and charts, offering a clear overview and visual representation of the findings.

The study employed a higher-order reflective-formative model, where the higher-order construct, namely "Financial Management Practices," was explained by lower-order constructs such as "Working capital practices," "Financial reporting practices," "Financing practices," and "Capital budgeting practices". Using SmartPLS software, the Structural Equation Modeling (SEM) was used to assess structural relationship between high order construct (FMP) and the aforementioned latent constructs. The reliability and validity of the measurement model were assessed, and the structural model examined the relationships and

effects between the different constructs. Structural Equation Modeling (SEM) was the ideal choice for analyzing financial management practices among agri-SMEs in this study because of its ability to assess complex relationships between latent and observed variables (Hair et al., 2020). The common method bias was controlled by Harman’s single-factor test. This test ensured that the observed relationships between the study variables were not a result of common method variance. These measures were deemed necessary to increase the credibility of the study findings and to instill confidence in the validity and reliability of the results.

Assessment of measurement model

As indicated above, the higher-order reflective formative model was employed in this study where the relationships between the lower-order constructs were assessed. Indicators of lower latent variables were considered reflective, and the relationships between the higher-order

Table 1 Factor loadings.

	C3_1 Working Capital Practices	C3_2 Financial Reporting Practices	C3_3 Financing Practices	C3_4 Capital Budgeting Practices
C3_1_1	0.685			
C3_1_2	0.700			
C3_1_3	0.742			
C3_1_4	0.714			
C3_1_5	0.784			
C3_1_6	0.790			
C3_1_7	0.758			
C3_1_8	0.763			
C3_2_1		0.586		
C3_2_2		0.849		
C3_2_3		0.871		
C3_2_4		0.915		
C3_2_5		0.717		
C3_3_1			0.767	
C3_3_3			0.575	
C3_3_4			0.544	
C3_3_5			0.854	
C3_3_6			0.868	
C3_4_1				0.799
C3_4_2				0.852
C3_4_3				0.868
C3_4_4				0.840
C3_4_5				0.851
C3_4_7				0.578
C3_4_8				0.813

construct and the lower-order constructs were considered as formative (Table 1).

However, two items, (C3_3_2, factor loading = 0.312) and (C3_4_6, factor loading = 0.476), were removed from financial practice construct, resulting into an increase in AVE above the recommended threshold value of 0.500 to achieve the acceptable convergent validity (Hair et al., 2020). The removal of these items did not significantly affect the meaning or face validity of the constructs. Reliability analysis was performed to assess the internal consistency of the measurement items. Table 2 below shows the Cronbach's alpha coefficients for the lower-order constructs, which indicate good internal consistency. Composite reliability (rho_c) values further support the reliability of the measurement items, as all constructs exceed the recommended threshold of 0.7 (Table 2).

Convergent validity was evaluated using the Average Variance Extracted (AVE). The AVE values for the constructs range from 0.539 to 0.649, surpassing the minimum threshold of 0.5. This indicates that a substantial proportion of the variance in the indicators is captured by their respective constructs. Discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) ratio and Fornell-Larcker criterion. The HTMT values between the constructs were all below the threshold of 0.85, indicating good discriminant validity. The Fornell-Larcker criterion was also satisfied, as the square roots of the AVE values were higher than the correlations between constructs. These findings suggest that the constructs are distinct from each other and are measuring different aspects of financial management practices (Table 3).

The path analysis (Fig. 2) from the model below shows the direct effect of the lower-order constructs on the higher-order construct, Financial Management Practices. The coefficients indicate the magnitude and direction of the relationships. In our model, Working Capital Practices (0.343), Financial Reporting Practices (0.255), Financing Practices (0.194), and Capital Budgeting Practices (0.352) were found to have significant positive effects on the higher-order construct, indicating their substantial influence in shaping Financial Management Practices. The significant positive effects observed resonate with existing literature (Matare & Sreedhara, 2020; Robyn & Johnny, 2020; Sooriyakumaran et al., 2022) that emphasizes the importance of these practices in enhancing financial performance and sustainability among agri-SMEs. These results contribute to the growing body of knowledge, affirming the pivotal role of these practices and their collective impact on effective financial management practices for agri-SMEs.

Results and discussion

The extent of financial management practices

The agri-SME managers were requested to indicate their agreement to questions on the extent to which financial management activities were practiced. The respondents were asked to indicate how often their enterprise performs certain financial management practices using a 5-point scale (see Tables 3–7).

Table 4 below displays the descriptive statistics for the working capital management practices assessed in this study. The mean scores for

Table 2
Reliability and validity.

	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
C3_1_Working Capital Practices	0.884	0.908	0.552
C3_2_Financial Reporting Practices	0.849	0.895	0.635
C3_3_Financing Practices	0.795	0.850	0.539
C3_4_Capital Budgeting Practices	0.907	0.927	0.649

each practice ranged from 3.98 to 4.23, with a mean of 4.07 across all practices. The standard deviations ranged from 0.96 to 1.49, indicating some variability in responses across practices.

The results from Table 4 and Fig. 3 shows the extent of adoption of various working capital management practices among the surveyed agri-SMEs. The mean scores indicate the level of adoption, while the standard deviations provide insights into the variability among the enterprises.

The mean score for most of the items were above four on a five-point scale, indicating a relatively high level of agreement among respondents. The highest mean score was for maintaining proper records for all payables (creditors), indicating that agri-SMEs in Tanzania place significant emphasis on ensuring that they keep proper records of all payments owed to suppliers and vendors. The second-highest mean score was for maintaining inventory records, indicating that agri-SMEs in Tanzania place significant emphasis on ensuring that they keep proper records of their inventory. However, the mean score for paying refunds to customers on the due date was relatively low, indicating that agri-SMEs in Tanzania may struggle to meet their obligations to customers.

The results align with prior recent research studies conducted in similar contexts (Tharmini & Lakshan, 2021) in Sri Lanka, which explored the impact of financial management practices on SME performance, revealed a high level of adoption for practices such as maintaining sufficient cashflows, proper records for payables, and regularly updated inventory records. These results are consistent with the current findings, where the mean scores for these practices indicate a strong agreement among respondents. The alignment with Tharmini's study suggests that the surveyed enterprises in this study also recognize the importance of these working capital management practices. These findings suggest that the surveyed agri-SMEs prioritize effective working capital management to support their daily operations. Thus, these empirical results counterfeited the low adoption practices that was observed in Kenya from the study by Nyabwanga (2012) and other studies (Sensini, 2020; Briones et al., 2022).

However, there are areas that require improvement, including maintaining records for receivables and ensuring timely refund payments. These results highlight the importance of enhancing these specific practices to further optimize the financial management strategies of agri-SMEs.

Table 5 and Fig. 4 show the results of a survey conducted to determine the frequency at which enterprises engage in various capital budgeting practices. The survey aimed to assess whether businesses undertake sound capital budgeting practices to help them make informed investment decisions.

The results show that the majority of the respondents engage in all the capital budgeting practices assessed, with mean scores ranging from 3.46 to 4.27. Monitoring implementation and progress of business activities had the highest mean score of 4.27, indicating that most enterprises are actively monitoring their investments to ensure they achieve the desired outcomes. Literature has shown that, a number of SMEs in Africa do not engage in capital budgeting activities, for instance, a study (Nketsiah, 2018) in Ghana found that most agri-SMEs do not use formal methods of capital budgeting and rely on intuition to make investment decisions. However, this study has shown that to some extent in a moderate level, these agri-SMEs attempt to consider capital budgeting activities in their operations.

The mean scores for measuring investment risks, estimating expected cash flows, reviewing available expansion opportunities, and performing cost-benefit analysis ranged from 3.72 to 3.89, suggesting that most enterprises are mindful of the importance of undertaking thorough analysis before making investment decisions. The mean score for assessing investment projects using various methods was 3.62, indicating that businesses do consider different valuation methods, such as payback period, in evaluating their investment projects.

However, the mean score for investing in opportunities without evaluating the investments was 3.46, indicating that some enterprises

Table 3
Fornell and Larcker criteria.

	C3_1_Working capital practices	C3_2_Financial reporting practices	C3_3_Financing practices	C3_4_Capital budgeting practices
C3_1_Working Capital Practices	0.776			
C3_2_Financial Reporting Practices	0.743	0.797		
C3_3_Financing Practices	0.656	0.691	0.734	
C3_4_Capital Budgeting Practices	0.609	0.699	0.674	0.806

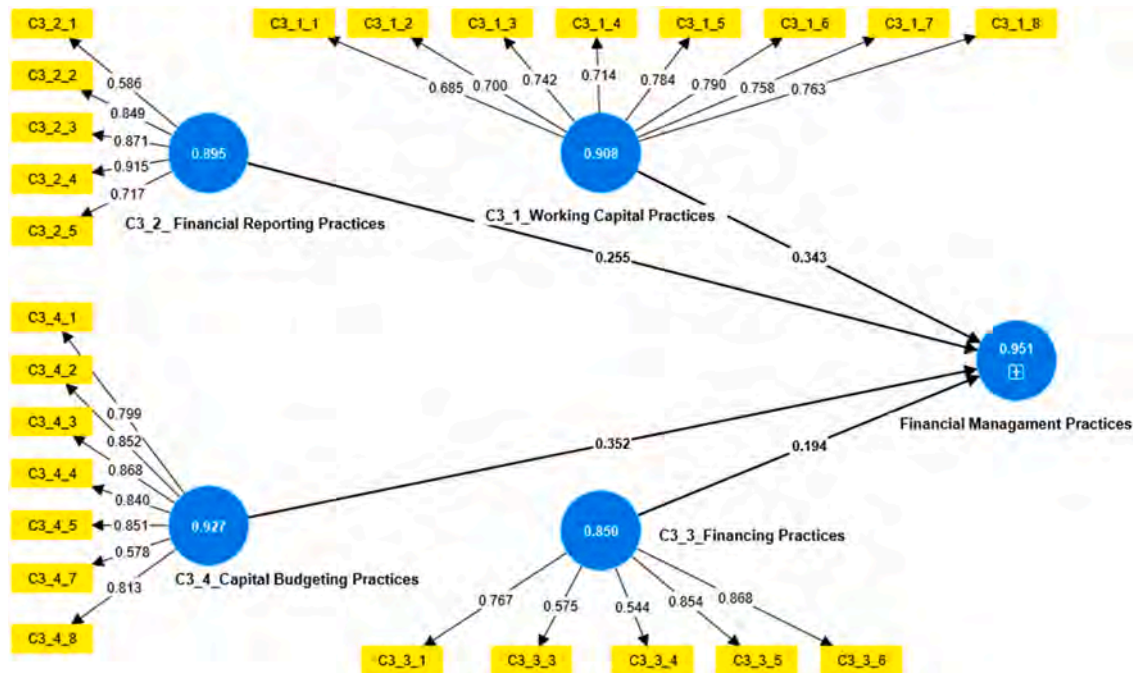


Fig. 2. Reflective-formative higher order model

Table 4
Working capital practices.

	How often does your enterprise do the following practices?	N	Mean	Std. Deviation
C3_1_1	Maintain sufficient cashflows to meet daily business needs	427	4.12	0.96
C3_1_2	Maintains proper records for all payables (Creditors)	427	4.23	0.96
C3_1_3	Maintaining proper records for all Receivables (Debtors)	427	4.05	1.12
C3_1_4	Maintaining inventory records which are updated regularly	427	4.13	1.09
C3_1_5	Pay creditors and suppliers on time	427	4.04	1.07
C3_1_6	Pay refunds to customers on due date	427	3.98	1.20
C3_1_7	Prepares monthly cash flow forecasts to identify future surpluses and deficits	427	4.07	1.16
C3_1_8	perform business analysis using ratios (e. g., liquidity ratios such as current assets/ current liabilities)	427	4.00	1.49

may be making investment decisions without undertaking proper analysis, which could result in poor investment decisions and losses.

The standard deviation scores ranged from 0.80 to 1.41, indicating moderate variability in the responses of the participants. The relatively high standard deviation scores for investing in opportunities without evaluating investments and investing in non-current assets suggest that some enterprises may be taking risks without proper analysis, which could lead to financial losses.

The analysis (Table 6, Fig. 5) shows that the practices of undertaking budgeting before sales and purchase transactions were found to be the

most frequently adopted accounting and financial reporting practice among the surveyed Agri-SMEs (mean = 4.43, SD = 0.70). This indicates that most of the enterprises surveyed have recognized the importance of budgeting in planning and managing their financial resources. Carrying out budget estimation, be it monthly or annually, was also found to be a fairly frequently adopted practice (mean = 4.13, SD = 1.10). This suggests that while many enterprises recognize the importance of budgeting, there is some variation in the frequency with which they engage in this practice.

However, preparing financial statements annually, including balance sheets and income statements, was found to be less frequently adopted among the surveyed Agri-SMEs, with a mean score of 3.76 and a standard deviation of 1.42. This indicates that many of these enterprises may not be engaging in regular financial reporting, which could limit their ability to effectively monitor and manage their financial resources. Similar empirical results were documented by [Tharmini and Lakshan \(2021\)](#) in their study on SMEs in Sri Lanka, which revealed a moderate level of adoption for financial reporting practices.

Performing financial analysis of the prepared account statements was also found to be less frequently adopted among the surveyed Agri-SMEs, with a mean score of 3.82 and a standard deviation of 1.30. This suggests that many of these enterprises may not be utilizing financial analysis to gain insights into their financial performance and make informed decisions.

Finally, the use of computer-assisted software in preparing accounts and financials was found to be the least frequently adopted practice among the surveyed Agri-SMEs, with a mean score of 3.08 and a standard deviation of 1.70. This indicates that many of these enterprises may be relying on manual accounting methods, which could limit their



Fig. 3. Working Capital Practices.

Table 5
Capital budgeting practices.

	How often does your enterprise do the following practices?	N	Mean	Std. Deviation
C3_4_1	Invest in non-current assets (like purchase of machines, buildings).	427	3.63	1.32
C3_4_2	Measure investment risks	427	3.72	1.33
C3_4_3	Estimate expected cashflows to be generated in future	427	3.82	1.19
C3_4_4	Review available expansion opportunities	427	3.89	1.16
C3_4_5	Perform cost benefit analysis on new business opportunity	427	3.85	1.19
C3_4_6	Monitor implementation and progress of the business activities	427	4.27	0.80
C3_4_7	Invests in business opportunities without evaluating the Investments	427	3.46	1.41
C3_4_8	Assess the investment project using such method as Net Present Value, Payback period etc.	427	3.62	1.35

efficiency and accuracy in financial reporting. Comparable findings have been reported by Abanis et al. (2013) in their study of SMEs in Western Uganda, thereby it is very crucial for SMEs to take part in enhancing their performance through the application of modern technology and IT based infrastructure.

The survey results (Table 7, Fig. 6) indicate that businesses tend to have a balanced approach to financing, with a mean score of 3.83 for reviewing viable sources of financing, and a mean score of 3.86 for using internal financing (equity) only. However, the mean score for using external financing (debt) only is relatively low at 2.92, indicating that businesses may not be relying on external financing as much. Additionally, the mean score for using both internal and external financing (3.24) is also lower than expected, suggesting that businesses may not be taking full advantage of different financing sources. The same phenomenon has been observed in previous studies, for example a study by Turyahebwa et al. (2013) demonstrated that SMEs in Western Uganda

tended to use internally generated funds rather than borrowed funds and recommended that relevant authorities provide a favorable platform for SMEs to access external financing.

Furthermore, the mean scores for estimating the cost of financing (3.86) and reviewing the cost of financing short-term and long-term financing sources (3.84) indicate that businesses are aware of the importance of cost considerations in financing decisions. However, the relatively high standard deviation values for both of these items (1.27 and 1.28, respectively) suggest that there may be a significant variation in how businesses approach cost estimation and review.

Relatively, the survey results suggest that businesses have a relatively balanced approach to financing, with a focus on internal financing sources. However, there may be room for improvement in terms of taking full advantage of external financing sources, as well as standardizing approaches to cost estimation and review. Access to external financing, such as loans, grants, and investments, can provide additional capital for expansion, innovation, and investment in new technologies. Diversifying financing sources and actively seeking external funding opportunities can strengthen financial positions, accelerate growth, and seize market opportunities. By addressing these areas, businesses can potentially improve their financial health and stability, and better

Table 6
Accounting and financial reporting practices.

	How often does your enterprise do the following practices?	N	Mean	Std. deviation
C3_2_1	Undertake budgeting before sales and purchase transaction	427	4.43	0.70
C3_2_2	Carry out budget estimation (be it monthly or annually)	427	4.13	1.10
C3_2_3	Prepare financial statements annually (Balance sheet and Income statements)	427	3.76	1.42
C3_2_4	Perform financial analysis of the prepared account statements	427	3.82	1.30
C3_2_5	uses computer assisted software in preparing accounts and financials	427	3.08	1.70

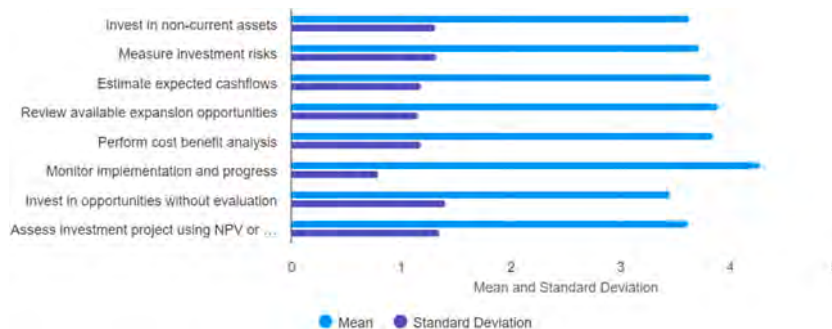


Fig. 4. Capital Budgeting Practices.

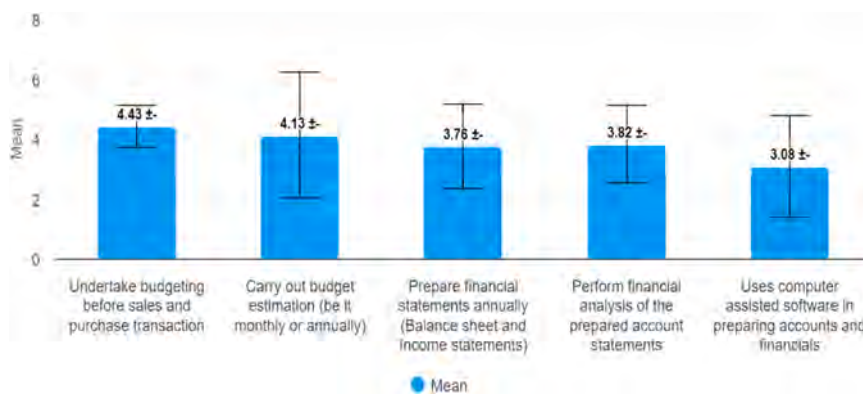


Fig. 5. Accounting and Financial Reporting Practices.

Table 7
Financing management practices.

	How often does your enterprise do the following practices?	N	Mean	Std. Deviation
C3_3.1	Review viable sources of financing	427	3.83	1.17
C3_3.2	Use internal financing (Equity) only	427	3.86	1.19
C3_3.3	Use External financing (Debt) only	427	2.92	1.56
C3_3.4	Use both internal (equity) and external (Debt/ Borrowing) financing	427	3.24	1.44
C3_3.5	Estimate cost of financing	427	3.86	1.27
C3_3.6	Review cost of financing short term and long financing sources	427	3.84	1.28

position themselves for growth and success. The result corresponds to what was reported by the (World, Bank,2022) that SMEs rely more on internal funds, or cash from friends and family, to launch and initially run their enterprises which indicates a potential untapped opportunity for Agri-SMEs to explore and utilize external financing options more effectively. Likewise the studies (Kesale, 2017; Lubawa et al., 2018) explored similar findings to the study results.

The study results also accounted for the concern on the effect of common method bias (CMB), and therefore Herman’s single factor test was carried out. The total variance was observed to be 32.8% as shown in Table 8 above, which is below the cut-off of 50%. This indicates that, in this research, bias was not found in the collected data.

Conclusion and recommendation

Working capital practices

The results of this study provide insights into the working capital management practices of enterprises in the sample. Overall, the mean scores for each of the eight practices were above the mid-point of the 5-point Likert scale, indicating that the majority of respondents reported performing these practices to a moderate extent. The standard deviations suggest that there was some variability in responses, particularly for the practice of performing business analysis using ratios, which had the highest standard deviation of 1.49. This variability may be attributed to factors such as differences in enterprise size, industry, or financial performance.

Based on the analysis of the descriptive statistics of the working capital management practices, the study recommends that agri-SMEs to focus on improving their working capital management practices. This can be achieved by maintaining sufficient cash flows to meet daily business needs, maintaining proper records for all payables and receivables, updating inventory records regularly, paying creditors and suppliers on time, paying refunds to customers on due date, preparing monthly cash flow forecasts to identify future surpluses and deficits, and performing business analysis using ratios such as liquidity ratios. It is also important for agri-SMEs to seek financial and accounting advice to improve their understanding and implementation of working capital

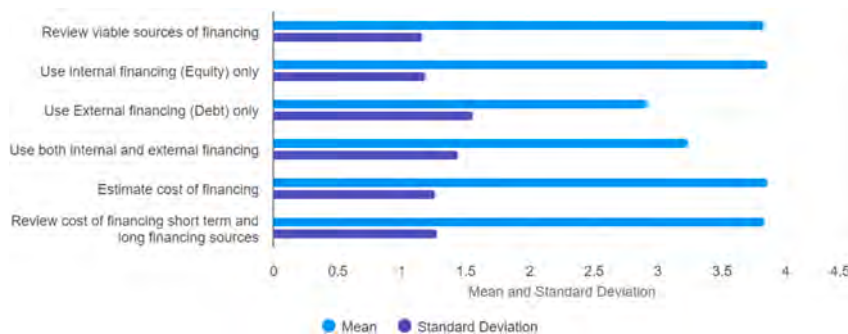


Fig. 6. Financing Management Practices.

Table 8
Common method bias (CMB).

Items	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%
1	12.401	34.448	34.448	11.817	32.825	32.825
2	4.137	11.491	45.939			
36	.115	.321	100.000			

management practices. By implementing these practices, SMEs can improve their liquidity, profitability, and financial performance, and ensure their long-term sustainability and growth.

Capital budgeting practices

The results of the survey suggest that most enterprises engage in sound capital budgeting practices, including assessing investment risks, estimating expected cash flows, and performing cost-benefit analysis. However, some enterprises may be taking risks without proper analysis, which could result in financial losses. Therefore, it is essential for businesses to continue to implement sound capital budgeting practices to make informed investment decisions and achieve positive outcomes.

Based on the analysis and findings on the implementation of capital budgeting activities, the study recommends that the enterprise should increase its investment in non-current assets to improve its growth potential. Additionally, the enterprise should regularly estimate the expected cash flows to be generated in the future and review available expansion opportunities. It is also recommended that the enterprise should perform cost-benefit analysis on new business opportunities and assess investment projects using methods such as net present value and payback period. Furthermore, the enterprise should monitor the implementation and progress of its business activities to ensure the success of its investments. Finally, the enterprise should avoid investing in business opportunities without evaluating the investments.

Financing management practices

Based on the findings on the financing management practices, this study recommends that enterprises should regularly review viable sources of financing and estimate the cost of financing. The high mean scores for these practices indicate that they are important and widely adopted in the industry. Furthermore, the use of internal financing is also popular among enterprises, which could be due to the perceived lower risk and greater control associated with this form of financing. However, the low mean score for using external financing only suggests that enterprises may not be taking full advantage of the benefits of debt financing. It is recommended that enterprises should consider a balanced approach of using both internal and external financing, depending on the financial needs and risks associated with each project.

Financial reporting practices

The results of this analysis suggest that while some accounting and financial reporting practices are fairly commonly adopted among Agri-SMEs in Tanzania, there is room for improvement in several areas. In particular, there appears to be a need for greater emphasis on regular financial reporting and financial analysis, as well as increased adoption of computer-assisted software to improve efficiency and accuracy in accounting practices. These findings can be used to inform efforts to support Agri-SMEs in improving their financial management practices, and ultimately contribute to their sustainability and growth.

Based on these findings from the financial reporting practices' implementation, it is recommended that businesses prioritize the regular preparation of financial statements and financial analysis to ensure a sound financial reporting system. Additionally, businesses need to consider investing in computer-assisted software to improve the accuracy and efficiency of their accounting and financial reporting by having trainings on how to use computer-assisted software. Additionally, budget estimation and preparation of financial statements should be undertaken regularly to ensure that enterprises have an accurate view of their financial position and can make informed decisions.

Financial management practices

Conclusively, from the Structural analysis results, it is evident that all

four lower-order constructs, namely Working Capital Practices, Financial Reporting Practices, Financing Practices, and Capital Budgeting Practices, have positive and significant total effects on the higher-order construct of Financial Management Practices. However, we can further examine the ranking to determine the constructs with a stronger influence. Based on the total effects, the construct with the highest-ranking total effect is C3_4_Capital Budgeting Practices, followed by C3_1_Working Capital Practices, C3_2_Financial Reporting Practices, and C3_3_Financing Practices. This suggests that Capital Budgeting Practices have the most substantial impact on shaping Financial Management Practices, followed by Working Capital Practices, Financial Reporting Practices, and Financing Practices.

These findings highlight the relative importance of each lower-order construct in influencing the overall financial management strategies. Agri-SMEs should pay particular attention to Capital Budgeting Practices as they have a strong influence on Financial Management Practices. By effectively implementing and managing these practices, these business enterprises can enhance their financial management strategies and improve overall financial performance. It is important to note that while these rankings provide insights into the relative importance of the constructs, it does not imply that the constructs should be considered in isolation. Financial management is a complex and multifaceted domain Lee and Suh (2022), and the interplay between different practices is crucial for holistic financial management. Therefore, agri-SMEs should strive for a comprehensive approach that encompasses all relevant financial management practices to achieve optimal results.

Limitation of the study and future direction

Despite the valuable insights gained from this study, it is important to acknowledge some limitations. Firstly, the study focused on a specific context and sample, limiting the generalizability of the findings. Additionally, the use of cross-sectional data restricts our ability to establish causal relationships since the study focused solely on the measurement of constructs and did not explore the causal relationships between variables. Therefore, future research could overcome these limitations by expanding the sample size and employing longitudinal designs for a more comprehensive understanding of financial management practices.

Declaration of Competing Interest

The authors have no conflict of interests.

References

- Abanis, T., Sunday, A., Eliabu, B., & Burani, A. (2013). Financial management practices in small and medium enterprises in selected districts in Western Uganda. *Research Journal of Finance and Accounting*, 4(2), 2222–2847.
- Ben Amara, D., & Chen, H. (2022). Driving factors for eco-innovation orientation: Meeting sustainable growth in Tunisian agribusiness. *International Entrepreneurship and Management Journal*, 18(2), 713–732. <https://doi.org/10.1007/s11365-021-00792-0>
- Briones, O. F., Camino-Mogro, S. M., & Navas, V. J. (2022). Working capital, cash flow and profitability of intensive MSMEs: Evidence from Ecuador. *Journal of Entrepreneurship in Emerging Economies*. <https://doi.org/10.1108/JEEE-01-2022-0003>
- Demski, J. S. (1988). Positive accounting theory: A review. *Accounting, Organizations and Society*, 13(6), 623–629. [https://doi.org/10.1016/0361-3682\(88\)90036-0](https://doi.org/10.1016/0361-3682(88)90036-0)
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2020). The Results of PLS-SEM Article information. *European Business Review*, 31(1), 2–24.
- Hunjra, A. I., Butt, B. Z., & Rehman, K. U. (2012). Financial management practices and their impact on organizational performance. *SSRN Electronic Journal*, 9(9), 997–1002. <https://doi.org/10.2139/ssrn.1750391>
- Ismail Albalushi, K., & Naqshbandi, M. M. (2022). Factors affecting success and survival of small and medium enterprises in the Middle East. *Knowledge*, 2(3), 525–538. <https://doi.org/10.3390/knowledge2030031>
- Kesale, A. M. (2017). Barriers facing startup small and medium enterprises (SMEs) in accessing external capital in Tanzania. *International Journal of Academic Research in Business and Social Sciences*, 7(3), 55–72. <https://doi.org/10.6007/IJARBS/v7-i3/2692>
- Kimiti, A. H. (2020). *An Assessment of the Impact of Financial Management Practices on Growth of SMEs* (pp. 0–41). Mzumbe University.

- Lanlan, Z., & Ahmi, A. (2019). Perceived ease of use, perceived usefulness and the usage of computerized accounting systems: A performance of micro and small enterprises (mses) in china. *International Journal of Recent Technology and Engineering*, 8(2), 324–331. <https://doi.org/10.35940/ijrte.B1056.0782S219>
- Lee, M. T., & Suh, I. (2022). Understanding the effects of environment, social, and governance conduct on financial performance: Arguments for a process and integrated modelling approach. *Sustainable Technology and Entrepreneurship*, 1(1), Article 100004. <https://doi.org/10.1016/j.stae.2022.100004>
- Lubawa, G., Shirima, A., & Nandonde, F. A. (2018). Financing preference for MSMEs in rural Tanzania. *International Journal of Research & Methodology in Social Science*, 4, 18–35. No(May).
- Mang'ana, K., Ndyetabula, D., & Hokororo, S. (2022). Financial management practices and performance of agri-SMEs in Tanzania: a structural equation modeling analysis. *SSRN Electronic Journal*, 7(1), 54–59. <https://doi.org/10.2139/ssrn.4305705>
- Mang'ana, K. M., Ndyetabula, D. W., & Hokororo, S. J. (2023). Financial management practices and performance of agricultural small and medium enterprises in Tanzania. *Social Sciences and Humanities Open*, 7(1), Article 100494. <https://doi.org/10.1016/j.ssho.2023.100494>
- Mashene, R.G., and N.P. Kumburu. 2020. Performance of small businesses in Tanzania : Human resources- based view. <https://doi.org/10.1177/0972150920927358>.
- Matara, P. G., & Sreedhara, T. N. (2020). Financial management practices and growth of MSMEs of Tanzania. *MUDRA : Journal of Finance and Accounting*, 7(1), 30. <https://doi.org/10.17492/mudra.v7i1.195417>
- Musah, A., Gakpetor, E. D., & Portia, P. (2018). Financial management practices, firm growth and profitability of small and medium scale enterprises (SMEs). *Information Management and Business Review*, 10(506), 25–37.
- Nketsiah, I. (2018). Financial record keeping practices of small business operators in the Sekondi-Takoradi metropolitan area of Ghana. *Asian Journal of Economics, Business and Accounting*, 6(3), 1–9. <https://doi.org/10.9734/ajeba/2018/39291>
- Nkundabanyanga, S. K., Akankunda, B., Nalukenge, I., & Tusiime, I. (2017). The impact of financial management practices and competitive advantage on the loan performance of MFIs. *International Journal of Social Economics*, 44(1), 114–131. <https://doi.org/10.1108/IJSE-05-2014-0104>
- Nkwabi, J. M. (2019). A review of factors affecting the growth of small and medium enterprises (SMEs) in Tanzania. *European Journal of Business and Management*, 1–8. <https://doi.org/10.7176/ejbm/11-33-01>, 2016.
- Nyabwanga, R. N. (2012). Effect of working capital management practices on financial performance: A study of small scale enterprises in Kisii South District, Kenya. *African Journal of Business Management*, 6(18), 5807–5817. <https://doi.org/10.5897/ajbm11.1418>
- Robyn, E., & Johnny, Y. (2020). *Performance and financial management: Key factors for small- and medium-sized entities' survival in a volatile environment | IFAC* (pp. 1–7). International Federation of Accountants (IFAC).
- Sa'eed, A., Gambo, N., Inuwa, I. I., & Musonda, I. (2020). Effects of financial management practices on technical performance of building contractors in northeast Nigeria. *Journal of Financial Management of Property and Construction*, 25(2), 201–223. <https://doi.org/10.1108/JFMPC-07-2019-0064>
- SAFIN. 2021. *AGRI-SME TAXONOMY*. 1–8 pp.
- Sawe, K., Makori, D., Lanlan, Z., Ahmi, A., & Popoola, O. M. J. (2022). Financial management practices and performance of commercial and services companies listed at Nairobi securities exchange, Kenya. *International Journal of Recent Technology and Engineering*, 06(09), 324–331. <https://doi.org/10.35940/ijrte.B1056.0782S219>
- Sensini, L. (2020). Working capital management and performance: Evidence from Italian SME's. *International Journal of Business Management and Economic Research*, 11(2), 1749–1755.
- Sooriyakumaran, L., Thrikawala, D. S. S., & Pathirawasam, C. (2022). A study between the association of financial management practices and performance of small and medium enterprises (SMEs) background: A working paper. *International Journal of Research and Innovation in Social Science*, 06(01), 166–179. <https://doi.org/10.47772/ijriss.2022.6113>
- Tharmini, T., & Lakshan, A. M. I. (2021). Impact of financial management practices on performance of small and medium enterprises – Legitimacy theory perspectives. *Kelaniya Journal of Management*, 10(1), 43. <https://doi.org/10.4038/kjm.v10i1.7666>
- The World Bank. (2022). *World Bank SME Finance: Development news, research, data | World Bank*. The World Bank. Retrieved June 5, 2023 <https://www.worldbank.org/en/topic/smefinance>.
- Turyahebwa, A., Sunday, A., & Ssekajugo, D. (2013). Financial management practices and business performance of small and medium enterprises in western Uganda. *African Journal of Business Management*, 7(38), 3875–3885. <https://doi.org/10.5897/AJBM2013.6899>
- Watts, R. L., & Zimmerman, J. L. (1990). Positive accounting theory: A ten year perspective. *The Accounting Review*, 65(1), 131–156.
- Zada, M., Yukun, C., & Zada, S. (2021). Effect of financial management practices on the development of small-to-medium size forest enterprises: Insight from Pakistan. *GeoJournal*, 86(3), 1073–1088. <https://doi.org/10.1007/s10708-019-10111-4>