

OPEN ACCESS




International Food and Agribusiness Management Review
Volume 27, Issue 2, 2024; DOI: 10.22434/IFAMR2023.0035

Received: 9 May 2023 / Accepted: 18 October 2023

The influence of internal factors on micro and small enterprises performance: evidence from Tanzanian agri-food processors

RESEARCH ARTICLE

Pulkeria Pascoe^a, Marcia Dutra de Barcellos^{b,e}, Hans De Steur^c, Joachim Schouteten^c,
Hawa P. Tundi^d and Xavier Gellynck^c

^aPhD student, ^bSenior Post-doctoral Researcher, ^cProfessor, Department of Agricultural Economics,
Ghent University, Coupure Links 653, 9000 Ghent, Belgium

^dSenior Lecturer, School of Business, Mzumbe University, Mzumbe, Tanzania

^eAssociate Professor, School of Business, Federal University of Rio Grande do Sul, Rua Washington Luiz 855,
90010-460, Porto Alegre, RS, Brazil

Abstract

Building upon resource-based view (RBV) theory, this cross-sectional study employed binary logistic regression to examine the influence of firm-level factors on the performance of 435 Tanzanian micro and small agri-food processing firms. The results of the study show that intangible resources, age (enterprise, manager), and management practices (target setting, working capital management, and performance monitoring) have a significant influence on firm performance. Firm size, tangible resources, and managers' education level were not significant predictors of firm performance. The findings confirmed the RBV argument that intangible resources contribute more to the variation in firm performance compared to tangible resources. This study adds to the limited research on the combined effect of firm-specific characteristics, firm resources, managerial characteristics, and selected management practices on the performance of micro and small firms in emerging economies. The findings will help managers to identify success factors that are significant for better performance and will support policymakers to design strategies that can effectively contribute to the development of micro and small enterprises in the agri-food subsector.

Keywords: firm performance, internal factors, micro and small enterprises (MSEs), regression analysis, resource-based view (RBV).

JEL codes: C83; D22; L25, L66.

[Ⓔ]Corresponding author: pulkeria.pascoe@ugent.be; ppascoe@mzumbe.ac.tz

1. Introduction

Micro, Small, and Medium-sized Enterprises (MSMEs) are usually classified in terms of the total number of employees, amount of capital investment, or turnover (Dambiski Gomes de Carvalho et al., 2021). MSMEs employ the majority of the population in the world and are one of the strongest drivers of employment, innovation, and economic development (Abbasi et al., 2021; Manzoor et al., 2021). In the Tanzanian context, size classes of MSMEs are defined based on the number of employees and capital investment in machinery (United Republic of Tanzania, 2003). Tanzanian MSMEs are grouped into micro enterprises (less than 4 employees or capital investments of up to TZS 5 million), small enterprises (5–49 employees or having capital investment of TZS 5–200 million), and medium-sized enterprises (50–99 employees or have capital investments of TZS 200–800 million). Accordingly, in this study, Micro and Small Enterprises (MSEs) refer to enterprises with less than 50 employees and whose capital investment does not exceed TZS 200 million (equivalent to 80 000 Euro).

The performance of a firm refers to the extent to which a firm executes its business operations in terms of efficiency and effectiveness (Bai et al., 2023; Kiyabo and Isaga, 2020).

Firm performance can be measured using several different indicators because there is no single overarching model to explain firm performance (Tundui and Tundui, 2020). Many scholars have been using indicators like sales revenues, market share and profitability (Selvam et al., 2016) to measure performance. The most commonly used indicator is sales turnover, because its increase is associated with an increase in profit and market share (Wiklund *et al.*, 2009).

Assessing business performance is a management and control activity that helps to know the status of an organization by evaluating behavior and decisions undertaken in order to achieve the desired goals (Villa and Taurino, 2019). A regular assessment of a firm's operations and assets controlled or owned (resources) helps to guarantee that business resources are utilized according to the firm's goals and required actions are implemented in timely (Mashene and Kumburu, 2020). The extent to which the firm utilizes available resources and capabilities has a significant influence on its performance (Kaleka, 2012). The majority of African MSEs, including sub-Saharan MSEs, operate under uncertainty and experience low or no growth resulting from few assets, limited resources (especially financial), and low technical and management skills (Endris and Kassegn, 2022; Nyamrunda and Freeman, 2021; Seluhinga and Philip, 2021). Despite of numerous researches conducted, understanding MSE's performance remains unfinished and disjointed (Meressa, 2020) as there are no consensuses on its drivers (Huynh, 2021; Meressa, 2020; Tundui and Tundui, 2020). Business performance measures tend to differ due to industry and contextual factors, therefore agribusiness performance need be understood in the context of the industry (Cunha Callado and Jack, 2017; Ume *et al.*, 2020). However, little work has been done on the development and adoption of appropriate performance indicators for the African agri-food sector which plays a critical role in reducing post-harvest food losses (Ume *et al.*, 2020). Consequently, more empirical evidence is still needed on performance determinants of MSEs (Alfoqahaa, 2018; Meressa, 2020), especially in developing countries, because contextual differences hold more explanatory power (Anderson and Ronteau, 2017).

1.1. Resource-based view (RBV) theory and firm performance

Resource-based view (RBV) theory emphasizes the importance of firm-specific resources and capabilities or competencies as a source of competitive advantage and performance (Barney, 1991). Under RBV, valuable, rare, inimitable, and non-substitutable firm resources are considered to be the most important factors for sustainable competitive advantages (Barney, 1991). Although the performance of a firm is influenced by both internal and external factors (Huynh, 2021), RBV studies contend that firm-level factors outweigh external factors in explaining firm performance (Barney, 1991; Fernández *et al.*, 2019; Hawawini *et al.*, 2005; Huynh, 2021).

A firm's performance depends largely on the resources it owns or controls (Galbreath, 2005). Firm resources include all assets, organizational processes, competencies, business attributes, and new knowledge under the control of the firm (Kraja, 2018). Assets controlled or owned by the firm can be in form of tangible or intangible nature and are expected to bring future economic benefits to the business (Khan *et al.*, 2021).

In order to compete, a firm needs both tangible and intangible resources (Kor and Mesko, 2013). Tangible resources consist of assets generally classified as financial and physical whereas intangible resources represent knowledge-based and socially constructed resources grouped as relational, organizational or reputational assets (Jancenelle, 2021). Intangible resources represent valuable firm assets that are not physical in nature. These include relationships with stakeholders, brands, patents, goodwill, operating structures, business practices, key talents and culture (Uddin *et al.*, 2022).

Moreover, under RBV theory, studies show that variations in firm performance are explained more by intangible resources compared to tangible resources which are hypothesized to offer little or no contribution on performance variations (Kamasak, 2017). Tangible resources do not determine the competitiveness of the firm since they can be readily obtained and imitated thus offering normal returns compared to intangible resources (Barney, 1991; Barney, 2001; Teece, 1998). There is little research to refute the claim that tangible resources offer very little or no contribution to performance, hence they should be included in RBV studies in order to avoid misleading results from a single major factor (Galbreath and Galvin, 2008; Kamasak, 2017; Schriber and Löwstedt, 2015). Kamasak (2017) claims that there is still limited RBV research testing the contribution of other factors after accounting for the effects of intangible and tangible resources. Scholars are argued to examine the impact of management practices on performance variations across firms (Bloom *et al.*, 2012; Bloom and Van Reenen, 2010, 2007; Nemlioglu and Mallick, 2017) since firm's resources need to be well assembled, integrated, and managed well in order to make them productive (Leonidou *et al.*, 2013). Moreover, many RBV studies concentrate on developed economies and the outcomes for other economies are little known (Cavusgil *et al.*, 2013; Kamasak, 2017).

2. Conceptual framework and research hypotheses

This work employs the RBV as the starting point for the development of a theoretical framework (Figure 1) and the framing of the hypothesis aims to analyze the influence of firm-specific characteristics, firm resources, owner-manager/ manager's socio-demographic characteristics, and selected management practices on the performance of agri-food processing firms. A comparative approach provides a better and practical understanding of the influence of these internal factors in explaining variations in performance between successful and less successful firms, as perceived by the owner-manager or manager (hereinafter referred to as "manager").

First, it is argued that the age of a firm affects its performance (Ali, 2016). Older firms benefit from a well-established learning curve and enjoy economies of scale as they can operate at lower costs with greater efficiency (Abdo Ahmad and Fakhri, 2022; Hansen and Hamilton, 2011; Zahra *et al.*, 2006). The social capital accumulated in older firms as a result of their experience and superior resources makes them more likely to perform better than younger firms (Meressa, 2020). Therefore, this study hypothesizes that:

H1: The age of the firm positively influences MSE's performance.

It is also contended that firm size has an impact on firm performance (Agrawal *et al.*, 2021; Ali, 2016). Greater firm size allows firms to have better economies of scale, greater ability to diversify products and production processes, and greater ability to face up business risks (Nunes *et al.*, 2009). The effects of firm size on firm growth, efficiency, liquidity, profitability, productivity, and survival have yielded mixed or non-significant results in various performance studies (Ali, 2016). A positive effect of firm size on performance reflects the competitiveness of larger firms resulting from a larger market share and better access to capital (Golubeva,

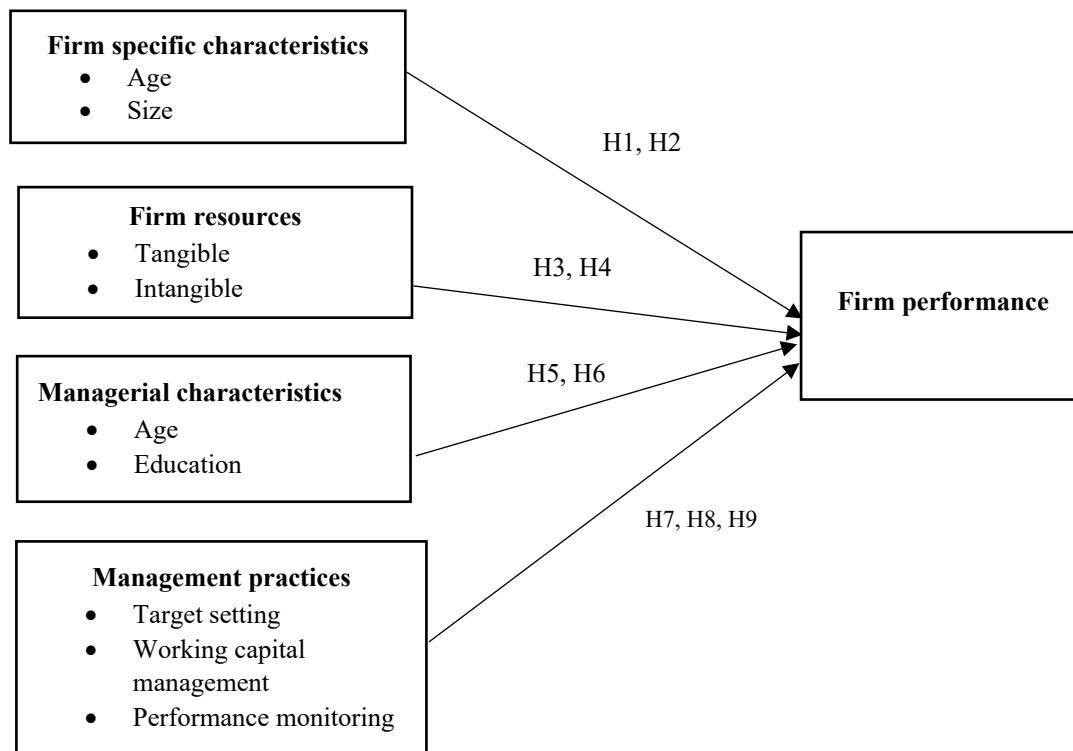


Figure 1. Conceptual research framework and hypothesis testing.

2021). Other scholars report that newer and smaller firms perform better than larger firms due to their flexibility and ability to discover and seize new opportunities (Steffens *et al.*, 2009). Thus, this study hypothesizes that:

H2: Small firms perform better than micro firms.

Tangible resources are likely to create less or no sustained competitive advantages because they can be easily acquired in the market (Galbreath, 2005; Galbreath and Galvin, 2006). Neves *et al.* (2021) stated that investments in tangible fixed assets reduce profitability. Nunes *et al.* (2009) concluded that tangible assets adversely affect the performance of Portuguese firms. However, other scholars have been reporting that with tangible resources some firms have attained and sustained their competitive advantage (Kamasak, 2017). Grazzi *et al.* (2016) and Schriber and Löwstedt (2015) found a positive relationship between investment in tangible capital assets and the performance of manufacturing firms. There is still discrepancy in the results reported in the literature on the influence of tangible resources on firm performance. This study therefore hypothesizes that:

H3: Tangible resources are perceived to positively influence MSE's performance.

Ability of the business to develop competitive advantage and growth is influenced by intangible resources acquisition (Blackburn *et al.*, 2013). Performance differences across firms are influenced by the heterogeneity and diversity of intangible assets over time (Barney, 2001). Firm's superior performance is determined by its ability to organize, combine, configure and exploit its intangible resources (Barney, 1991; Lopes and Carvalho, 2021). Investments in intangible assets help to create value and higher performance than investments in tangible assets (Khan *et al.*, 2019; Neves *et al.*, 2021). Intangible assets have positive and significant influence on firm performance (Grozdić *et al.*, 2020; Khan *et al.*, 2020; Seo and Kim, 2020). This study therefore suggests that:

H4: Intangible resources are perceived to positively influence MSE's performance.

Managers play an essential role in promoting the competitiveness of firms (Lwesya, 2021) by enabling and enhancing organizational performance (Sawe *et al.*, 2021). Aging of a manager is associated with accumulated knowledge, skills and experience (Backman and Karlsson, 2020). Knowledgeable and experienced managers have better ability to identify, exploit opportunities and make optimal decisions that lead to better firm performance (Bhutta *et al.*, 2021). Older managers are also likely to be more efficient at getting information and resources that improve firm performance than younger managers due to their better knowledge and networks (Zhang, 2017). However, the impact of manager age on firm performance remains debatable, as researchers report mixed results, ranging from a positive effect to a negative effect to no significant effect (Marconatto *et al.*, 2021). Therefore, this study hypothesizes that:

H5: Age of the manager positively influences MSE's performance.

Manager's education level influences firm performance (Barringer *et al.*, 2005; Dobbs and Hamilton, 2007; Hejazi *et al.*, 2016). Higher education increases the ability to cope with problems and seize opportunities. Managers with higher levels of education are expected to make better decisions compared to their counterparts (Meressa, 2020). Firms managed by managers with higher levels of formal education outperform their counterparts as good educational background contributes more rational capability and explicit knowledge (Meressa, 2020). Thus, this study suggests that:

H6: MSEs managed by managers with secondary education level or above perform better than their counterparts.

Necessary management practices are required to utilize effectively the existing resources in the firm in order to create value (Barasa *et al.*, 2017; Cheah and Ho, 2021). Targets setting practices are contended to have a positive impact on firm performance (Forth and Bryson, 2019; Mendy, 2021). Organizations are supposed to set the right targets, track the right outcomes and take appropriate action if the targets set and outcomes are not consistent (Bloom *et al.*, 2012; Bloom and Van Reenen, 2010, 2007). Furthermore, setting and implementing goals that are specific, measurable, achievable, relevant, and time-sensitive (SMART) can be a powerful instrument for improving firm performance by fostering clarity, focus, and accountability throughout the firm (Doran, 1981; McConnell *et al.*, 2009; Selvik *et al.*, 2021).

Hence, this study proposes that:

H7: Target-setting practices positively influence MSE's performance.

On the other hand, MSEs can improve performance by improving financial management, in particular the management of working capital and cash flows (Karadağ, 2018). This involves maintaining an optimal level of working capital components, i.e. cash, accounts receivable, accounts payable and inventories, in order to achieve maximum revenue (Morshed, 2020). Inability of the manager or financial manager to plan and control current assets and liabilities has been associated with the high rate of business failures (Zada *et al.*, 2021). Management of optimal working capital is crucial to ensure a balance between current assets and current liabilities (Chambers and Cifter, 2022; Karadağ, 2018; Morshed, 2020; Peel and Wilson, 1996). Therefore, this study suggests that:

H8: Working capital management practices positively influence MSE's performance.

Monitoring firm performance involves tracking performance, continuously improving business processes, and conducting performance review discussions with employees (Bloom *et al.*, 2012; Bloom and Van Reenen, 2010). Monitoring practices are closely related to firm performance as they measure what goes on

internally and use these data to drive and evaluate changes in the business (Bloom *et al.*, 2012; McConnell *et al.*, 2016, 2009). Therefore, this study finally suggests that:

H9: Performance monitoring practices positively influence MSE's performance.

3. Data and methods

3.1. Data collection and sample

In this cross-sectional survey study, data was collected from November 2020 to March 2021 from managers of urban agri-food processing firms who are considered to have a better understanding of firm's resource-base, structure, practices, and performance. Dodoma, Dar es Salaam, Manyara, Morogoro and Singida regions in Tanzania were focal areas for this research due to their important role in the sub-sector activities and concentration of agri-food processors (Seluhinga and Philip, 2021). Dar es Salaam, where most processed agri-foods are consumed, was chosen because it is the largest commercial city in Tanzania and home to the largest number of micro, small, and medium-sized firms (Alphonse *et al.*, 2020; Mkuna *et al.*, 2021). Urban firms were selected because most Tanzanian agri-food processing firms are located in urban areas and other major towns in the country (Diao *et al.*, 2018). Figure 2 presents the study area.

Challenges in finding a reliable database for micro, small, and medium enterprises in developing economies, including Tanzania, raised a need for the study to use a combination of convenience and snowballing sampling techniques (Mashenene and Kumburu, 2020; Zulu-Chisanga *et al.*, 2021). Convenience sampling helped the researchers to identify and collect data from qualifying firms under Small Industries Development Organization (SIDO) register as a starting point. However, the list was not exhaustively detailed and updated as some firms changed their contact details while others stopped operations. Through snowballing sampling additional participants were identified as a result of referrals from the respondents used in convenience sampling (Saunders *et al.*, 2019). The questionnaire was pre-tested in a pilot study of 15 respondents (5 professional colleagues and 10 managers) in order to assess its appropriateness. Single informant was used and the questionnaire was self-administered to one manager from each firm. 10 managers who participated

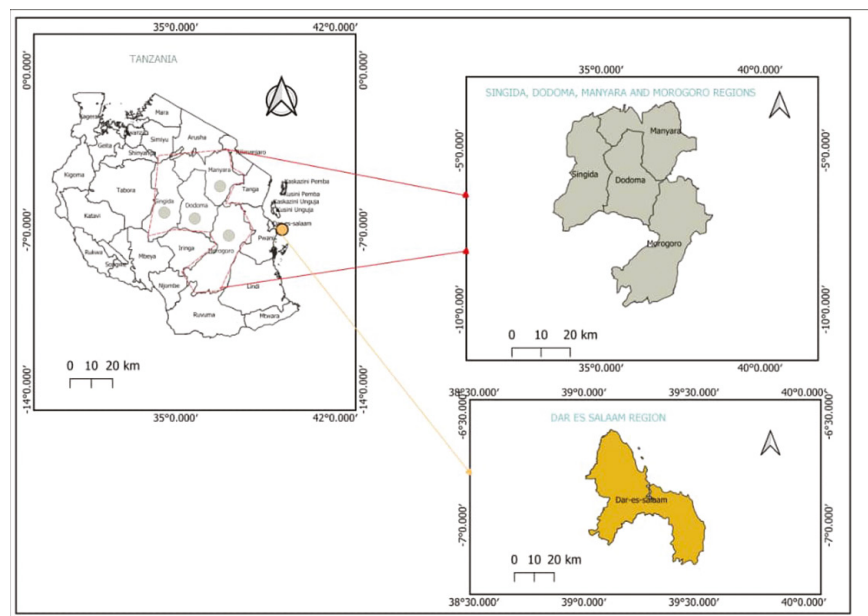


Figure 2. Study area.

in the pilot study were also included in the final study. Based on the number of contacts and referrals made, a total of 442 questionnaires were collected, of which 435 completed questionnaires were useful for further analysis after excluding 7 questionnaires with missing data.

3.2. Measurement of constructs

Based on a five-point Likert scale (1=deteriorated much to 5=improved much), managers evaluated their firms' performance over the last three years concerning perceptual multidimensional indicators namely, sales turnover, market share and profit before tax (Galbreath and Galvin, 2008; Kamasak, 2017; Spanos and Lioukas, 2001). Market share measures operational performance whereas profit and sales turnover measure financial performance (Murphy *et al.*, 1996). Subjective measures were used to measure firm performance because actual data were not easily obtained and measuring performance in micro and small businesses is complex (Blackburn *et al.*, 2013).

For inclusion, a firm must be in operation for at least three years since its establishment in order to provide an overview of sustained performance and mitigate temporal fluctuations (Kamasak, 2017). Firm-specific characteristics variables (firm age and size) were derived from prior performance related studies (Storey, 2016; Storey and Greene, 2010; Zahra *et al.*, 2006). Age was measured in terms of years since the firm was established while the size of the firm was based on the number of employees.

Manager age was a self-reported item based on the respondent birth year. The education level of the manager was measured using a dummy variable coded 1=secondary school level and above; 0=primary school level and below.

On a 5-point Likert scale (1=no impact to 5=very high impact), managers rated their views on the impact of each firm-resource variables namely, tangible and intangible resources adapted from (Fahy, 2002; Galbreath and Galvin, 2008, 2006) on firm performance. Intangible resources had three variables, namely relational resources (5 items), organizational resources (5 items) and reputational resources (3 items). Tangible resources consisted of two variables namely financial resources (4 items) and physical resources (4 items).

Management practices captured the extent to which management undertakes selected practices using a five-point Likert scale (1=never to 5=always) in relation to performance. Management practices are based on a total of three sub-categories, namely target setting, working capital management and performance monitoring. Working capital practices were adapted from (Karadağ, 2018; Orobio *et al.*, 2016, 2013; Peel and Wilson, 1996) to measure the extent of undertaking management practices on cash (6 items), inventory (6 items), payables (3 items), and receivables (5 items). Practices measuring target setting (5 items) and performance monitoring (6 items) were adapted from (Bloom *et al.*, 2012; Bloom and Van Reenen, 2007; McConnell *et al.*, 2009).

A binary logistic regression model was used to assess the influence of the study's explanatory variables on firm performance using the Statistical Package for Social Sciences (SPSS). The rationale behind employing binary logistic regression is rooted in the dichotomous coding of the dependent variable in the study (Gonel and Cicek, 2022). Furthermore, binary logistic regression does not assume linearity, normality, homoscedasticity, or equal variance in each group for the independent variable (Omondi-Ochieng, 2021).

4. Data analysis and results

4.1. Descriptive analysis and sample profile

Table 1 presents the characteristics of the sample. The mean age of the managers surveyed was 37.4 years, with the majority aged 18–30 years (27.8%) and 31–54 years (66.2%) confirming that the majority of micro

Table 1. Sample characteristics (N=435)

Variable	Frequency	%
Location		
Dodoma	161	37.0
Dar es Salaam	141	32.4
Other (Manyara, Singida, Morogoro)	133	30.6
Activity		
Edible oil seeds	197	45.3
Grains	238	54.7
Legal status		
Sole proprietorship	381	87.6
Company	54	12.4
Firm size		
Micro enterprises	236	54.3
Small enterprises	199	45.7
Firm age		
0–10 years	348	80.0
Older than 10 years	87	20.0
Mean (years)	7.8	
Manager age		
18–30 years	121	27.8
31–54 years	288	66.2
55 years and above	26	6.0
Mean (years)	37.4	
Gender		
Male	352	80.9
Female	83	19.1
Education level		
Never attended school	20	4.6
Primary school	182	41.8
Ordinary secondary school	162	37.2
Advanced secondary school	18	4.1
Bachelor degree/advanced diploma	49	11.3
Master's degree	4	0.9

and small firms are run by youth managers aged between 30 and 39 years (Mashenene and Kumburu, 2020). Most firms surveyed (80.9%) were managed by men. In terms of educational level, the majority attained primary school (41.8%) and ordinary secondary school (37.2%), indicating low educational levels among studied managers. Mkuna *et al.* (2021) suggested that individuals with higher educational levels are more likely to work in the employment sector than agri-food processing business. Therefore these findings confirm the need to train young managers, as low levels of education are likely to affect the performance of studied firms (Lwesya *et al.*, 2021).

The age of the firms ranged from 3 to 23 years, with an average age of 7.8 years. 80% of the firms in the sample were 10 years old and below. Of the firms 54.3% were micro and the remaining 45.7% were small in size. Agrawal *et al.* (2021) reported that 94.94% of firms registered in India were microenterprises, 4.89% were small and only 0.17% were medium-sized firms. Mkuna *et al.* (2021) also found that most surveyed agri-food firms were micro (65.2%) and small (29.3%) in size indicating that that these firms are still young

and have small amount of capital. 87.6% of sampled firms operate as sole proprietorships confirming that most of studied micro, small and medium firms are sole proprietorships or partnerships (Ali, 2016). Sole proprietorship is most preferred because it involves minimal legal entry costs, has fewer legal and reporting requirements, is more flexible, and managers have complete control over business activities (Charoenrat *et al.*, 2013).

These statistics show that the majority of MSEs surveyed are young sole proprietorships run by young and middle-aged male managers.

4.2. Factor analysis and reliability tests

Factor analysis using principal component analysis (PCA) and reliability tests were performed on all items constituting resources, management practices and performance indicators.

The results of PCA show that all variables included in the study had items with communalities above 0.50, Kaiser–Meyer–Olkin values above 0.60, and Bartlett’s test of sphericity was significant at a p -value of less than 0.05 (Hair *et al.*, 2010) (Table A1 in Appendix A that can be accessed at 10.6084/m9.figshare.24358264). Thus, the results of the factor analysis indicate the suitability of the data set for further analysis (Vij and Bedi, 2016).

Cronbach alpha values next presented in Table 2 were all greater than the recommended value of 0.70 (Chowdhury *et al.*, 2023), indicating that the measurement instrument used in the study was valid and reliable (Mashenene and Kumburu, 2020).

4.3. Correlations

Prior to formulating composite variables, highly correlated independent variables ($r \geq 0.70$) were further excluded because they could negatively affect the predictive quality of the logistics regression model (Hair *et al.*, 2010; Zizi *et al.*, 2020).

The composite variable “Intangible resources” included total relational resources and total reputational resources. The composite variable “Tangible resources” included total financial resources and total physical resources. The composite variable “Working capital management practices” included total cash management practices, total inventory management practices and total payables management practices.

Table 2. Reliability test results

Variable	Kaiser-Meyer-Olkin	Cronbach alpha	Initial items	Final items
Targets setting	0.859	0.884	5	5
Performance monitoring	0.729	0.854	6	4
Cash management	0.789	0.878	6	4
Inventory management	0.905	0.900	6	6
Payables management	0.637	0.823	3	3
Receivables management	0.851	0.857	5	5
Relational resources	0.870	0.850	5	5
Organizational resources	0.873	0.882	5	5
Reputational resources	0.725	0.815	3	3
Financial resources	0.667	0.720	4	3
Physical resources	0.793	0.843	4	4
Firm performance	0.738	0.903	3	3

The three dependent indicators (sales turnover, market share and profit before tax) were strongly positively correlated ($r \geq 0.70$), suggesting that the performance indicators are complementary rather than mutually exclusive (Katsikeas *et al.*, 2000). These three performance indicators were then combined to create a new composite variable, “Firm performance” (Joshi *et al.*, 2015). The new composite variable had a higher validity compared to single performance indicators, as no original information was lost during the process and all indicators are assumed to have equal weights and importance (Murphy *et al.*, 1996; Rahman, 2001; Wilkinson and Brouthers, 2006; Wood, 2006). The new “Firm performance” score ranged from 4 to 15, with a median score of 9 and a mean score of 9.2. For analysis purpose, scores above the mean represented successful firms ($N=194$) while scores below the mean represented less successful firms ($N=241$) (Gebremedhin *et al.*, 2021).

Multicollinearity test showed that the variance inflation factor (VIF) values were all below the highest recommended cutoff of 5, satisfactorily indicating that there was no considerable multicollinearity (Aghaei and Sokhanvar, 2020; Hair *et al.*, 2010; O’Brien, 2007). Table 3 shows the results of the correlation matrix and multicollinearity test among the study variables.

At a 95% confidence interval, binary logistic regression was performed to assess the influence of study explanatory variables on the likelihood of firm performance using SPSS 26.0. A backward stepwise (removal criteria of $p > 0.1$) regression was performed to arrive at the study variables and control for the effects of too many variables that could lead to mathematically unstable results (My *et al.*, 2018; Stoltzfus, 2011).

4.4. Results

The full model containing all predictors (firm age, firm size, tangible resources, intangible resources, manager age, manager education level, targets setting practices, working capital management practices, and performance monitoring practices) was statistically significant, $\chi^2(9, N=435)=387.969, p < 0.001$, indicating that the model was able to distinguish between successful and less successful firms. The model explained between 59.0% (Cox and Snell R square) and 79.0% (Nagelkerke R-squared) of the variance in firm performance, and correctly classified 90.1% of cases.

Table 3. Correlation matrix of study variables.

No.	1	2	3	4	5	6	7	8	9	10	VIF
1	1										1.462
2	0.162**	1									1.054
3	0.412**	-0.03	1								1.411
4	-0.025	-0.061	-0.146**	1							1.053
5	0.258**	0.042	0.226**	0.002	1						1.435
6	0.293**	0.019	0.301**	-0.004	0.348**	1					1.329
7	0.358**	-0.026	0.388**	0.044	0.458**	0.433**	1				1.849
8	0.439**	0.051	0.359**	-0.048	0.322**	0.294**	0.454**	1			1.751
9	0.396**	0.064	0.362**	0.053	0.478**	0.291**	0.576**	0.601**	1		2.117
10	0.499**	0.039	0.469**	-0.036	0.442**	0.487**	0.582**	0.582**	0.650**	1	
	11	12	13								
11	1										
12	0.830**	1									
13	0.798**	0.718**	1								

1=Firm age; 2=Firm size; 3=Manager age; 4=Manager educational level; 5=Tangible resources; 6=Intangible resources; 7=Targets setting; 8=Performance monitoring; 9=Working capital management; 10=Firm performance; 11=Sales turnover; 12=Market share; 13=Profit before tax.

** $p < 0.01$.

Table 4. Binary logistic regression results

Predictor	Coefficient estimate	Standard error	Wald	p-value	Odds ratio
Firm-specific characteristics					
Firm age	0.164	0.049	11.371	0.001**	1.178
Firm size (small)	0.258	0.366	0.500	0.480	1.295
Firm resources					
Tangible resources	0.066	0.053	1.526	0.217	1.068
Intangible resources	0.131	0.046	7.971	0.005**	1.140
Manager socio-demographic characteristics					
Manager age	0.049	0.020	5.726	0.017*	1.050
Manager education level (secondary school and above)	0.385	0.379	1.035	0.309	1.470
Practices					
Targets setting	0.531	0.144	13.645	0.000***	1.700
Working capital management	0.204	0.043	21.936	0.000***	1.226
Performance monitoring	0.136	0.054	6.333	0.012**	1.146

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

As shown in Table 4, 6 of the independent variables made a positive unique and statistically significant contribution to the model (firm age (H1), intangible resources (H4), manager age (H5), targets setting practices (H7), working capital management practices (H8), and performance monitoring practices (H9)). The strongest predictor of firm performance was targets setting, recording an odds ratio of 1.700 indicating that successful firms which undertake targets setting practices were over 1.700 times more likely to perform better than less successful firms, controlling for all other factors in the model. Applying this rule, the study finds that the next determinants of firm performance are influential in the following odds ratios: working capital management practices (1.226), firm age (1.178), performance monitoring practices (1.146), intangible resources (1.140), and manager age (1.050). Firm size (H2), tangible resources (H3) and manager's educational level (H6) were not significant predictors of performance in the firms studied. Thus, all nine hypotheses were supported.

4.5. Discussion

Firm characteristics factors tested by hypotheses 1 and 2 suggested that only firm age has significant influence on performance of studied agri-food firms. Older firms are likely to perform better than younger firms. These results are similar to those of Coad *et al.* (2013) who found that firm age was associated with better performance of manufacturing firms in Spain. Thus, as a firm ages, it benefits from the experience and social capital it has accumulated over time and enjoys economies of scale that allow it to operate at lower cost and with greater efficiency (Meressa, 2020).

On the other hand, firm resources tested by hypotheses 3 and 4 indicate that intangible resources have a positive and significant influence on the performance of the agri-food firms studied. These findings are consistent with other RBV scholars who concluded that intangible assets have a positive and significant influence on firm performance (Grozdić *et al.*, 2020; Kamasak, 2017; Khan *et al.*, 2019; Neves *et al.*, 2021; Seo and Kim, 2020). Similar to Andonova and Ruíz-Pava (2016), this study also confirms that relative to tangible resources, intangible assets were more important for creating competitive advantage in the context of emerging economies.

Results from hypotheses 5 and 6 showed that only the manager's age was statistically significant for firm performance. The positive significant effect of firm age on performance contrasts with (Tsuruta, 2020) who established that Japanese firms with older managers performed poorly in terms of profitability and sales

growth due to little motivation to achieve growth among older managers. Tundui and Tundui (2020) also claimed that younger managers perform better than older managers in women-owned microcredit funded enterprises in Tanzania. The results of the study therefore suggest that young agri-food managers gain more management and industry experience over time. Older managers have more diverse experience (professional and technical) and maintain better strategic networks compared to younger managers (Backman and Karlsson, 2020).

All selected management practices tested by hypotheses 7, 8 and 9 had a positive and significant influence on variations in performance of micro and small agri-food processing firms. These results are consistent with the findings of Forth and Bryson (2019) and Sahiti (2019) who raised that setting targets, applying operational practices, and continuously monitoring firm processes and resources lead to better performance. Bloom and Van Reenen (2007) found that low performing organizations have very limited performance monitoring practices and set ineffective and inappropriate targets. In addition, Karadağ (2018) suggested that higher levels of performance were achieved when small firms had better financial management of their cash, receivables, and inventory. Enqvist *et al.* (2014) established that incorporating working capital efficiency into daily routines was essential for higher business performance. The positive effect of all management practices is consistent with Nemlioglu and Mallick (2017) proposing that better-managed firms performed better than poorly-managed firms. Therefore, variations in performance across firms can also be explained due to differences in management practices (Bloom *et al.*, 2012).

Firms operating in a similar environment were perceived to have similar types of tangible resources, so their competitive advantage is determined by the accumulation and use of their intangible resources. Successful agri-food processing firms are perceived to establish, maintain and utilize effectively their intangible resources (business relationships and products/customer service brands). They also employ better management practices by properly managing their working capital (cash, inventories and payables), conduct adequate performance monitoring to ensure that set targets can be met. Firms that apply appropriate management practices achieve better results and strengthen their competitive advantage. Moreover, old firms run by older managers are likely to perform better than young firms run by younger managers because aging is associated with accumulated experience, knowledge, skills, resources, and social capital.

5. Conclusion, future research and limitations

Using RBV theory, this study examined the influence of internal factors on the perceived performance of 435 micro and small agri-food processing firms in Tanzania. Using binary logistic regression analysis, the results of the study show that intangible resources, age of the firm, age of the manager, and all selected management practices (targets setting, working capital management, and performance monitoring) are critical to firm performance. Firm size, tangible resources and education level of a manager did not significantly affect firm performance. In line with RBV theory, this study confirms that intangible resources make a greater contribution to explaining performance differences between the agri-food processing firms studied compared to tangible resources. This study also adds to the RBV literature from developing countries by providing empirical evidence on the influence of internal factors other than firm's tangible and intangible resources on firm performance, which are limited in number.

From a practical point of view, managers should implement appropriate business management practices. Management should set SMART goals that motivate goal achievement while serving as a benchmark for self-monitoring and performance evaluation (Ford, 2017). A balance should be maintained between firms' current assets and liabilities to ensure a healthy cash flow and minimize idle working capital investments. Balancing the components of working capital helps a firm cope with unanticipated external shocks, as the performance of liquidity-constrained firms was more affected during the Covid-19 pandemic (Tarkom, 2022). Long-term succession plans should be in place to encourage the transfer of the right business skills to potential/ targeted young employees within the firm (Tsuruta, 2020).

Emphasis should also be placed on the accumulation and proper utilization of intangible resources in order to achieve and maintain sustainable performance. Efforts should be directed towards connecting to external networks by building and maintaining business relationships with key stakeholders in order to expand access to various resources (Jamai *et al.*, 2022). Necessary steps should be taken to protect and maintain good reputation of the firm by producing quality products, providing quality customer service, and protecting the brand name in order to strengthen competitive advantage (Liu and Lu, 2021).

For policy actions, the study suggests that policymakers need to set policies that will enhance access to informal and formal business management training programs among micro and small firms (Essel *et al.*, 2019). Specific training programs should be developed to educate disadvantaged managers, especially those in young micro and small firms, on how to set business goals, implement effective monitoring practices, and effectively manage working capital (Bloom *et al.*, 2012; Forth and Bryson, 2019; Karadağ, 2018). This can be done through government-funded initiatives, business development centers, partnerships with educational institutions (Galvão *et al.*, 2020), online courses or educational programs on television or websites.

The government, through its agencies, should continue to provide support for intangible resource development through programs that help micro and small firms harness their intangible resources (Galbreath, 2005). This support may include mentoring programs and fostering collaborations among stakeholders in the agri-food supply chain to strengthen access to intangible resources crucial for firm performance (Galvão *et al.*, 2020; Jamai *et al.*, 2022; Martin-Rios *et al.*, 2022).

In interpreting the results of this study, the following limitations should be noted. First, the measures of determinants used in this cross-sectional study represent respondents' perspectives on subjective measures of achievement. A longitudinal study with a larger sample and objective measures would also be a desirable contribution to future research. Second, due to the nature of the study sampling procedures and the focus of the study on specific food processors, study sample may not represent the entire population of micro and small agri-food firms in the study area. The study suggests that future studies use statistical sampling methods and expand the study to include food processors that were not included in this study. Third, broad categories of resources were used rather than subcategories. Future studies could include a comprehensive number of resources, capabilities, and other management practices to examine the impact of subcategories on firm performance. The study can also be replicated to other industries or subsectors.

Acknowledgements

We would like to thank all the firms for their participation and support of time. The study was funded by VLIR-UOS 4Site Programme (grant number TZ2019IUC028A103-02). The authors declare no conflict of interest.

Appendix A

Table A1. Factor analysis and reliability tests results. This Appendix can be accessed at [10.6084/m9.figshare.24358264](https://doi.org/10.6084/m9.figshare.24358264).

Appendix B

Questionnaire. This Appendix can be accessed at [10.6084/m9.figshare.24358264](https://doi.org/10.6084/m9.figshare.24358264).

References

Abbasi, K., A. Alam, N.A. Brohi, I.A. Brohi and S. Nasim. 2021. P2P Lending Fintechs and SMEs' Access to Finance. *Economics Letters* 204: 109890.

- Abdo Ahmad, I. and A. Fakhri. 2022. Does the Legal Form Matter for Firm Performance in the MENA Region? *Annals of Public and Cooperative Economics* 93 (1): 205–227.
- Aghaei, I. and A. Sokhanvar. 2020. Factors Influencing SME Owners' Continuance Intention in Bangladesh: A Logistic Regression Model. *Eurasian Business Review* 10 (3): 391–415.
- Agrawal, S., P. Singh and M. Mazumdar. 2021. Innovation, Firm Size and Ownership: A Study of Firm Transition in India. *International Journal of Global Business and Competitiveness* 16 (1): 15–27.
- Alfoqahaa, S. 2018. Critical Success Factors of Small and Medium-Sized Enterprises in Palestine. *Journal of Research in Marketing and Entrepreneurship* 20, no. 2: 170–188.
- Ali, J. 2016. Performance of Small and Medium-Sized Food and Agribusiness Enterprises: Evidence from Indian Firms. *International Food and Agribusiness Management Review* 19 (4): 53–64.
- Alphonse, R., B.M. Waized and M.N. Larsen. 2020. Consumer Preference for Novelty in Processed Foods: A Developing Country Perspective. *Journal of Agribusiness in Developing and Emerging Economies* 10 (4): 429–446.
- Anderson, A. and S. Ronteau. 2017. Towards an Entrepreneurial Theory of Practice; Emerging Ideas for Emerging Economies. *Journal of Entrepreneurship in Emerging Economies* 9 (2): 110–120.
- Andonova, V. and G. Ruiz-Pava. 2016. The Role of Industry Factors and Intangible Assets in Company Performance in Colombia. *Journal of Business Research* 69 (10): 4377–4384.
- Backman, M. and C. Karlsson. 2020. Age of Managers and Employees – Firm Survival. *The Journal of the Economics of Ageing* 15: 100215.
- Bai, B., K.-H. Um and H. Lee. 2023. The Strategic Role of Firm Agility in the Relationship between IT Capability and Firm Performance under the COVID-19 Outbreak. *Journal of Business & Industrial Marketing* 38 (5): 1041–1054.
- Barasa, L., J. Knoben, P. Vermeulen, P. Kimuyu and B. Kinyanjui. 2017. Institutions, Resources and Innovation in East Africa: A Firm Level Approach. *Research Policy* 46 (1): 280–291.
- Barney, J.B. 1991. Firm Resources and Sustained Competitive Advantage. *Journal of Management* 17 (1): 99–120.
- Barney, J.B. 2001. Resource-Based Theories of Competitive Advantage: A Ten-Year Retrospective on the Resource-Based View. *Journal of Management* 27 (6): 643–650.
- Barringer, B.R., F.F. Jones and D.O. Neubaum. 2005. A Quantitative Content Analysis of the Characteristics of Rapid-Growth Firms and Their Founders. *Journal of Business Venturing* 20 (5): 663–687.
- Bhutta, A.I., M.F. Sheikh, A. Munir, A. Naz and I. Saif. 2021. Managerial Ability and Firm Performance: Evidence from an Emerging Market. Ed. Collins G. Ntim. *Cogent Business & Management* 8 (1): 1879449.
- Blackburn, R.A., M. Hart and T. Wainwright. 2013. Small Business Performance: Business, Strategy and Owner-manager Characteristics. *Journal of Small Business and Enterprise Development* 20 (1): 8–27.
- Bloom, N., C. Genakos, R. Sadun and J. Van Reenen. 2012. Management Practices Across Firms and Countries. *Academy of Management Perspectives* 26 (1): 12–33.
- Bloom, Nicholas. and J. Van Reenen. 2007. Measuring and Explaining Management Practices Across Firms and Countries. *The Quarterly Journal of Economics* 122 (4): 1351–1408.
- Bloom, Nicholas. and J. Van Reenen. 2010. Why Do Management Practices Differ across Firms and Countries? *Journal of Economic Perspectives* 24 (1): 203–224.
- Cavusgil, S.T., P.N. Ghauri and A.A. Akcal. 2013. *Doing Business in Emerging Markets*. SAGE, Los Angeles, CA.
- Chambers, N. and A. Cifter. 2022. Working Capital Management and Firm Performance in the Hospitality and Tourism Industry. *International Journal of Hospitality Management* 102: 103144.
- Charoenrat, T., C. Harvie and Y. Amornkitvikai. 2013. Thai Manufacturing Small and Medium Sized Enterprise Technical Efficiency: Evidence from Firm-Level Industrial Census Data. *Journal of Asian Economics* 27: 42–56.
- Cheah, S.L.-Y. and Y.-P. Ho. 2021. Commercialization Performance of Outbound Open Innovation Projects in Public Research Organizations: The Roles of Innovation Potential and Organizational Capabilities. *Industrial Marketing Management* 94: 229–241.

- Chowdhury, E.K., I.I. Khan and B.K. Dhar. 2023. Strategy for Implementing Blockchain Technology in Accounting: Perspectives of Stakeholders in a Developing Nation. *Business Strategy & Development: bsd* 2(2): 256.
- Coad, A., A. Segarra and M. Teruel. 2013. Like Milk or Wine: Does Firm Performance Improve with Age? *Structural Change and Economic Dynamics* 24: 173–189. <https://linkinghub.elsevier.com/retrieve/pii/S0954349X12000422>.
- Cunha Callado, A.A. and L. Jack. 2017. Relations between Usage Patterns of Performance Indicators and the Role of Individual Firms in Fresh Fruit Agri-Food Supply Chains. *Journal of Applied Accounting Research* 18 (3): 375–398.
- Dambiski Gomes de Carvalho, G., L.M.M. de Resende, J. Pontes, H. Gomes de Carvalho and L. Mendes Betim. 2021. Innovation and Management in MSMEs: A Literature Review of Highly Cited Papers. *SAGE Open* 11 (4): 1–22.
- Diao, X., J. Kweka and M. McMillan. 2018. Small Firms, Structural Change and Labor Productivity Growth in Africa: Evidence from Tanzania. *World Development* 105: 400–415.
- Dobbs, M. and R.T. Hamilton. 2007. Small Business Growth: Recent Evidence and New Directions. *International Journal of Entrepreneurial Behavior & Research* 13 (5): 296–322.
- Doran, G.T. 1981. There's a SMART Way to Write Management's Goals and Objectives. *Management Review* 70 (1): 35–36.
- Endris, E. and A. Kassegn. 2022. The Role of Micro, Small and Medium Enterprises (MSMEs) to the Sustainable Development of Sub-Saharan Africa and Its Challenges: A Systematic Review of Evidence from Ethiopia. *Journal of Innovation and Entrepreneurship* 11 (1): 20.
- Enqvist, J., M. Graham and J. Nikkinen. 2014. The Impact of Working Capital Management on Firm Profitability in Different Business Cycles: Evidence from Finland. *Research in International Business and Finance* 32: 36–49.
- Essel, B.K.C., F. Adams and K. Amankwah. 2019. Effect of Entrepreneur, Firm and Institutional Characteristics on Small-Scale Firm Performance in Ghana. *Journal of Global Entrepreneurship Research* 9 (1): 55.
- Fahy, J. 2002. A Resource-Based Analysis of Sustainable Competitive Advantage in a Global Environment. *International Business Review* 11 (1): 57–77.
- Fernández, E., S. Iglesias-Antelo, V. López-López, M. Rodríguez-Rey and C.M. Fernandez-Jardon. 2019. Firm and Industry Effects on Small, Medium-Sized and Large Firms' Performance. *BRQ Business Research Quarterly* 22 (1): 25–35.
- Ford, R.C. 2017. Combining Performance, Learning and Behavioral Goals to Match Job with Person: Three Steps to Enhance Employee Performance with Goal Setting. *Business Horizons* 60 (3): 345–352.
- Forth, J. and A. Bryson. 2019. Management Practices and SME Performance. *Scottish Journal of Political Economy* 66 (4): 527–558.
- Galbreath, J. 2005. Which Resources Matter the Most to Firm Success? An Exploratory Study of Resource-Based Theory. *Technovation* 25 (9): 979–987. <https://linkinghub.elsevier.com/retrieve/pii/S0166497204000355>.
- Galbreath, J. and P. Galvin. 2006. Accounting for Performance Variation: How Important Are Intangible Resources? *International Journal of Organizational Analysis* 14 (2): 150–170.
- Galbreath, J. and P. Galvin. 2008. Firm Factors, Industry Structure and Performance Variation: New Empirical Evidence to a Classic Debate. *Journal of Business Research* 61 (2): 109–117.
- Galvão, A.R., C. Mascarenhas, C.S.E. Marques, V. Braga and M. Ferreira. 2020. Mentoring Entrepreneurship in a Rural Territory—A Qualitative Exploration of an Entrepreneurship Program for Rural Areas. *Journal of Rural Studies* 78: 314–324.
- Gebremedhin, T., H. Abebe, W. Wondimu and A.T. Gizaw. 2021. COVID-19 Prevention Practices and Associated Factors Among Frontline Community Health Workers in Jimma Zone, Southwest Ethiopia. *Journal of Multidisciplinary Healthcare* 14: 2239–2247.
- Golubeva, O. 2021. Firms' Performance during the COVID-19 Outbreak: International Evidence from 13 Countries. *Corporate Governance: The International Journal of Business in Society* 21 (6): 1011–1027.

- Gonel, O. and I. Cicek. 2022. Multicriteria Emergency Decision for Responding to Man Overboard Casualties: A Proposed Procedure Developed Using Binary Logistics Regression and General Linear Models. *Ocean Engineering* 265: 112581.
- Grazzi, M., N. Jacoby and T. Treibich. 2016. Dynamics of Investment and Firm Performance: Comparative Evidence from Manufacturing Industries. *Empirical Economics* 51 (1): 125–179.
- Grozdić, V., B. Marić, M. Radišić, J. Šebestová and M. Lis. 2020. Capital Investments and Manufacturing Firms' Performance: Panel-Data Analysis. *Sustainability* 12 (4): 1689.
- Hair, J.F., W.C. Black, B.J. Babin and R.E. Anderson. 2010. *Multivariate Data Analysis*. 7th edn. Prentice Hall, Upper Saddle River, NJ.
- Hansen, B. and R.T. Hamilton. 2011. Factors Distinguishing Small Firm Growers and Non-Growers. *International Small Business Journal: Researching Entrepreneurship* 29 (3): 278–294.
- Hawawini, G., V. Subramanian and P. Verdin. 2005. Is Performance Driven by Industry- or Firm-Specific Factors? A Reply to McNamara, Aime and Vaaler. *Strategic Management Journal* 26 (11): 1083–1086.
- Hejazi, R., M. Ghanbari and M. Alipour. 2016. Intellectual, Human and Structural Capital Effects on Firm Performance as Measured by Tobin's Q: Intellectual Capital and Performance. *Knowledge and Process Management* 23 (4): 259–273.
- Huynh, T.N. 2021. Determinants of the Performance of Small and Medium-Sized Enterprises in Emerging Markets. *International Journal of Productivity and Performance Management* 71 (8): 3160–3178.
- Jamai, K., X. Gellynck, A. Abidar and H. De Steur. 2022. Organisational Readiness to Participate in a Labelled Product Service Cluster: A Structural Equation Model Analysis. *International Food and Agribusiness Management Review* 25 (3): 509–529.
- Jancenelle, V.E. 2021. Tangible–Intangible Resource Composition and Firm Success. *Technovation* 108: 102337.
- Joshi, A., S. Kale, S. Chandel and D. Pal. 2015. Likert Scale: Explored and Explained. *British Journal of Applied Science & Technology* 7 (4): 396–403.
- Kaleka, A. 2012. Studying Resource and Capability Effects on Export Venture Performance. *Journal of World Business* 47 (1): 93–105.
- Kamasak, R. 2017. The Contribution of Tangible and Intangible Resources and Capabilities to a Firm's Profitability and Market Performance. *European Journal of Management and Business Economics* 26 (2): 252–275.
- Karadağ, H. 2018. Cash, Receivables and Inventory Management Practices in Small Enterprises: Their Associations with Financial Performance and Competitiveness. *Small Enterprise Research* 25 (1): 69–89.
- Katsikeas, C.S., L.C. Leonidou and N.A. Morgan. 2000. Firm-Level Export Performance Assessment: Review, Evaluation and Development. *Journal of the Academy of Marketing Science* 28 (4): 493–511.
- Khan, K.U., F. Atlas, U. Ghani, S. Akhtar and F. Khan. 2021. Impact of Intangible Resources (Dominant Logic) on SMEs Innovation Performance, the Mediating Role of Dynamic Managerial Capabilities: Evidence from China. *European Journal of Innovation Management* 24 (5): 1679–1699.
- Khan, K.U., F. Atlas, Z. Xuehe, F. Khan and S. Khan. 2020. The Mediating Role of Dynamic Managerial Capabilities: The Interplay between Dominant Logic and Small- and Medium-sized Enterprises Performance in China. *Journal of Public Affairs* 20 (2). <https://onlinelibrary.wiley.com/doi/10.1002/jpa.2002>.
- Khan, S.Z., Q. Yang and A. Waheed. 2019. Investment in Intangible Resources and Capabilities Spurs Sustainable Competitive Advantage and Firm Performance. *Corporate Social Responsibility and Environmental Management* 26 (2): 285–295.
- Kiyabo, K. and N. Isaga. 2020. Entrepreneurial Orientation, Competitive Advantage and SMEs' Performance: Application of Firm Growth and Personal Wealth Measures. *Journal of Innovation and Entrepreneurship* 9 (1): 12.
- Kor, Y.Y. and A. Mesko. 2013. Dynamic Managerial Capabilities: Configuration and Orchestration of Top Executives' Capabilities and the Firm's Dominant Logic: Research Notes and Commentaries. *Strategic Management Journal* 34 (2): 233–244.

- Kraja, Y.B. 2018. The Impact of Tangible and Intangible Assets on the SMEs' Success: The Albanian Case. In *Entrepreneurship in Post-Communist Countries: New Drivers Towards a Market Economy*, ed. J. Ateljević and J. Budak, 135–145. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-75907-4_9.
- Leonidou, L.C., C.N. Leonidou, T.A. Fotiadis and A. Zeriti. 2013. Resources and Capabilities as Drivers of Hotel Environmental Marketing Strategy: Implications for Competitive Advantage and Performance. *Tourism Management* 35: 94–110.
- Liu, M. and W. Lu. 2021. Corporate Social Responsibility, Firm Performance and Firm Risk: The Role of Firm Reputation. *Asia-Pacific Journal of Accounting & Economics* 28 (5): 525–545.
- Lopes, F.C. and L. Carvalho. 2021. Intangible Assets and Business Performance in Latin America. *RAUSP Management Journal* 56 (4): 408–424.
- Lwesya, F. 2021. SMEs' Competitiveness and International Trade in the Era of Global Value Chains (GVCs) in Tanzania: An Assessment and Future Challenges. *Small Business International Review* 5 (1): e325.
- Lwesya, F., A.B.S. Mwakalobo and J. Mbukwa. 2021. Utilization of Non-Financial Business Support Services to Aid Development of Micro, Small and Medium Enterprises (MSMEs) in Tanzania. *Small Business International Review* 5 (2): 1–15.
- Manzoor, F., L. Wei and M. Siraj. 2021. Small and Medium-Sized Enterprises and Economic Growth in Pakistan: An ARDL Bounds Cointegration Approach. *Heliyon* 7 (2): e06340.
- Marconatto, D.A.B., E.G. Teixeira, F. de O. Santini and W.J. Ladeira. 2021. Characteristics of Owners and Managers in Different Countries: A Meta-Analytical Investigation of SMEs' Growth. *Journal of Small Business and Enterprise Development* 29 (3): 354–379. <https://doi.org/10.1108/JSBED-11-2020-0411>
- Martin-Rios, C., N.L. Erhardt and I.M. Manev. 2022. Interfirm Collaboration for Knowledge Resources Interaction among Small Innovative Firms. *Journal of Business Research* 153: 206–215.
- Mashenene, R.G. and N.P. Kumburu. 2020. Performance of Small Businesses in Tanzania: Human Resources-Based View. *Global Business Review* 24 (5): 887–901. <https://doi.org/10.1177/0972150920927358>
- McConnell, K.J., K.A. Hoffman, A. Quanbeck and D. McCarty. 2009. Management Practices in Substance Abuse Treatment Programs. *Journal of Substance Abuse Treatment* 37 (1): 79–89.
- McConnell, K.J., R.C. Lindrooth, D.R. Wholey, T.M. Maddox and N. Bloom. 2016. Modern Management Practices and Hospital Admissions: Management Practices and Hospital Admissions. *Health Economics* 25 (4): 470–485.
- Mendy, J. 2021. Performance Management Problem of Four Small and Medium-Sized Enterprises (SMEs): Towards a Performance Resolution. *Journal of Small Business and Enterprise Development* 28 (5): 690–710.
- Meressa, H.A. 2020. Growth of Micro and Small Scale Enterprises and Its Driving Factors: Empirical Evidence from Entrepreneurs in Emerging Region of Ethiopia. *Journal of Innovation and Entrepreneurship* 9 (1): 11.
- Mkuna, E., S. Nalaila and N. Isaga. 2021. Extent and Determinants of Women Participation in Agro-Processing Small and Medium Enterprises (SMEs) in Dar Es Salaam-Tanzania. *REPOA*. Available online at <https://www.africaportal.org/publications/extent-and-determinants-women-participation-agro-processing-small-and-medium-enterprises-smes-dar-es-salaam-tanzania/>.
- Morshed, A. 2020. Role of Working Capital Management in Profitability Considering the Connection between Accounting and Finance. *Asian Journal of Accounting Research* 5 (2): 257–267.
- Murphy, G.B., J.W. Traylor and R.C. Hill. 1996. Measuring Performance in Entrepreneurship Research. *Journal of Business Research* 36 (1): 15–23.
- My, N.H.D., M. Demont, E.J. Van Loo, A. de Guia, P. Rutsaert, T.H. Tuan and W. Verbeke. 2018. What Is the Value of Sustainably-Produced Rice? Consumer Evidence from Experimental Auctions in Vietnam. *Food Policy* 79: 283–296.
- Nemlioglu, I. and S.K. Mallick. 2017. Do Managerial Practices Matter in Innovation and Firm Performance Relations? New Evidence from the UK: Do Managerial Practices Matter in Innovation. *European Financial Management* 23 (5): 1016–1061.

- Neves, M.E.D., L. Baptista, A.G. Dias and I. Lisboa. 2021. What Factors Can Explain the Performance of Energy Companies in Portugal? Panel Data Evidence. *International Journal of Productivity and Performance Management* 72 (3): 730–752. <https://doi.org/10.1108/IJPPM-01-2021-0057>
- Nunes, P.J.M., Z.M. Serrasqueiro and T.N. Sequeira. 2009. Profitability in Portuguese Service Industries: A Panel Data Approach. *The Service Industries Journal* 29 (5): 693–707.
- Nyamrunda, F. and S. Freeman. 2021. Small and Medium Enterprises in Transitional East African Economies: The Case of Tanzania. In: Apitsa, S.M. and Milliot, E. (eds.), *Doing Business in Africa*, Palgrave Studies of Internationalization in Emerging Markets. Springer International, Cham, pp. 277–307. https://doi.org/10.1007/978-3-030-50739-8_12
- O'Brien, R.M. 2007. A Caution Regarding Rules of Thumb for Variance Inflation Factors. *Quality & Quantity* 41 (5): 673–690.
- Omondi-Ochieng, P. 2021. Financial Performance of the United Kingdom's National Non-Profit Sport Federations: A Binary Logistic Regression Approach. *Managerial Finance* 47 (6): 868–886.
- Orobia, Laura A., W. Byabashaija, J.C. Munene, S.K. Sejjaaka and D. Musinguzi. 2013. How Do Small Business Owners Manage Working Capital in an Emerging Economy?: A Qualitative Inquiry. *Qualitative Research in Accounting & Management* 10 (2): 127–143.
- Orobia, Laura Aseru, K. Padachi and J.C. Munene. 2016. Why Some Small Businesses Ignore Austere Working Capital Management Routines. *Journal of Accounting in Emerging Economies* 6 (2): 94–110.
- Peel, M.J. and N. Wilson. 1996. Working Capital and Financial Management Practices in the Small Firm Sector. *International Small Business Journal: Researching Entrepreneurship* 14 (2): 52–68.
- Rahman, S. 2001. A Comparative Study of TQM Practice and Organisational Performance of SMEs with and without ISO 9000 Certification. *International Journal of Quality & Reliability Management* 18 (1): 35–49.
- Sahiti, F. 2019. *The Growth of Firms in Less-Developed Countries: Lessons from Kosovo*. Springer International, Cham.
- Saunders, M.N.K., P. Lewis and A. Thornhill. 2019. *Research Methods for Business Students*, eighth edn. Pearson, New York, NY.
- Sawe, F.B., A. Kumar, J.A. Garza-Reyes and R. Agrawal. 2021. Assessing People-driven Factors for Circular Economy Practices in Small and Medium-sized Enterprise Supply Chains: Business Strategies and Environmental Perspectives. *Business Strategy and the Environment* 30 (7): 2951–2965.
- Schriber, S. and J. Löwstedt. 2015. Tangible Resources and the Development of Organizational Capabilities. *Scandinavian Journal of Management* 31 (1): 54–68.
- Seluhinga, N.S. and D. Philip. 2021. The Influence of Geographical Concentration of Firms on Performance of Small Agro Food Processing Enterprises in Tanzania. *Journal of Agriculture and Food Research* 6: 100220.
- Selvam, M., J. Gayathri, V. Vasanth, K. Lingaraja and S. Marxiaoli. 2016. Determinants of Firm Performance: A Subjective Model. *International Journal of Social Science Studies* 4 (7): 90–100.
- Selvik, J.T., S. Bansal and E.B. Abrahamsen. 2021. On the Use of Criteria Based on the SMART Acronym to Assess Quality of Performance Indicators for Safety Management in Process Industries. *Journal of Loss Prevention in the Process Industries* 70: 104392.
- Seo, H.S. and Y. Kim. 2020. Intangible Assets Investment and Firms' Performance: Evidence from Small and Medium-Sized Enterprises in Korea. *Journal of Business Economics and Management* 21 (2): 421–445.
- Spanos, Y.E. and S. Lioukas. 2001. An Examination into the Causal Logic of Rent Generation: Contrasting Porter's Competitive Strategy Framework and the Resource-Based Perspective. *Strategic Management Journal* 22 (10): 907–934.
- Steffens, P., P. Davidsson and J. Fitzsimmons. 2009. Performance Configurations over Time: Implications for Growth- and Profit-Oriented Strategies. *Entrepreneurship Theory and Practice* 33 (1): 125–148.
- Stoltzfus, J.C. 2011. Logistic Regression: A Brief Primer. *Academic Emergency Medicine* 18 (10): 1099–1104.
- Storey, D.J. 2016. *Understanding The Small Business Sector*. Routledge, London.

- Storey, D.J. and F.J. Greene. 2010. *Small Business and Entrepreneurship*. Harlow Munich: Financial Times Prentice Hall.
- Tarkom, A. 2022. Impact of COVID-19 Exposure on Working Capital Management: The Moderating Effect of Investment Opportunities and Government Incentives. *Finance Research Letters* 47: 102666.
- Teece, D.J. 1998. Capturing Value from Knowledge Assets: The New Economy, Markets for Know-How and Intangible Assets. *California Management Review* 40 (3): 55–79.
- Tsuruta, D. 2020. Japan's Elderly Small Business Managers: Performance and Succession. *Journal of Asian Economics* 66: 101147.
- Tundui, C.S. and H.P. Tundui. 2020. Performance Drivers of Women-Owned Microcredit Funded Enterprises in Tanzania. *International Journal of Gender and Entrepreneurship* 12 (2): 211–230.
- Uddin, M.R., M.M. Hasan and N. Abadi. 2022. Do Intangible Assets Provide Corporate Resilience? New Evidence from Infectious Disease Pandemics. *Economic Modelling* 110: 105806.
- Ume, C.O., A.A. Enete, A.N. Onyekuru and P.I. Opata. 2020. Evaluation of Agribusiness Performance in Nigeria. *Africa Journal of Management* 6 (4): 327–349.
- URT. 2003. *Small and Medium Enterprise Development Policy*. United Republic of Tanzania, Ministry of Industry and Trade. Available online at <https://www.mit.go.tz/uploads/files/Tanzania%20SME%20Policy.pdf>.
- Vij, S. and H.S. Bedi. 2016. Are Subjective Business Performance Measures Justified? *International Journal of Productivity and Performance Management* 65 (5): 603–62.
- Villa, A. and T. Taurino. 2019. A Framework for SME Performance Evaluation. In: Hamrol, A., Kujawińska, A. and Barraza, M.F.S. (eds.), *Advances in Manufacturing II*, Springer International, Cham, pp. 1–11. https://doi.org/10.1007/978-3-030-18789-7_1
- Wiklund, J., H. Patzelt and D.A. Shepherd. 2009. Building an Integrative Model of Small Business Growth. *Small Business Economics* 32 (4): 351–374.
- Wilkinson, T. and L.E. Brouters. 2006. Trade Promotion and SME Export Performance. *International Business Review* 15 (3): 233–252.
- Wood, E.H. 2006. The Internal Predictors of Business Performance in Small Firms: A Logistic Regression Analysis. *Journal of Small Business and Enterprise Development* 13 (3): 441–453.
- Zada, M., C. Yukun and S. Zada. 2021. Effect of Financial Management Practices on the Development of Small-to-Medium Size Forest Enterprises: Insight from Pakistan. *GeoJournal* 86 (3): 1073–1088.
- Zahra, S.A., H.J. Sapienza and P. Davidsson. 2006. Entrepreneurship and Dynamic Capabilities: A Review, Model and Research Agenda*. *Journal of Management Studies* 43 (4): 917–955.
- Zhang, C. 2017. Top Manager Characteristics, Agglomeration Economies and Firm Performance. *Small Business Economics* 48 (3): 543–558.
- Zizi, Y., M. Oudgou and A. El Moudden. 2020. Determinants and Predictors of SMEs' Financial Failure: A Logistic Regression Approach. *Risks* 8 (4): 107.
- Zulu-Chisanga, S., M. Chabala and B. Mandawa-Bray. 2021. The Differential Effects of Government Support, Inter-Firm Collaboration and Firm Resources on SME Performance in a Developing Economy. *Journal of Entrepreneurship in Emerging Economies* 13 (2): 175–195.