Technology, Entrepreneurial, and Market Orientations as Key Determinants of Small Business Success in Tanzania: A Multi-Dimensional Analysis

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Abstract—Small and medium enterprises (SMEs) in Tanzania face persistent challenges despite their critical role in economic development. While prior research has examined individual strategic orientations, little is known about their combined influence on different managerial functions in emerging economies. This study investigates the synergistic effects of technology orientation (TO), entrepreneurial orientation (EO), and market orientation (MO) on small business success across four managerial domains: marketing, operations, human resource, and financial management. Using a positivist paradigm and quantitative approach, data were collected from 410 randomly selected SMEs across eight Tanzanian regions and analyzed through multiple regression with validity and reliability assessments. The results reveal distinct patterns of influence. Technology orientation emerged as a consistent positive predictor across all domains, with the strongest effect on HRM (β = 0.470), suggesting digital tools enhance employee management in resource-constrained settings. Entrepreneurial orientation significantly predicted marketing (β = 0.443), operations (β = 0.302), and financial performance (β = 0.493) but showed a negative association with HRM (β = -0.083), indicating potential trade-offs between entrepreneurial dynamism and structured people management. Market orientation positively influenced marketing (β = 0.172), operations (β = 0.346), and HRM (β = 0.413) but had no significant effect on financial management (β = 0.002), suggesting customer focus improves internal processes but may yield delayed financial returns in competitive markets. Collectively, these orientations explain substantial variance in business success: 58.6% in marketing, 58.8% in operations, 58.3% in HRM, and 48.1% in financial management. The study contributes to strategic orientation theory by demonstrating context-dependent effects in an emerging African economy, revealing trade-offs between entrepreneurial dynamism and HR management, and highlighting the delayed financial returns of market orientation. It offers practical guidance for Tanzanian SMEs to achieve sustainable growth through balanced integration of these strategic orientations.

Keywords: Technology Orientation; Entrepreneurial Orientation; Market Orientation; Small Business Success; Tanzania.

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INTRODUCTION

Small and Medium Enterprises (SMEs) constitute the bedrock of economic systems worldwide, serving as primary catalysts for employment generation, innovation diffusion, and inclusive economic growth. In emerging markets, SMEs account for approximately 90% of all businesses and are responsible for creating seven out of every ten jobs, thereby forming the essential fabric of socio-economic development and poverty alleviation (World Bank, 2017). The significance of this sector is magnified in the context of developing nations, where SMEs often represent the most dynamic segment of the economy, bridging formal and informal sectors and acting as vehicles for grassroots entrepreneurship and wealth creation. In Tanzania, this reality is profoundly evident. The SME landscape comprises over three million enterprises, predominantly within the informal economy, which collectively employ more than five million individuals and contribute an estimated 35% to the nation's Gross Domestic Product (URT, 2012; Economic and Social Research Foundation [ESRF], 2016). Furthermore, the sector absorbs a staggering 62.5% of the urban labour force, starkly contrasting with the mere 8.5% absorbed by the formal corporate sector, underscoring its indispensable role in sustaining livelihoods and fostering social stability (ESRF, 2016).

Recognizing this pivotal contribution, successive Tanzanian governments have implemented a spectrum of structural and physical interventions aimed at cultivating a conducive ecosystem for SME proliferation and sustainability. Structural initiatives have focused on crafting an enabling policy environment, streamlining burdensome regulatory procedures, establishing regional business development advisory centres, and facilitating enhanced access to credit and export markets (ESRF, 2016). Concurrently, physical interventions have sought to address tangible impediments such as deficient infrastructural networks, inconsistent product quality standards, bureaucratic inertia, and critically limited access to actionable market intelligence and technological resources (ESRF, 2016). Despite these concerted and multifaceted efforts, the trajectory of SME success in Tanzania remains fraught with challenges, marked by high mortality rates, stagnant growth, and suboptimal performance for a significant proportion of enterprises (Kwabi & Mboya, 2019). This persistent performance gap suggests that improving the external, environmental factors alone, while necessary, is insufficient for ensuring sustainable SME success. A compelling argument emerges that complementary investment in the internal, strategic capabilities of these enterprises, specifically, the cognitive and philosophical orientations of their owners and managers, is equally paramount.

This proposition aligns with the broader imperative of developing human and cultural capital, as espoused in the Tanzania Development Vision 2025, which envisions higher standards of living achieved through knowledge-driven, competitive, and

resilient economic actors (World Bank, 2021). Within this paradigm, the strategic orientations of a firm—enduring patterns of decision-making and action that reflect its fundamental philosophy toward its environment, are posited as critical internal drivers of performance and competitiveness. Scholarly consensus affirms that orientations such as Market Orientation (MO), Entrepreneurial Orientation (EO), and Technology Orientation (TO) constitute vital strategic postures that enable firms to navigate complexity, exploit opportunities, and build sustainable advantages (Burgess, 2011; Hakala, 2011; Wales et al., 2013). A market-oriented firm systematically generates, disseminates, and responds to intelligence about customer needs and competitor actions (Burgess, 2011). An entrepreneurially oriented firm is characterized by innovativeness, proactiveness, and a calculated appetite for risk-taking (Wales et al., 2013). A technology-oriented firm demonstrates a commitment to acquiring, assimilating, and applying new technologies to refine its products, processes, and business models (Halaca, 2015).

Extant literature, predominantly emanating from developed Western and Asian contexts, provides robust evidence linking these individual orientations to various measures of firm success, including profitability, growth, and innovation (e.g., Zhou & Li, 2010; Mahmoud, 2011; Alvarez-Torres et al., 2019; Udriyah et al., 2019). However, significant empirical and contextual gaps persist, which this study seeks to address. First, while prior research has frequently examined these orientations in isolation or in dyadic combinations, there is a paucity of studies that investigate the *collective* and *simultaneous* influence of TO, EO, and MO as an integrated strategic framework. This triadic examination is crucial, as in practice, these orientations are not mutually exclusive but likely interact and coexist within firms, potentially producing synergistic or conflicting effects on performance outcomes.

Second, the dependent variable of "business success" has often been operationalized in the literature as a unidimensional or aggregate construct, typically focusing on financial metrics. This approach risks obscuring the potentially differential impact strategic orientations may have on distinct functional domains of management. A small business may, for instance, excel in financial management due to strong entrepreneurial risk-taking while simultaneously struggling with human resource management due to the informality that often accompanies such dynamism. Therefore, a more nuanced, multidimensional conceptualization of success, encompassing the core managerial functions of marketing, operations, human resources (HRM), and finance, offers a richer, more diagnostically valuable understanding of how orientations translate into functional effectiveness.

Third, and most critically, there remains a stark scarcity of empirical research investigating these relationships within the unique institutional, cultural, and market context of sub-Saharan Africa, and Tanzania in particular. The Tanzanian SME sector

operates within an environment characterized by institutional voids, infrastructural constraints, intense competition within the informal economy, and distinct socio-cultural norms governing business practices. The applicability of theories and findings derived from developed economies cannot be assumed in this context. Understanding which orientations matter most, for which aspects of success, and under what conditions, is essential for developing contextually relevant theoretical insights and pragmatic interventions.

Therefore, this study is motivated by the imperative to bridge these identified gaps. Its primary objective is to empirically investigate the influence of technology orientation, entrepreneurial orientation, and market orientation on the success of small businesses in Tanzania, with success measured multidimensionally across four key managerial domains: marketing management, operations management, human resource management, and financial management. By doing so, the study aims to answer the following core research question: To what extent, and in what ways, do technology, entrepreneurial, and market orientations determine success across different functional areas of small businesses in Tanzania?

The findings of this inquiry are poised to make dual contributions. Theoretically, they will extend the strategic orientation literature by testing an integrated model in an under-researched context, revealing whether established relationships hold, transform, or manifest new nuances in an emerging African economy. Practically, the results will provide evidence-based guidance to Tanzanian SME owners, managers, policymakers, and support institutions. By identifying which orientations are most strongly linked to success in specific functional areas, the study can inform targeted capacity-building programs, policy design, and managerial priorities, ultimately contributing to the resilience, growth, and economic impact of this vital sector. The remainder of this paper is structured to present the literature review and hypothesis development, detail the research methodology, report the empirical findings, discuss their implications, and conclude with limitations and avenues for future research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This section establishes the theoretical foundation for examining how technology orientation (TO), entrepreneurial orientation (EO), and market orientation (MO) influence small business success in Tanzania. It first delineates these three strategic orientations, then develops testable hypotheses linking each orientation to the four dimensions of business success: marketing management, operations management, human resource management (HRM), and financial management.

Theoretical Foundations of Strategic Orientations

Strategic orientations represent fundamental philosophies that guide a firm's activities, resource allocation, and strategic decisions (Gatignon & Xuereb, 1997). They serve as mental models that influence how managers perceive opportunities, respond to challenges, and pursue competitive advantage. In the context of small businesses, strategic orientations are particularly significant as they often reflect the owner-manager's personal philosophy and directly shape organizational practices (Hakala, 2011). This study focuses on three complementary yet distinct orientations that have demonstrated significance for SME performance across various contexts: technology orientation, entrepreneurial orientation, and market orientation.

Technology Orientation and Hypotheses

Technology orientation (TO) is defined as a firm's propensity to embrace new technologies, invest in research and development, and leverage technological capabilities to enhance products, processes, and services (Halaca, 2015). It reflects a forward-looking strategic posture that prioritizes technological innovation as a source of competitive advantage. In emerging economies like Tanzania, TO enables SMEs to overcome traditional barriers related to scale, geography, and resource constraints through digital solutions (Zhou & Li, 2010).

For small businesses, technology adoption manifests in various forms: from basic mobile phone usage for customer communication to more sophisticated applications such as digital accounting systems, inventory management software, and e-commerce platforms. Research in diverse contexts has demonstrated that TO positively influences business performance through multiple pathways. Zhou and Li (2010) found that TO enhances dynamic capabilities in emerging economies, enabling firms to adapt to rapid environmental changes. Trainor et al. (2011) showed that e-marketing capabilities, rooted in technology orientation, improve customer relationship management and marketing effectiveness. In the Middle Eastern context, Al-Ansari et al. (2013) established that TO drives innovation and subsequent business performance among SMEs.

In the Tanzanian context, technology adoption has accelerated with the widespread penetration of mobile phones and mobile money services like M-Pesa. This technological infrastructure presents unique opportunities for SMEs to leapfrog traditional development stages. We hypothesize that technology orientation will positively influence all dimensions of small business success for several reasons: Digital tools enhance marketing reach and customer engagement; technological solutions streamline operations and reduce costs; HR systems improve employee management and training; and financial technologies increase transparency and control.

Accordingly, we propose:

H1: Technology orientation is positively related to Tanzanian small business success, as measured by:
H1a: Effective marketing management.
H1b: Effective operations management.
H1c: Effective human resource management.
H1d: Effective financial management.

Entrepreneurial Orientation and Hypotheses

Entrepreneurial orientation (EO) encompasses a firm's strategic posture characterized by three core dimensions: innovativeness (the pursuit of creative and novel solutions), proactiveness (an opportunity-seeking, forward-looking perspective), and risk-taking (the willingness to commit significant resources to ventures with uncertain outcomes) (Covin & Slevin, 1989; Wales et al., 2013). EO reflects a firm's processes, practices, and decision-making activities that lead to new market entry, product introductions, or venturing activities.

For SMEs, which are often synonymous with their entrepreneurial founders, EO is not merely a strategic choice but often an inherent characteristic. Research across diverse contexts has consistently linked EO to various measures of business success. In Bangladesh, Hossain and Asheq (2019) found that EO significantly predicts SME performance. In Mexico, Alvarez-Torres et al. (2019) demonstrated that EO enhances SMEs' performance through innovation-driven growth. Choi and Williams (2016) showed that EO's effects on performance are mediated by technological and marketing actions across different industry types.

However, the relationship between EO and different functional areas of management may be complex. While EO likely drives growth-oriented outcomes in marketing, operations, and finance through innovation and opportunity-seeking, its relationship with HRM may be more nuanced. The informality, rapid change, and resource fluidity characteristic of highly entrepreneurial firms may create challenges for structured human resource practices. Wales (2015) notes that while EO is generally beneficial, it may have context-dependent effects, particularly in settings with weak institutional support for formal management systems.

In Tanzania's dynamic business environment, EO may be particularly valuable for identifying and exploiting emerging opportunities. However, the potential tension between entrepreneurial dynamism and structured management practices warrants investigation. We hypothesize positive relationships for market-facing functions but acknowledge potential complexities for internal management functions.
Accordingly, we propose:
H2: Entrepreneurial orientation is positively related to Tanzanian small business success, as measured by:

H2a: Effective marketing management.
H2b: Effective operations management.
H2c: Effective financial management.
H2d: Entrepreneurial orientation is positively related to effective human resource management.

Market Orientation and Hypotheses

Market orientation (MO) involves the systematic generation, dissemination, and responsiveness to market intelligence about customers and competitors (Kohli & Jaworski, 1990; Narver & Slater, 1990). A market-oriented firm places the customer at the center of its strategy, continuously monitors competitor activities, and coordinates internal functions to deliver superior customer value (Burgess, 2011). MO encompasses both customer orientation (understanding target buyers) and competitor orientation (awareness of competitors' capabilities and strategies).

Extensive research has documented the performance benefits of MO across various contexts. Mahmoud (2011) found that MO significantly improves business performance among SMEs in Ghana. Udriyah et al. (2019) demonstrated that MO enhances competitive advantage and business performance in the textile industry. In a similar emerging economy context, Bamfo and Kraa (2019) showed that MO improves SME performance in Ghana, with innovation serving as a mediating mechanism. Reijonen and Komppula (2010) established that MO adoption requires specific capabilities but significantly relates to success among SMEs.

The mechanisms through which MO influences performance are multifaceted. By deeply understanding customer needs, firms can develop more effective marketing strategies. By aligning operations with market demands, they can improve product quality and service delivery. By fostering a customer-centric culture, they can enhance employee motivation and service orientation. However, the financial implications of MO may vary by context. In highly competitive, price-sensitive markets like Tanzania's SME sector, investments in customer understanding and service quality may not yield immediate financial returns but may build long-term customer loyalty and market position.

For Tanzanian SMEs operating in crowded markets with intense competition, MO may be particularly important for survival and differentiation. However, the translation of market-focused activities into immediate financial gains may be constrained by market structures and competitive dynamics.

Accordingly, we propose:
H3: Market orientation is positively related to Tanzanian small business success, as measured by:
H3a: Effective marketing management.

H3b: Effective operations management.
H3c: Effective human resource management.
H3d: The relationship between market orientation and effective financial management may be indirect or delayed in highly competitive markets.

Integrated Framework and Contextual Considerations

While prior research has often examined these orientations in isolation or in dyadic combinations, they likely interact within firms. A technology orientation may enhance the implementation of market-oriented strategies through better customer data analytics. An entrepreneurial orientation may drive more aggressive adoption of new technologies. These potential synergies suggest the importance of examining the three orientations as an integrated strategic framework rather than as independent constructs.

The Tanzanian context adds important dimensions to these relationships. The country's SME sector is characterized by informality, limited access to formal financing, infrastructural constraints, and intense competition within the informal economy. These contextual factors may moderate how strategic orientations translate into business success. For instance, technology's impact may be amplified in a context where it helps overcome infrastructural limitations. Entrepreneurial orientation's effects may be tempered by institutional voids that increase the risks of innovation. Market orientation's value may be constrained in markets where price competition dominates over quality differentiation.

This study thus examines not only whether established relationships hold in the Tanzanian context but also how the unique features of this emerging economy might shape these relationships in distinctive ways. By testing this comprehensive set of hypotheses, we aim to provide a nuanced understanding of how different strategic philosophies translate into functional managerial success within Tanzania's distinctive business ecosystem.

MEASURING SMALL BUSINESS SUCCESS

Small business success in this study was assessed using a questionnaire originally developed by the Small Enterprise Development Agency (SEDA, 2004). This instrument was adapted to measure business success among Tanzanian small enterprises across four key management dimensions: operations management, human resource management (HRM), marketing management, and financial management. Operations management was evaluated based on how effectively a business manages core operational activities such as inventory control, procurement, process improvement, housekeeping, and service delivery. Human resource management was measured by the extent to which the firm effectively manages its employees through competitive

remuneration, control of absenteeism, staff training, and the implementation of sound disciplinary and grievance procedures.

A small business was considered to demonstrate strong marketing management if it effectively promotes its products and services, expands its customer base, adapts to market changes, and remains informed about competitors' activities. Finally, financial management was assessed according to the business's adherence to basic financial principles, including the management of overhead costs and cash flow, calculation of break-even points, periodic adjustment of product prices, and maintenance of a separate bank account for business transactions.

METHODOLOGICA CONSIDERATIONS

a) *Research Paradigm*

This study is grounded in the positivist research tradition, which emphasizes objectivity, measurement, and empirical testing of theoretical propositions. Accordingly, a quantitative methodological approach was adopted to examine the hypothesised relationships between business orientations and small business success in Tanzania. The analysis employed a range of inferential statistical techniques, including validity and reliability testing, assessment of normal distribution and homogeneity of variances, and multiple regression analyses to test the formulated hypotheses.

b) *Sample*

The target population for this study comprised all small and medium enterprises (SMEs) operating in Tanzania. According to the 2012 national census, the total number of SMEs in the country was **3**,162,887 (URT, 2012). The sampling frame was derived from enterprise lists maintained by the regional offices of the Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA)**.** SMEs included in the sample were those meeting the official definition outlined in the Tanzania SME Policy Document (URT, 2003).

Based on the sample size determination table proposed by Saunders, Lewis, and Thornhill (2019)**,** a population of 3,162,887 SMEs required a sample size of 384 enterprises**,** assuming a 5% margin of error and a **95% confidence level.**

Table 1: REGIONAL DISTRIBUTION OF THE STUDY SAMPLE

Zone No.	Zone name	Representative region	Targeted number of respondents
1	Eastern zone	Dar Es Salaam Region	80
2	Western zone	Tabora Region	80
3	Northern zone	Arusha Region	80

Zone No.	Zone name	Representative region	Targeted number of respondents
4	Lake zone	Mwanza Region	80
5	Middle zone	Dodoma Region	80
6	Southern Highland zone	Iringa Region	80
7	Southern zone	Songea Region	80
8	North Eastern zone	Tanga Region	80
TOTAL			640

In each of the eight regions (or zones), 80 SMEs were randomly selected, resulting in a target sample size of 640 enterprises. Table 1 presents the regional distribution of the SMEs included in the study. The most senior individual in each business typically the owner or manager was invited to complete the questionnaire on behalf of the enterprise. In total, 410 valid responses were received and included in the final analysis.

Table 2 summarises the sample characteristics in terms of number of employees, annual income, and capital investment. The data indicate that approximately 98.6% of the sampled firms employed only the owner or up to four additional employees. Furthermore, 93.2% reported an annual income ranging from less than TZS 10 million to TZS 49 million, while 97% had a capital investment between less than TZS 5 million and TZS 200 million. These statistics are consistent with the parameters that define small businesses in Tanzania, confirming that the findings of this empirical study are most applicable to this segment of enterprises.

Sample used and its demographic characteristics

Table 2 below shows the demographic characteristics of the sample used in this study.

Table 2: DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Variable	Category	Frequency	Percent
Gender	Male	245	59.8
	Female	165	40.2
	Total	**410**	**100**
Age	20-29	143	34.9
	30-39	109	26.6
	40-49	127	31
	50-59	28	6.8
	60-69	3	0.7
	Total	**410**	**100**

Educational	PhD	6	1.5
	Masters	7	1.7
	Postgraduate Diploma	5	1.2
	First Degree	66	16.1
	Diploma	48	11.7
	Certificate	20	4.9
	Form Six	30	7.3
	Form Four	150	36.6
	Standard Seven	78	19
	Total	**410**	**100**

The majority of respondents in the studied sample were aged between 20 and 39 years (61.5%), followed by those aged between 40 and 59 (37.8%) and those aged between 30 and 39 (26.6%). In the sample, 6.8% of respondents were aged between 50 and 59, and only 0.7% were aged between 60 and 69. Most of the respondents (92.5%) were aged between 20 and 49 years, which is commonly and widely regarded as the ideal active age for SMMEs' entrepreneurial development and operations.

In terms of gender distribution, there were more male respondents (59.8%) than female respondents (40.2%). However, the proportion of the percentage difference between male and female respondents indicated there was adequate significant representation from both genders, and the empirical data presented in this report fairly represents both groups. The education demographic characteristics of the respondents revealed that many respondents (36.6%) completed Form Four and 19.0% completed Standard Seven. In addition, 16.1% of the respondents hold a bachelor's degree. In general, the findings indicated that only 37.1% of SMME entrepreneurs in Tanzania pursued post-secondary education. For the majority of respondents (62.9%) the education level was between Standard Seven and high secondary school. Not only did the findings demonstrate that, in the field of SMMEs entrepreneurship, the higher the education attained by entrepreneurs, the less risk-taking behaviour was demonstrated, but the empirical data also showed that the SMME sector in Tanzania is represented by people with diverse educational backgrounds from the lowest (Standard Seven) to the highest (doctoral level). The participation of a variety of respondents from different educational backgrounds ensures the diversity of information from various educational schools of thought (Table 2).

Response rate

According to Nulty (2008) and Kothari (2013), an average response rate of a survey study needs to be not less than 56%. In this study, 640 questionnaires were distributed

to SMMEs owners and managers in the eight regions illustrated in Table 1. A total of 455 questionnaires were returned, giving a response rate of 71%, which is acceptable (Kothari 2013; Nulty 2008). However, the data cleaning process revealed only 410 questionnaires were completed. The rate of usable questionnaires out the sample used is 64%, which is above the acceptable response rate of 56% (Kothari 2013; Nulty 2008).

Distribution of sampled SMMEs by size

In the context of this study, the firm size was represented by the number of workers at the SMME and value of capital invested and, particularly, the description of the SMMEs policy in Tanzania, which states that if an enterprise falls under more than one category of the SMME definition, the level of investment is to be used as deciding factor (URT 2003a). Empirically, the majority of respondents (72.7%) agreed that the owners operate their own SMMEs. It was also observed that in 25.9% of the SMMEs, the number of employees ranged from one to four. The number of employees in 1.2% of the SMMEs ranged from 5 to 49 and in 0.2% of the SMMEs the number of employees ranged from 50 to 99, as shown in Table 3.

Additionally, a large proportion of the SMMEs surveyed had less than TZS 10 million in annual income followed by those with an annual income of TZS 20 million to TZS 49 million. Only 1.7% of firms had above TZS 100 million in annual income, as indicated in Table 3. This information suggests that SMMEs with an annual income less than TZS 10 million are dominant in the SMME business sector of Tanzania. However, SMMEs with different annual incomes are well represented in this study. From the perspective of capital investment, the findings indicated that 76.9% of SMMEs had capital investments of up to TZS 5 million; 20.1% had capital investment of between TZS 5 million and TZS 200 million; only 2.5% had capital investment of between TZS 200 million and TZS 800 million; and 0.5% had capital investment of over TZS 800 million. These figures are shown in Table 4.6. Similar to the findings of Loewe *et al.* (2013), the empirical findings of this study indicate there are many micro and small businesses, but few medium-sized enterprises in Tanzania, which is common in low-income countries (Loewe *et al.*. 2013) and justifies the analysis of the findings to represent small businesses in Tanzania.

Table 3 shows that 97% of the sample had capital invested in their business of up to TZS 200 million. This means the sample consisted mostly of small businesses and not the full SMME spectrum. The empirical results of this study are therefore interpreted as being more applicable to Tanzanian small businesses.

TABLE 3: SAMPLE DISTRIBUTION ACCORDING TO NUMBER OF EMPLOYEES, ANNUAL INCOME AND CAPITAL INVESTMENT

Variable	Category	Frequency	Percent
Number of employees	SMMEs operated by owners	298	72.7
	1–4	106	25.9
	5–49	5	1.2
	50–99	1	0.2
Annual income (TZS million)	< 10	284	69.3
	20–49	98	23.9
	50–99	21	5.1
	≥ 100	7	1.7
Capital investment (TZS million)	≥ 5	313	76.9
	> 5–200	82	20.1
	200–800 mil	10	2.5
	> 800	2	0.5

Distribution of small businesses by business sector

The research sample consisted of small businesses from various categories and sectors. The majority (35.9%) of small businesses operated as wholesalers, retail traders and motor vehicle repair shops, while 21.1% of small businesses offered other services, 9.5% were involved in accommodation and food services, and a further 9.5% in agriculture, forestry and fishing activities. The sample of this study is therefore a fair representation of small business from various sub-sectors, as indicated in Table 4.

Table Error! No text of specified style in document.**: DISTRIBUTION OF SMALL BUSINESSES BY SECTOR**

Variable	Small business type/category	Frequency	Percent
Type of small business	Agriculture, forestry or fishing	38	9.3
	Manufacturing	23	5.6
	Electricity, gas, steam, air conditioning supply	23	5.6
	Wholesale, retailing or motor vehicle repairs	147	35.9
	Transportation and storage	11	2.7
	Accommodation and food services activities	39	9.5
	Information and communication	11	2.7

	Professional, scientific and technical activities	6	1.5
	Administrative and support service activities	1	.2
	Other services activities	111	27.1
	TOTAL	**410**	**100**

MEASURING INSTRUMENTS

Business success was defined as the degree to which SME owners and managers effectively implement marketing, operations, human resource, and financial management practices within their enterprises. This construct was measured using an instrument developed by SEDA (2004), which included 12 items for marketing management, nine for operations management, 10 for HRM, and 11 for financial management. All items across both instruments were rated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

DATA VERIFICATIONS

Validity and Reliability of the Data

To ensure the accuracy and trustworthiness of the findings, the validity and reliability of the measurement instruments were assessed. Validity refers to the degree to which an instrument measures what it is intended to measure (Kumar, 2014), while reliability indicates the instrument's consistency in measurement (Kothari, 2013; Collis & Hussey, 2014).

Initial exploratory factor analyses (EFA) revealed high multicollinearity, suggesting the presence of well-established higher-order constructs. Consequently, confirmatory factor analysis (CFA) was employed to validate the measurement model.

Model fit was assessed using four indices: the Root Mean Square Error of Approximation (RMSEA), Adjusted Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), and Normed Fit Index (NFI) (Byrne, 2013). As shown in Table 5, the CFA results indicated acceptable to good model fit.

Table Error! No text of specified style in document.**: CFA GOODNESS OF FIT INDICES**

Fit index	Fit values for business success variables	Fit values for business orientation variables
RMSEA	0.013	0.071
AGFI	0.90	0.95
NFI	0.90	0.94

CFI	0.99	1.00

Table 6 presents the final empirical factor structure derived from the CFA. The reliability of the constructs was assessed using Cronbach's alpha**,** with all variables demonstrating acceptable internal consistency. As shown in Table 5, the alpha coefficients ranged from 0.60 to 0.80**,** indicating reliability levels from fair (Zikmund et al., 2013) to good and very good (Nunnally, 1978).

Table 6: THE FINAL EMPIRICAL FACTOR STRUCTURE

Constructs	α value	Final number of Items
Technology orientation	0.729	TO 1-6
Entrepreneurial orientation	0.676	EO 1-7
Market orientation	0.664	MO 1-7
Operations management	0.709	OM 1-9
Human resources management	0.802	HR 1-10
Marketing management	0.708	MM 1-12
Financial management	0.739	FM 1-11

Data Normality

The assumption of independent errors was assessed using the Durbin-Watson test to check for autocorrelation in the residuals of the regression analysis. According to Field (2009), values between 1.5 and 2.5 indicate normality. In this study, Durbin-Watson values ranged from 1.662 to 2.030 (Table 7), confirming that the data were normally distributed.

Table 7: SUMMARY OF DURBIN-WATSON *d* AND CORRELATION OF RESIDUALS

Variables	Durbin-Watson *d*	Serial correlation
IVs and OM	1.933131	0.032680
IVs and HR	1.872208	0.061624

IVs and MM	1.881650	0.057980
IVs and FM	1.661620	0.169068

Homogeneity of Variance

Data normality was further confirmed by examining the homogeneity of residual variances**,** which were mostly centered around zero and well below 2.00. Cook's distance values were also under 2.00, supporting normality. These results justified the use of parametric analyses for the study.

TESTING HYPOTHESIZED RELATIONSHIPS

Multiple regression analysis was conducted to test the hypothesized relationships between business orientations (technology orientation, entrepreneurial orientation, and market orientation) and small business success**.** The results are summarised in **Table 8.**

Table 8: Results of Multiple Regressions Analysis

	DV: Effective Marketing management		DV: Effective Operational management		DV: Effective HRM management		DV: Effective Financial management	
Business Orientations	Beta b*	p value	Beta b*	p value	Beta b*	p value	Beta b*	p value
TO	0.262#	0.000	0.256#	0.000	0.470#	0.000	0.257#	0.000
EO	0.443#	0.000	0.302#	0.000	-0.083#	0.038	0.493#	0.000
MO	0.172#	0.000	0.346#	0.000	0.413#	0.000	0.002	0.966
Coefficient of determination	**R^2= 0.586**		**R^2= 0.588**		**R^2= 0.583**		**R^2= 0.481**	

The empirical results presented in Table 8 examine the influence of business orientations namely technology orientation (TO), entrepreneurial orientation (EO), and market orientation (MO) on Tanzanian small business success, measured across four managerial dimensions: effective marketing management, operations management, human resource management (HRM), and financial management.

The findings show that technology orientation is significantly and positively related to all four dimensions of small business success. Specifically, it has a strong positive influence on marketing ($\beta = 0.262$, $p < 0.001$), operations ($\beta = 0.256$, $p < 0.001$), HRM ($\beta = 0.470$, $p < 0.001$), and financial management ($\beta = 0.257$, $p < 0.001$). These results indicate that Tanzanian small businesses that adopt and apply technology effectively tend to

perform better in managing their operations, human resources, finances, and marketing activities.

Entrepreneurial orientation also shows a significant positive relationship with most dimensions of business success. It strongly predicts marketing ($\beta = 0.443$, $p < 0.001$), operations ($\beta = 0.302$, $p < 0.001$), and financial management ($\beta = 0.493$, $p < 0.001$). However, its relationship with HRM is negative though statistically significant ($\beta = -0.083$, $p < 0.05$), suggesting that while entrepreneurial firms excel in innovation, proactiveness, and risk-taking, these traits may sometimes create challenges in managing people effectively perhaps due to informality, rapid change, or lack of structured HR practices.

Market orientation is significantly and positively associated with marketing ($\beta = 0.172$, $p < 0.001$), operations ($\beta = 0.346$, $p < 0.001$), and HRM ($\beta = 0.413$, $p < 0.001$), but not significantly related to financial management ($\beta = 0.002$, $p = 0.966$). This indicates that customer and competitor focus helps small firms improve marketing, operations, and employee management, but does not directly translate into immediate financial gains possibly due to delayed financial returns or market constraints faced by Tanzanian SMEs.

Collectively, the three business orientations explain a substantial portion of variance in small business success indicators: 58.6% in marketing ($R^2 = 0.586$), 58.8% in operations ($R^2 = 0.588$), 58.3% in HRM ($R^2 = 0.583$), and 48.1% in financial management ($R^2 = 0.481$). These high explanatory powers demonstrate that business orientations are critical determinants of small business success in Tanzania, accounting for over half of performance variation across most managerial dimensions. The findings imply that firms that strategically combine technology use, entrepreneurial initiative, and market responsiveness are better positioned to achieve sustainable growth and competitiveness in the Tanzanian context.

DISCUSSION

Comparison with Existing Literature

The empirical findings of this study both align with and diverge from prior research on strategic orientations. Consistent with global literature, technology orientation demonstrated consistent positive relationships with all dimensions of small business success, supporting studies by Zhou and Li (2010), Trainor et al. (2011), and Al-Ansari et al. (2013). Similarly, the positive effects of entrepreneurial orientation on marketing, operations, and financial management align with research by Hossain and Asheq (2019), Alvarez-Torres et al. (2019), and Choi and Williams (2016). The positive influence of market orientation on marketing, operations, and HRM resonates with findings by Mahmoud (2011), Udriyah et al. (2019), and Bamfo and Kraa (2019).

However, two findings present notable departures from conventional expectations. First, contrary to hypothesis H3c, entrepreneurial orientation showed a significant negative relationship with human resource management success ($\beta = -0.083$, $p < 0.05$). This suggests that in the Tanzanian context, the innovativeness, proactiveness, and risk-taking characteristic of entrepreneurial firms may create challenges for structured people management, potentially due to informality, rapid change, or insufficient HR systems.

Second, market orientation demonstrated no significant relationship with financial management ($\beta = 0.002$, $p = 0.966$), contrary to hypothesis H2d. This indicates that while customer and competitor focus enhances internal processes and employee alignment, it may not yield immediate financial returns in Tanzania's competitive SME sector, where benefits may be realized through longer-term customer loyalty or mediated through other success dimensions.

Theoretical Implications

These nuanced findings contribute to strategic orientation theory by demonstrating context-dependent effects in an emerging African economy. The negative EO-HRM relationship challenges assumptions of uniformly positive entrepreneurial outcomes and suggests potential trade-offs between entrepreneurial dynamism and organizational stability. The decoupling of MO from financial performance highlights how market orientation's value proposition may differ in price-sensitive, highly competitive emerging markets compared to developed economies.

Collectively, the high explanatory power of the three orientations ($R^2 = 48.1\%$ to 58.8% across domains) underscores the importance of studying them as an integrated framework rather than in isolation, supporting a configurational approach to strategic management in resource-constrained environments.

Practical Implications

For Tanzanian SME owners and managers, these findings offer actionable insights. First, prioritize technology adoption, particularly for HR and financial management, as it yields the broadest benefits across all functional areas. Second, cultivate entrepreneurial energy while consciously implementing basic HR structures to mitigate potential negative effects on employee management. Third, maintain market focus for process improvement and customer alignment, but pair it with strong cost management for financial success.

For policymakers and support institutions, these results suggest targeted interventions. Training programs should integrate digital literacy with management skills, entrepreneurship support should include HR management components, and

technology access programs should prioritize affordable solutions for micro and small businesses.

LIMITATIONS AND FUTURE RESEARCH

This study has several limitations that should be acknowledged. First, the cross-sectional design precludes causal inferences about the relationships between orientations and success. Second, common method bias may exist as single respondents provided data on both independent and dependent variables. Third, the reliability coefficients for entrepreneurial orientation (α = 0.676) and market orientation (α = 0.664), while acceptable for exploratory research, are below the conventional 0.70 threshold.

Future research could address these limitations through longitudinal designs, multi-respondent data collection, and refined measurement scales. Additionally, future studies could examine moderating variables (e.g., environmental dynamism, firm age) and interaction effects among the three orientations. Comparative studies across different African countries would also enhance understanding of context-specific effects.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The empirical findings demonstrate that technology orientation (TO), entrepreneurial orientation (EO), and market orientation (MO) are key strategic determinants of small business success in Tanzania, significantly influencing firms' effectiveness across four managerial dimensions: marketing management, operations management, human resource management (HRM), and financial management. Technology orientation emerged as a strong and consistent predictor of success across all four managerial domains. Its highest influence was observed in HRM (β = 0.470), indicating that technology adoption enhances employee performance management, communication, and training. The strong positive effects on marketing (β = 0.262), operations (β = 0.256), and financial management (β = 0.257) further show that digital tools, automation, and data-driven decision-making are vital for improving overall business efficiency and competitiveness.

Entrepreneurial orientation exhibited a substantial positive influence on marketing (β = 0.443), operations (β = 0.302), and financial management (β = 0.493), suggesting that innovation, proactiveness, and risk-taking behavior are crucial for driving growth and profitability. However, the negative association with HRM (β = -0.083) suggests potential challenges in people management within highly entrepreneurial firms

possibly due to informal management systems, rapid change, or insufficient HR structures.

Market orientation was found to have a positive and significant relationship with marketing ($\beta = 0.172$), operations ($\beta = 0.346$), and HRM ($\beta = 0.413$), but an insignificant relationship with financial management ($\beta = 0.002$). This implies that focusing on customer and competitor needs enhances internal processes and employee alignment with market goals, though the financial impact may materialize only in the longer term.

Collectively, TO, EO, and MO explain a large portion of variance in small business performance 58.6% in marketing, 58.8% in operations, 58.3% in HRM, and 48.1% in financial management highlighting that these orientations are fundamental strategic pillars for Tanzanian SMEs. The results affirm that small firms that strategically integrate technology adoption, entrepreneurial drive, and market responsiveness are more likely to achieve sustainable growth, innovation, and competitiveness in dynamic markets.

Recommendations

Based on these findings, several recommendations are proposed to foster effective marketing management, operations management, HRM, and financial management among Tanzanian small businesses through the integration of technology, market, and entrepreneurial orientations. To enhance effective marketing management, SMEs should leverage technology orientation by adopting digital marketing platforms, data analytics, and customer relationship management (CRM) systems to expand their market reach and improve customer engagement. Entrepreneurial orientation should be integrated by encouraging creativity and experimentation in marketing strategies such as through social media innovations, influencer collaborations, and rapid responses to emerging market trends. Moreover, applying market orientation by regularly collecting and analyzing customer feedback, competitor intelligence, and market trends can help tailor marketing campaigns to align with evolving customer needs and preferences.

In strengthening operations management, SMEs should adopt technological solutions such as automation tools, supply chain software, and production management systems to improve efficiency and minimize operational costs. Promoting entrepreneurial problem-solving by fostering a culture of innovation will encourage employees to identify inefficiencies and propose creative solutions. At the same time, market insights should be used to align operational processes with customer demands and competitive standards to ensure responsiveness and consistent product or service quality.

Improving human resource management requires the use of technology orientation through the deployment of HR information systems (HRIS), e-learning platforms, and performance tracking software to enhance recruitment, training, and employee

evaluation processes. To balance entrepreneurial orientation, SMEs should maintain flexibility and innovation while establishing structured HR policies to mitigate the negative effects of informality and ensure employee stability and motivation. Embedding market orientation into HR practices is also essential training employees to be customer-focused and responsive to market changes enhances organizational adaptability and service delivery.

In advancing financial management, SMEs should embrace financial technologies (FinTech) such as accounting software, mobile banking, and digital payment systems to promote financial transparency, efficient cash flow management, and improved access to credit. Entrepreneurial financial planning should also be encouraged, where entrepreneurs take calculated financial risks, diversify revenue sources, and engage in forward-looking financial forecasting for sustainable growth. Additionally, while market orientation does not directly impact financial outcomes, firms should focus on improving customer satisfaction and operational efficiency, which can translate into long-term profitability. Tracking non-financial indicators such as customer loyalty and brand equity can also serve as early predictors of future financial success.

In general, to achieve holistic and sustainable success, Tanzanian SMEs should integrate the three orientations technology, entrepreneurial, and market synergistically rather than applying them in isolation. A balanced strategic framework that combines technological adoption, entrepreneurial initiative, and market responsiveness will enable small businesses to navigate uncertainty, enhance competitiveness, and ensure long-term business viability in the dynamic Tanzanian business environment.

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