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## Article

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# Strategic entrepreneurship, competitive advantage, and SMEs' performance in the welding industry in Tanzania

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## Abstract

This study aimed at obtaining empirical evidence regarding the influence of strategic entrepreneurship on SMEs' performance under the mediation of competitive advantage in the welding industry in Tanzania. Guided by the resource-based theory, this study adopted learning orientation, strategic resource management, and entrepreneurial orientation as strategic entrepreneurship components. Survey method with cross-sectional design was used to collect data from 300 owners-managers of welding industry SMEs located in Dar es Salaam, Morogoro, and Mbeya urban centers. Structural equation modelling technique was used to develop measurement and structural models. Findings suggest that learning orientation influences entrepreneurial orientation which influences strategic resource management to create competitive advantage that promotes SMEs' performance. Findings of this study imply that the resource-based theory holds a better chance to describe the influence of strategic entrepreneurship components on SMEs' performance under the mediation of competitive advantage than the individual resource-based view and knowledge-based view. It has been empirically demonstrated that knowledge is a unique resource that enables the acquisition of other resources and strategies. SMEs are urged to embrace learning orientation to create competitive advantage that leads to superior performance. The study has empirically verified that learning orientation, strategic resource management, and entrepreneurial orientation constructs adopted from entrepreneurship and strategic management literature are components of strategic entrepreneurship. Inclusion of strategic entrepreneurship components, competitive advantage, and SMEs' performance with their composite measures in a single model distinguishes this study from past studies.

**Keywords:** Competitive advantage, SMEs' performance, Strategic entrepreneurship, Tanzania, Welding industry

## Introduction

The Tanzania Development Vision 2025 targets inter alia creation of a strong and competitive economy by developing a mind-set which nurtures entrepreneurial culture through creative and innovative hard work, and improving societal learning to create capabilities that enable individuals and organizations to respond to threats and exploit opportunities for wealth creation (United Republic of Tanzania [URT],

1999). The Small and Medium Enterprises Development Policy 2003 aims at the establishment of new SMEs and improving the performance and competitiveness of the existing ones (United Republic of Tanzania [URT], 2003).

However, performance of Tanzanian SMEs for a long time has been poor leading to the closure of business and thus suppressing the potential benefits of SMEs to the socio-economic development of the entrepreneurs and the nation at large. Lack of entrepreneurial culture has been identified as one of the critical problems facing SMEs in Tanzania (Mashenene & Rumanyika, 2014; Kazimoto, 2014).

According to Isaga (2012), several interventions have been put in place to support the growth of SMEs in Tanzania, such interventions include establishment of Small Industries Development Organization in 1973, establishment of Vocational Education Training Authority in 1994, establishment of the University of Dar es Salaam entrepreneurship center in 2001, development of SME policy in 2003, establishment of SME department in the ministry responsible for industry and trade in 2003, and establishment of SME credit guarantee scheme managed by the Bank of Tanzania in 2005. Commissioning of National SMEs Baseline Survey in 2010 to 2012 is another intervention that aimed at improving SMEs' performance (United Republic of Tanzania [URT], 2012).

Despite the interventions, performance of SMEs has continued to deteriorate and closure of businesses has remained high. For example, 2 years before the National Baseline Survey, the percentages of SMEs which closed businesses were 31.4% in Dar es Salaam city, 24.9% in other urban centers, 13.6% in rural areas, 55.5% in Zanzibar, and on average 18.1% countrywide (URT, 2012). Prevalence of the problem has also been reflected in Mwapachu (2012) who argued that the high mortality rate of SMEs hinders the provision of loans from financial institutions in developing countries like Tanzania.

Literature has shown that entrepreneurial culture may be promoted through the adoption of strategic entrepreneurship approach, the synergy of entrepreneurship, and strategic management which involves both opportunity-seeking and advantage-seeking actions (Dogan, 2015; Hitt et al., 2001; Kraus & Kauraren, 2009). Based on extensive literature review, this study adopted learning orientation, strategic resource management, and entrepreneurial orientation as components of strategic entrepreneurship (Ireland et al., 2003; Herath & Mahmood, 2013; Chai & Sa, 2016) and competitive advantage was adopted as a mediating variable (Mahmood & Hanafi, 2013a; Mahmood & Hanafi, 2013b).

This study employed quantitative research paradigm with cross-sectional design to determine the extent strategic entrepreneurship influences SMEs' performance under the mediation of competitive advantage in the welding industry in Tanzania. Specifically, this study intended to (1) determine the influence of learning orientation on SMEs' performance, (2) determine the influence of learning orientation through entrepreneurial orientation on SMEs' performance, (3) determine the influence of learning orientation through strategic resource management on SMEs' performance, (4) determine the influence of entrepreneurial orientation through strategic resource management on SMEs' performance, and (5) determine the mediating effect of competitive advantage on the influence of learning orientation, strategic resource management, and entrepreneurial orientation on SMEs' performance.

## **Literature Review**

### **Theoretical Review**

This study used the resource-based theory, a composite theory derived from the resource-based view and the knowledge-based view (Theriou et al., 2009) to describe the influence of strategic entrepreneurship on SMEs' performance under the mediation of competitive advantage.

#### ***Resource-Based View***

The resource-based view has been in existence since its introduction by Penrose in 1959 (Curado, 2006). The resource-based view suggests that a firm's competitive advantage and superior performance emanate from firm-specific resources and capabilities that are costly to be copied by rivals and indeed such resources are valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1991). The strategy of the firm to carry out its business depends on the available resources. Despite the importance of the resource-based view in strategic management (Akio, 2005; Barney et al., 2011; Connor, 2005), it falls victim of three weaknesses: (1) the resource-based view does not explain the importance of entrepreneurial strategies and abilities as one of the sources of competitive advantage (Akio, 2005; Priem & Butler, 2001), (2) the resource-based view does not broadly explain the creation or acquisition of strategic assets (Connor, 2002), and (3) the resource-based view is silent on how and why certain firms have competitive advantage in dynamic environment (Teece et al., 1997). In order to reinforce the resource-based view, the knowledge-based view has been introduced as its extension (Curado, 2006).

#### ***Knowledge-Based View***

According to Pemberton and Stonehouse (2000) cited in Theriou et al. (2009), the knowledge-based view postulates that competitive advantage is governed by the capability of firms to develop new knowledge-based assets that create core competencies. Therefore, the strategy of the firm depends on the available knowledge capabilities. The knowledge-based view assumes that knowledge is the critical input in production and the primary source of value (Grant, 1996). However, building of distinctive capabilities and core competencies within firms calls for knowledge management processes of creating, acquiring, storing, sharing, and deploying knowledge; thus, firms should first build knowledge management capabilities so as to gain abilities of creating other necessary distinct capabilities and core competencies (Pemberton and Stonehouse, 2000 cited in Theriou et al., 2009). Literature has demonstrated that there is a growing consensus that competitive advantage can be obtained through knowledge management capabilities (Halawi et al., 2005).

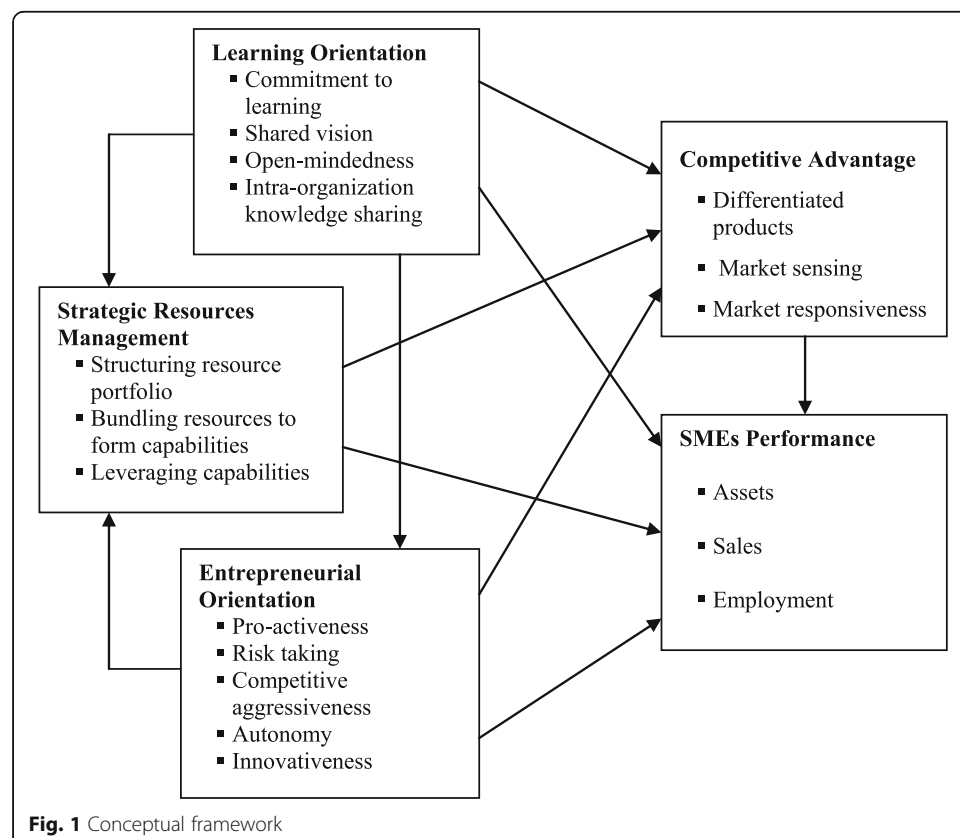
#### ***Application of the Resource-Based Theory in This Study***

The resource-based theory advocates that firms should obtain competitive advantage to promote performance. The strategy employed by a firm depends on the resources owned and controlled by that firm for better performance, such resources include but not limited to assets, capabilities, organizational processes, firm attributes, the information, and knowledge (Barney, 1991). While the resource-based

view recognizes resources as a source of competitive advantage and that knowledge is treated as a generic resource, the knowledge-based view recognizes knowledge as a unique resource and a critical input in production and the primary source of value (Grant, 1996); thus, knowledge management capabilities stand as a source of competitive advantage as well. The resource-based theory thus recognizes that both resources and knowledge management capabilities are sources of competitive advantage of a firm and that the strategy employed by the firm depends on both resources and knowledge management capabilities for superior firm performance.

Figure 1 (researchers' construct based on Bengesi, 2013; Calantone et al., 2002; Grinstein, 2008; Herath & Mahmood, 2013; Ireland et al., 2003, Theriou et al., 2009; Ramaswami et al., 2006) presents the conceptual framework for this study.

Learning orientation, strategic resource management, and entrepreneurial orientation are independent variables, and SMEs' performance is the dependent variable. Competitive advantage is a mediator between the independent and dependent variables. Since this study aimed at determining the influence of strategic entrepreneurship on SMEs' performance, learning orientation, strategic resource management, and entrepreneurial orientation were adopted as components of strategic entrepreneurship. While learning orientation and entrepreneurial orientation reflect firm's intangible resources (Barney, 1991), strategic resource management reflects the firm's strategy (Ireland et al., 2003). SMEs' performance measured by financial indicators reflects the market performance and profitability (Theriou et al., 2009).



## Empirical Review

### *Influence of Strategic Entrepreneurship Components on SMEs' Performance*

A firm that embraces learning orientation is likely to promote performance through the use of knowledge-based assets. The influence of learning orientation on SMEs' performance has been reported by some researchers (Amin, 2015; Calantone et al., 2002; Eshlaghy & Maatofi, 2011; Mahmood & Hanafi, 2013a; Yeni, 2015). However, some studies have reported no significant influence of learning orientation on SMEs' performance like in the work of Nybakk (2012). Mixed results in SMEs' performance studies are inter alia triggered by heterogeneous performance measures (Shepherd & Wiklund, 2009). Despite the mixed results, the direct influence of learning orientation and SMEs' performance is hereby hypothesized that:

H<sub>1</sub>: Learning orientation has a positive influence on SMEs' performance.

Possession of valuable, rare, imperfectly imitable, and non-substitutable resources (Barney, 1991) without effective management of such resources is likely to suppress the creation of competitive advantage which could lead to SMEs' performance. In order to benefit from such resources, there is a need for a firm to adopt a strategic resource management approach. Although it is not well articulated in literature, the strategic resource management construct (a firm's strategy) has been identified as a component of strategic entrepreneurship (Ireland et al., 2003; Dogan, 2015; Foss & Lyngsie, 2011). According to the resource-based theory, the firm's strategy has both direct and indirect effects on SMEs' performance (Theriou et al., 2009); hence, it is hereby hypothesized that:

H<sub>2</sub>: Strategic resource management has a positive influence on SMEs' performance.

Although some past studies have found partial influence of entrepreneurial orientation on SMEs' performance like in the works of Chenuos and Maru (2015) and Okangi and Letmathe (2015), most researchers tend to agree that entrepreneurial orientation influences SMEs' performance (Amin, 2015; Amin et al., 2016; Bengesi, 2013; Campos & Valenzuela, 2013; Fatoki, 2012; Mahmood & Hanafi, 2013a; Mata & Aliyu, 2014; Rauch et al., 2009; Yeni, 2015; Zehir et al., 2015). Based on these findings, the direct influence of entrepreneurial orientation on SMEs' performance is hypothesized that:

H<sub>3</sub>: Entrepreneurial orientation has a positive influence on SMEs' performance.

The strategy of the firm to carry out its business depends on the firm resources which are valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1991). Learning orientation and entrepreneurial orientation are intangible firm resources in the form of knowledge management capabilities and organization processes respectively (Barney, 1991; Grant, 1996). Strategic resource management is one of the strategies that can be implemented by the firm to create competitive advantage and eventually promote SMEs' performance (Ireland et al., 2003). The influence of learning orientation through entrepreneurial orientation on SMEs' performance has been reported in the works of Wang (2008), Petty and Wolff (2016) and Ma'toufi and Tajeddini (2015). Although literature is in deficit of studies regarding the indirect influence of learning orientation and entrepreneurial orientation through strategic resource management on SMEs' performance, the resource-based theory (Theriou et al., 2009) suggests the indirect influence of knowledge management capabilities through strategy and resources on SMEs' performance. Furthermore,

the theory suggests the indirect influence of resources through strategy on SMEs' performance. Based on this discussion, it is hereby hypothesized that:

H<sub>4</sub>: Learning orientation has a positive influence on strategic resource management.

H<sub>5</sub>: Entrepreneurial orientation has a positive influence on strategic resource management.

H<sub>6</sub>: Learning orientation has a positive influence on entrepreneurial orientation.

#### ***Mediating Effect of Competitive Advantage***

The resource-based theory suggests that knowledge management capabilities and resources are the primary source of competitive advantage which eventually promotes firm performance (Theriou et al., 2009). Learning orientation and entrepreneurial orientation are intangible resources in the form of knowledge management capabilities and organizational processes respectively (Barney, 1991; Grant, 1996); strategic resource management is the strategy that is centered on the effective utilization of resources (Ireland et al., 2003). Literature has shown that the competitive advantage of a firm is influenced by entrepreneurial orientation (Mustafa et al., 2015) and learning orientation (Martinette & Obenchain-Leeson, 2012). It has also been suggested that competitive advantage is influenced by strategic resource management (Ireland et al., 2003; Dogan, 2015; Foss & Lyngsie, 2011). Based on these findings, it is hereby hypothesized that:

H<sub>7</sub>: Learning orientation has a positive influence on competitive advantage.

H<sub>8</sub>: Strategic resource management has a positive influence on competitive advantage.

H<sub>9</sub>: Entrepreneurial orientation has a positive influence on competitive advantage.

However, the effect of competitive advantage on SMEs' performance is not yet extensively studied (Mahmood & Hanafi, 2013a; Mahmood & Hanafi, 2013b). Some studies which have attempted to study the influence of competitive advantage on SMEs' performance have been facing a challenge of using diverse measures. Although past studies have been using non-uniform measures of competitive advantage and SMEs' performance, some studies have demonstrated that SMEs' performance is positively influenced by the firm's competitive advantage (Ismail et al., 2010; Majeed, 2011; Muafi & Roostika, 2014; Wijetunge, 2016; Zhou et al., 2009). Based on these findings, it is hereby hypothesized that:

H<sub>10</sub>: Competitive advantage has a positive influence on SMEs' performance.

## **Methodology**

### **Research Design**

Cross-sectional design was adopted in this study; it involves collecting data at a point once in time as opposed to longitudinal study design which involves multiple data collection at a point at different times (Creswell, 2012; Kothari, 2004; Singh, 2006). On the one hand, longitudinal study design is suitable when complete information of a phenomenon from its genesis up to its maturity is required and on the other hand, cross-sectional design is suitable when information of any phenomenon in the existing situation is required (Singh, 2006). Since this study aimed at studying the influence of strategic entrepreneurship and SMEs' performance under the mediation of competitive advantage in the existing situation and not from its genesis to its maturity, cross-sectional design was considered applicable to this study. In addition, cross-sectional



study design has advantages of collecting data promptly and is less expensive (Cooper & Schindler, 2011; Singh, 2006; Zikmund, 2003).

### Research Area

Three urban centers in Tanzania including Dar es Salaam, Mbeya, and Morogoro were purposively selected as a geographical research area. Dar es Salaam is the business city located along the Indian Ocean coastline comprises about one-third of the SMEs located in urban centers in Tanzania (URT, 2012). Mbeya city located in the southern highlands is ranked the first urban center with the highest density (46%) of households owning SMEs in Tanzania (URT, 2012). Morogoro municipality located in the eastern part of the country has been a hub of industries in Tanzania since independence hosting inter alia the manufacturing industries (Lundqvist & Bjelkevic, 1973). In addition, Morogoro is a busy urban center connecting Dar es Salaam and Mbeya via Tanzania – Zambia highway thus it was economical to select it.

### Sample Size, Sampling Technique, and Data Collection

The sample size was determined by the rule of thumb based on the requirements of factor analysis and structural equation modelling techniques. According to Hair et al. (2010) factor analysis requires a minimum sample size of 120 subjects for factor loadings  $\pm 0.5$  or above which are considered practically significant and structural equation modelling requires 15–20 observations for each independent variable or predictor. This study has four predictors (with the number of observations in brackets) viz. learning orientation (17), strategic resource management (11), entrepreneurial orientation (14), and competitive advantage (12). The highest number of observations among predictors is 17, taking 15 as appropriate minimum observations, minimum sample size was found to be 255. Structural equation modelling requires sample size ranging between 100 and 400 subjects (Hair et al., 2010); thus, a sample size of 300 subjects was considered adequate for this study. A survey method with structured questionnaire was employed to collect data from owners-managers of welding SMEs. Data collection commenced on 01 November 2017 and ended on 31 January 2018.

### Measurements of Model Variables

Learning orientation (LO), strategic resource management (SRM), entrepreneurial orientation (EO), competitive advantage (CA), and SMEs' performance (PER) constructs were measured using various items adopted from past studies as shown in Table 1.

Owners-managers of welding SMEs in the research area were asked to rank their agreement or disagreement to questions on a structured questionnaire using five-point Likert scale (from “strongly disagree” = 1 to “strongly agree” = 5) to all items consisted in LO, SRM, EO, and CA constructs.

Furthermore, owners-managers were asked to respond to the extent PER indicators have changed for the past five years with reference to December 2016 as a base year using five-point Likert scale (from “a lot less” = 1 to “a lot more” = 5).



**Table 1** Measurements of model variables

Construct	Dimension	No. items	Abbreviation	Reference
LO	Commitment to learning	Four	Total CLE	Calantone et al. (2002)
	Shared vision	Four	Total SVI	
	Open-mindedness	Four	Total OMI	
	Intra-organizational knowledge sharing	Five	Total IOR	
SRM	Structuring resource portfolio	Five	Total SRE	Ireland et al. (2003)
	Bundling resources to form capabilities	Three	Total BRE	
	Leveraging capabilities	Three	Total LCA	
EO	Pro-activeness	Three	Total PRO	Campos et al. (2012)
	Risk taking	Three	Total RTA	
	Competitive aggressiveness	Two	Total CAG	
	Autonomy	Three	Total AUT	
	Innovation	Three	Total INN	
CA	Differentiated products	Three	Total DPR	Ramaswami et al. (2006)
	Market sensing	Four	Total MSE	
	Market responsiveness	Five	Total MRE	
PER	Growth in assets	One	AST5	Shepherd & Wiklund (2009)
	Growth in sales	One	SAL5	
	Growth in number of employees	One	EMP5	

Source: Literature review (2017)

### Data Analysis

By the aid of Statistical Package for Social Sciences computer software, descriptive statistics for describing firm owner-manager viz. gender, age, and level of education were determined. Descriptive statistics for firm characteristics viz. firm age, number of employees, and amount of capital investment in machinery were also determined. Aided by the Analysis of Moment Structures computer software, inferential statistics were determined using structural equation modelling technique which consisted of confirmatory factor analysis and latent variable path analysis. Confirmatory factor analysis was used to develop a measurement model, while latent variable path analysis was used to develop a structural model that facilitated the testing of research hypotheses.

### Confirmatory Factor Analysis

Confirmatory factor analysis is an iterative process, it was used to identify and thus make decisions on the deletion of items with low factor loadings and redundant ones. Retained items were then assessed for construct reliability and validity. Before conducting confirmatory factor analysis to develop a measurement model, it was necessary to compute the total score for all first-order factors (dimensions as shown in Table 1) forming up learning orientation, strategic resource management, entrepreneurial orientation, and competitive advantage constructs. Total score converted ordinal scores into continuous scores, and thus the maximum likelihood method of approximation could appropriately be used (Kline, 2011; Pallant, 2005). However, total score is valid only when factors are proved to be unidimensional (Kline, 2011). Prior to the computation

of total scores, each factor was tested for unidimensionality using exploratory factor analysis technique. A factor is said to be unidimensional when all items have factor loading greater than 0.5 (Zainudin, 2015). Results for unidimensional test revealed that all factors were unidimensional and thereafter confirmatory factor analysis proceeded.

### **Testing of Research Hypotheses**

Based on the valid confirmatory factor analysis model, the structural model was developed using latent variable path analysis. Covariance arrows (curved double-headed arrows) on the confirmatory factor analysis model were removed and replaced by regression arrows (straight single-headed arrows) between the factors to convert the measurement model into a structural model. The structural model indicated the influence of one variable to the other using regression coefficients. The model was used to test the research hypotheses (Suhr, 2006) at 5% level of significance.

## **Results**

### **Owner-Manager Characteristics**

Ownership and management of SMEs in the welding industry are dominated by males who represent 97.3% of all surveyed owners-managers (Table 2). Female firm owners-managers are represented by only 2.7%. These findings are close to the findings of Isaga (2012) who found that males dominated firm ownership and management of the Tanzanian furniture industry by 99.0% compared with only 1.0% for females. Comparison of these two studies conducted in the Tanzanian manufacturing industry indicates that the industry is dominated by male firm owners-managers.

Table 2 describes that welding industry SMEs in Tanzania are dominantly owned and managed by entrepreneurs having the age between 18–49 years who represent 91.7% of

**Table 2** Statistics of owner-manager characteristics

	Frequency	Percent
Gender		
Male	292	97.3
Female	8	2.7
Age		
18–29	40	13.3
30–39	120	40.0
40–49	115	38.3
50–59	25	8.3
Highest level of education		
Primary school	91	30.3
Ordinary level secondary education	166	55.3
Advanced level secondary education	20	6.7
Ordinary diploma	12	4.0
Advanced diploma/degree	9	3.0
More than advanced diploma/degree	1	0.3
Total	299	99.7
Missing system	1	0.3

all surveyed entrepreneurs. The remaining 8.3% informs that ownership and management of SMEs are under the entrepreneurs aged 50 years and above. It is interesting to note that 53.3% viz. more than half of the welding industry SMEs owners-managers are aged below 40 years implying that entrepreneurship is in the heart of young people. Formal education equips entrepreneurs with knowledge for efficient and effective undertaking of their daily activities. Most welding industry SMEs are owned by entrepreneurs with ordinary level secondary education (55.5%), and 30.4% owners-managers of welding SMEs have primary education indicating that 86.0% owners-managers of welding SMEs have the highest level of education not more than ordinary level secondary education. The remaining 14.0% of welding SMEs owners-managers have advanced level secondary education and above (Table 2).

These findings imply that the welding industry does not attract many people with higher education above ordinary level education. Exploration of the welding industry has shown that people with ordinary level education or below face difficulty in securing formal employment and thus decide to establish their own welding workshops as alternatives to employment (Key Informant Interviews, personal communication, September 6–30, 2017).

#### **Firm Characteristics**

Based on their age, Ismail et al. (2010) divided firms into two categories viz. young firms with the age of 15 and below and old firms with the age of 16 and above. Table 3 shows that a large number (68.6%) of the surveyed welding SMEs had age between 5 and 14 years, by considering the Ismail et al.'s (2010) firm categorization, the findings imply that the sample was dominated by young firms.

Using the criterion of number of employees to categorize SMEs, the sample comprised micro and small enterprises. A micro enterprise employs one to four employees, while the small enterprise employs five to 49 employees (URT, 2003). Table 3 shows that as of December 31, 2016, a total of 129 (43.0%) firms had employees between one and four and the remaining 170 firms (56.7%) had employees between five and 49. One firm had missing data. Another criterion of categorizing SMEs is the capital investment in machinery. The sample comprised micro, small, and medium enterprises. Micro, small, and medium enterprises invest Tanzanian Shillings (TZS) up to 5 million, above 5 million to 200 million and above 200 million to 800 million respectively (URT, 2003). It was found that 99 (33.0%) firms were micro enterprises, 198 (66.0%) were small enterprises, and three (1.0%) were medium enterprises (Table 3). These statistics inform that the sample comprised micro, small, and medium enterprises.

#### **Confirmatory Factor Analysis**

A total of 18 items were used to develop the measurement model. Model constructs and the corresponding abbreviations for each item are shown in Table 1.

#### **Assessment of Factor Loadings**

Factor loadings for all items in each construct except the differentiated product (total DPR) item of competitive advantage construct were found to be greater than 0.5 and significant. Total DPR item of competitive advantage construct had a factor loading of

**Table 3** Statistics for firm characteristics

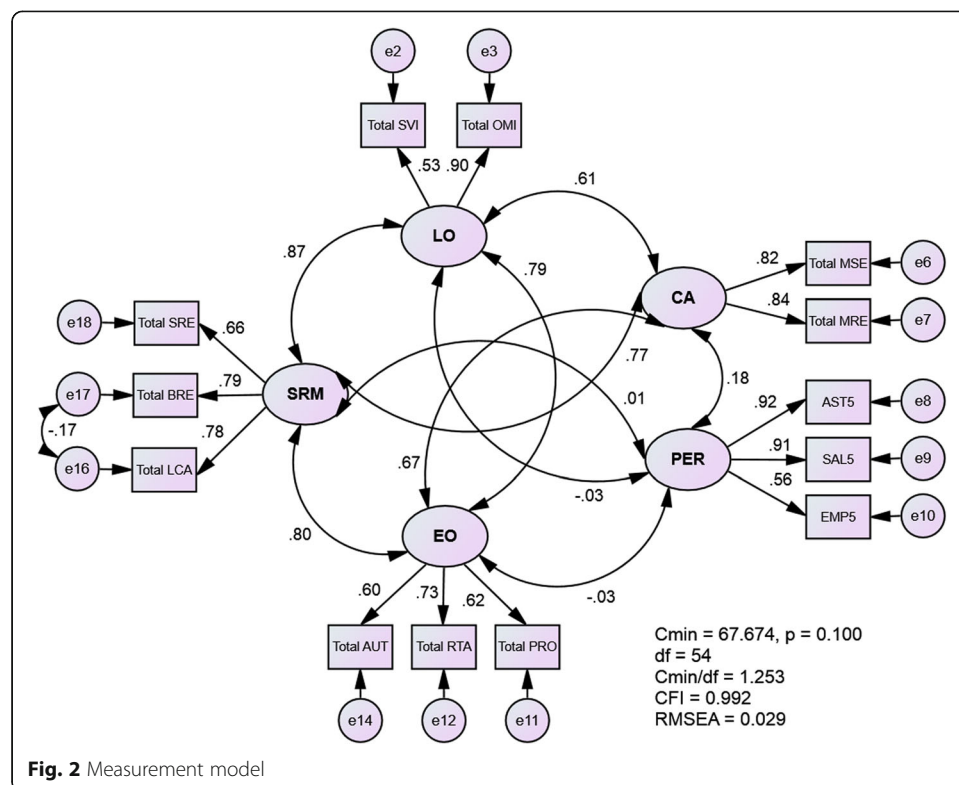
	Frequency	Percent
Age of the firm		
5–9	136	45.3
10–14	70	23.3
15–19	61	20.3
20–24	20	6.7
25–29	9	3.0
30–34	2	0.7
Total	298	99.3
Missing system	2	0.7
Firm location		
Dar es Salaam	125	41.7
Mbeya	101	33.7
Morogoro	74	24.7
Highest level of education		
1–4	129	43.0
5–49	170	56.7
Total	299	99.7
Missing system	1	0.3
Capital investment in machinery (TZS*)		
Up to 5,000,000	99	33.0
5,000,001–200,000,000	198	66.0
200,000,001–800,000,000	3	1.0

\*1 USD = 2299 TZS as on 13 May 2019 (source: [www.bot.go.tz](http://www.bot.go.tz))

0.2. Since the factor loading of the total DPR item was less than 0.5, the item was deleted from the measurement model (Fig. 2).

### **Assessment of Model Fit Indices**

After the deletion of the total DPR item, model goodness of fit was assessed. Model goodness of fit is normally assessed using various fit indices which are divided into three main categories viz. absolute, incremental, and parsimonious fits as shown in Table 4. Hair et al. (2017) urged researchers to avoid dump of all fit indices; they recommended the use of minimum chi-square statistic, number of degrees of freedom,  $p$  value, comparative fit index (CFI), and root mean square error of approximation (RMSEA) to fully report the CFA model goodness of fit. Pursuant to Hair et al.'s (2017) recommendations, this study assessed model goodness of fit using minimum chi-square statistic, number of degrees of freedom,  $p$  value, CFI, RMSEA, and the ratio of minimum chi-square over degrees of freedom ( $C_{min}/df$ ). Assessment of model goodness of fit revealed that model fit indices were not acceptable thus assessment and identification of pairs of items with high modification indices values proceeded. During the development of the measurement model, total CLE item of LO construct and total INN item of EO construct were deleted because they had modification index values greater than 15 with other items. However, deletion of the aforesaid items did not render the



**Fig. 2** Measurement model

model acceptable; model goodness of fit indices were still not acceptable; thus, total CAG item of EO construct and total IOR item of LO construct were also deleted from the model.

Having deleted the aforementioned items (Table 5), model goodness of fit indices were found to be acceptable. In order to further improve the measurement model, total BRE and total LCA items of SRM construct were covaried.

Referring to Table 4 and Fig. 2, Cmin/df, CFI, and RMSEA values were found to be within the acceptable range indicating that the observed covariance matrix is closer to the theory implied covariance matrix. Minimum chi-square statistic (67.674,  $p = 0.100$ )

**Table 4** Categories of model fit and levels of acceptance

Category	Name of index	Full name of index	Level of acceptance
Absolute fit	Cmin	Minimum chi-square	$p$ value > 0.05
	RMSEA	Root mean square error of approximation	RMSEA < 0.08
Incremental fit	GFI	Goodness of fit index	GFI > 0.90
	AGFI	Adjusted goodness of fit	AGFI > 0.90
	CFI	Comparative fit index	CFI > 0.90
	TLI	Tucker-Lewis index	TLI > 0.90
	NFI	Normed fit index	NFI > 0.90
Parsimonious fit	Cmin/df	Minimum chi-square/degrees of freedom	Cmin/df < 3.0

Source: Adapted from Zainudin (2015)

**Table 5** Actions on measurement model

Action	Description	Remarks
Total CLE item of LO construct deleted	The item had MI = 25.791 with Total RTA item of EO construct.	Covarying not allowed because the items belong to different constructs. Deletion of total RTA item did not improve the model goodness of fit indices.
Total INN item of EO construct deleted	The item had MI = 17.684 with total RTA item of EO construct.	Covarying the items and deletion of total RTA item did not improve the model goodness of fit indices.
Total CAG item of EO construct deleted	The item had MI = 8.155 with AST5 item of PER construct.	Covarying not allowed because the items belong to different constructs. Deletion of AST5 item did not improve the model goodness of fit indices.
Total IOR item of LO construct deleted	The item had MI = 7.801 with total BRE item of SRM construct.	Covarying not allowed; the items belong to different constructs. Deletion of total BRE did not improve the model goodness of fit indices.
Total BRE and total LCA items of SRM covaried	Correlation between LO and SRM constructs was 0.90	Covarying of the items reduced the correlation between LO and SRM constructs to 0.87 and <i>p</i> value was improved from 0.082 to 0.100.

was found to be insignificant at 0.05 level of significance indicating that the model is acceptable.

#### **Assessment of Construct Reliability and Validity**

Construct reliability was assessed using composite reliability (CR) values. Construct convergent validity was assessed based on factor loading statistical significance of measured variables and average variance extracted (AVE) values (Zainudin, 2015, Hair et al., 2010). Assessment of construct reliability for financial performance for five years period revealed that all constructs viz. LO, SRM, EO, CA, and PER constructs had CR values higher than 0.6 (Table 6). These findings inform that construct reliability for financial performance for the past five-year period was achieved.

Construct convergent validity was assessed using factor loadings and AVE values. All factor loadings for all items in each construct (LO, SRM, EO, CA, and PER) were found to be higher than 0.5 and were statistically significant confirming that construct convergent validity using factor loadings criterion was achieved. AVE values for all model constructs in the exception of EO were found to be greater than 0.5. Although AVE value for EO was found to be 0.426 which is less than 0.5, since all factor loadings for EO were greater than 0.5 and significant, the convergent validity for EO was achieved.

Construct discriminant validity was assessed by comparing correlation values among a pair of independent variables (constructs) with the square root of AVE values. By the aid of the SmartPLS 3 computer software, construct discriminant validity was determined using the Fornell-Larcker criterion. The criterion requires all square root of AVE values to be higher than all correlation values viz. Square root of AVE value higher than correlation value indicates good evidence of construct discriminant validity. Results for construct discriminant validity are shown in Table 7. Smart PLS 3 software was used due to the fact that Analysis of Moment Structures software is incapable of determining construct discriminant validity among constructs.

**Table 6** Confirmatory factor analysis report

Construct	Item	Factor loading	Significance	CR ( $\geq 0.6$ )	AVE ( $\geq 0.5$ )
LO	Total CLE	Deleted		0.692	0.545
	Total SVI	0.53	***		
	Total OMI	0.90	***		
	Total IOR	Deleted			
SRM	Total SRE	0.66	***	0.789	0.556
	Total BRE	0.79	***		
	Total LCA	0.78	***		
EO	Total PRO	0.62	***	0.778	0.426
	Total RTA	0.73	***		
	Total CAG	Deleted			
	Total AUT	0.60	***		
	Total INN	Deleted			
CA	Total DPR	Deleted		0.894	0.689
	Total MSE	0.82	***		
	Total MRE	0.84	***		
PER	AST5	0.92	***	0.850	0.663
	SAL5	0.91	***		
	EMP5	0.56	***		

The italicized numbers on the diagonal are the square root of AVE values while other values are correlation values. Since the square root of AVE values are higher than correlation values in both row and column of each construct (Zainudin, 2015), discriminant validity for LO, SRM, EO, and CA constructs for financial performance for the past five years period was achieved viz. the factors under assessment are unique or distinct.

### Testing Research Hypotheses

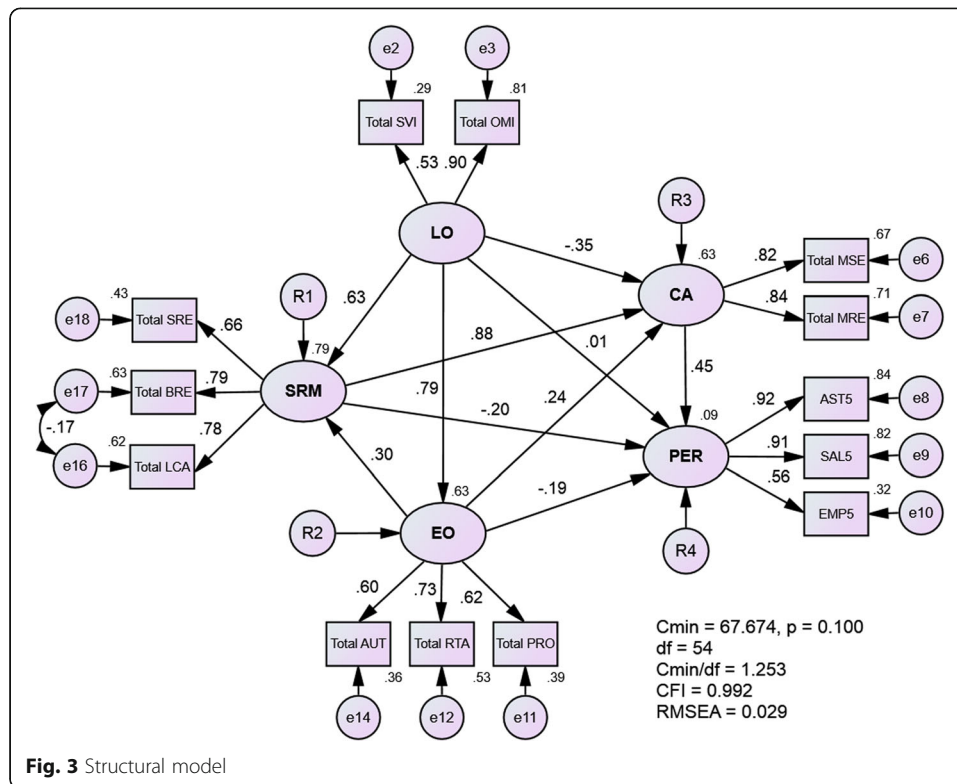
Prior to hypotheses testing, the structural model was developed using latent variable path analysis. The model (Fig. 3) comprised learning orientation, strategic resource management, entrepreneurial orientation, competitive advantage, and performance constructs. Abbreviations for all model constructs and the corresponding items are shown in Table 1.

This study hypothesized that learning orientation, strategic resource management, and entrepreneurial orientation have a positive and significant influence on SMEs' performance. Findings revealed that learning orientation does not significantly influence SMEs' performance ( $\beta = 0.01$ ,  $p = 0.964$ ), strategic resource management does not

**Table 7** Construct discriminant validity assessment summary

	CA	EO	LO	SRM
CA	<i>0.919</i>			
EO	0.512	<i>0.782</i>		
LO	0.482	0.588	<i>0.855</i>	
SRM	0.638	0.603	0.690	<i>0.830</i>





significantly influence SMEs' performance ( $\beta = -0.20$ ,  $p = 0.493$ ), and entrepreneurial orientation does not significantly influence SMEs' performance ( $\beta = -0.19$ ,  $p = 0.297$ ). These findings confirm that hypotheses  $H_1$ ,  $H_2$ , and  $H_3$  are not supported by the collected data.

The study also hypothesized that strategic resource management is influenced by learning orientation and entrepreneurial orientation. Findings from this study informed that learning orientation positively and significantly influences strategic resource management ( $\beta = 0.64$ ,  $p < 0.001$ ) and entrepreneurial orientation positively and significantly influences strategic resource management ( $\beta = 0.30$ ,  $p = 0.045$ ). These findings are in line with the hypothesized relationships; thus, hypotheses  $H_4$  and  $H_5$  are supported by the collected data.

Learning orientation was hypothesized to influence entrepreneurial orientation, findings confirm that learning orientation positively and significantly influences entrepreneurial orientation ( $\beta = 0.79$ ,  $p < 0.001$ ); hence, hypothesis  $H_6$  is supported by the collected data.

Furthermore, the study hypothesized that learning orientation, strategic resource management, and entrepreneurial orientation influence competitive advantage which also influences SMEs' performance. Findings from this study disclosed that learning orientation does not significantly influence competitive advantage ( $\beta = -0.35$ ,  $p = 0.143$ ), strategic resource management positively and significantly influences competitive advantage ( $\beta = 0.88$ ,  $p = 0.001$ ), entrepreneurial orientation does not significantly influence competitive advantage ( $\beta = 0.24$ ,  $p = 0.139$ ), and competitive advantage positively and significantly influences SMEs' performance ( $\beta = 0.45$ ,  $p = 0.003$ ). These

findings confirm that hypotheses H<sub>7</sub> and H<sub>9</sub> are not supported while hypotheses H<sub>8</sub> and H<sub>10</sub> are supported by the collected data.

## Discussion

The findings from the tested ten hypotheses are discussed in this chapter. Five hypotheses were supported and five hypotheses were not supported by the collected data. Learning orientation, strategic resource management, and entrepreneurial orientation were hypothesized to have a positive influence on SMEs' performance. Findings have shown that learning orientation has no significant influence on SMEs' performance. Although some past studies (Amin, 2015; Calantone et al., 2002; Eshlaghy & Maatofi, 2011; Mahmood & Hanafi, 2013a; Yeni, 2015) have reported positive and significant influence of learning orientation on SMEs' performance, other studies such as Nybakk (2012) and Suliyanto and Rahab (2012) have reported insignificant influence of learning orientation on SMEs' performance similar to the findings of this study.

Similarly, strategic resource management has no significant influence on SMEs' performance. Despite the recognition of strategic resource management construct as a component of strategic entrepreneurship (Ireland et al., 2003; Dogan, 2015; Foss & Lyngsie, 2011), this study was unable to compare these findings from past studies due to lack of literature investigating the direct influence of strategic resource management on SMEs' performance. Likewise, this study found that entrepreneurial orientation has no significant influence on SMEs' performance. Although some past studies have found positive and significant influence of entrepreneurial orientation on SMEs' performance (Amin, 2015; Amin et al., 2016; Bengesi, 2013; Campos & Valenzuela, 2013; Fatoki, 2012; Mahmood & Hanafi, 2013a; Mata & Aliyu, 2014; Rauch et al., 2009; Yeni, 2015; Zehir et al., 2015), the insignificant influence of entrepreneurial orientation on SMEs' performance may be attributed to the fact that welding industry SMEs in Tanzania are unwilling to invest financial resources in risky projects are not extensively involved in innovative works as product designs depend on the customers' instructions (Key Informant Interviews, personal communication, September 6–30, 2017).

It was also hypothesized that learning orientation, strategic resource management, and entrepreneurial orientation have a positive influence on competitive advantage. The influences of learning orientation and entrepreneurial orientation on competitive advantage were found to be insignificant. Although the resource-based theory suggests that knowledge management capabilities and firm resources are key elements in creating competitive advantage (Theriou et al., 2009), this study has provided empirical evidence that learning orientation and entrepreneurial orientation alone cannot create a competitive advantage for SMEs. However, the study has found a positive and significant influence of strategic resource management on competitive advantage; this implies that the firm's strategy is important in creating a competitive advantage (Ireland et al., 2003; Barney, 1991). These findings imply that knowledge management capabilities and firm resources create a competitive advantage through strategic resource management.

This study further hypothesized that learning orientation and entrepreneurial orientation have a positive influence on strategic resource management. Findings have confirmed that learning orientation and entrepreneurial orientation positively and significantly influence strategic resource management. These findings are in line with the resource-based

theory which suggests that knowledge management capabilities determine the firm's strategy (Curado, 2006; Theriou et al., 2009) and firm resources determine the firm's strategy (Barney, 1991; Theriou et al., 2009). Past studies by Ireland et al. (2003) and Ireland and Webb (2007) describe that firm resources especially intangible resources are important determinants of the way the firm manages resources strategically.

In another instance, learning orientation was hypothesized to have a positive influence on entrepreneurial orientation. This hypothesis has been confirmed as findings from this study inform that learning orientation positively and significantly influences entrepreneurial orientation similar to findings of Pett and Wolff (2016) and Vasconcelos et al. (2016). These findings comply with the resource-based theory which suggests that knowledge management capabilities are the source of firm resources (Curado, 2006; Theriou et al., 2009).

Lastly, it was hypothesized that competitive advantage has a positive influence on SMEs' performance. This study has empirically proved that competitive advantage has a positive and significant influence on SMEs' performance. These findings are in line with the resource-based theory which suggests that competitive advantage promotes SMEs' performance (Theriou et al., 2009).

## **Conclusions, Implications, and Recommendations**

### **Conclusions**

Learning orientation, strategic resource management, and entrepreneurial orientation constructs represented the knowledge management capabilities, strategy, and resources components of the resource-based theory respectively. Taking into account that strategic entrepreneurship is composed of these constructs, the mediating effect of competitive advantage was assessed on the influence of strategic entrepreneurship on SMEs' performance. Three paths on the structural model were found to be mediated by competitive advantage. First, competitive advantage mediates the indirect influence of learning orientation through strategic resource management on SMEs' performance; second, competitive advantage mediates the indirect influence of entrepreneurial orientation through strategic resource management on SMEs' performance; and third, competitive advantage mediates the indirect influence of learning orientation through entrepreneurial orientation and strategic resource management on SMEs' performance.

The indirect influence of learning orientation on SMEs' performance through entrepreneurial orientation and strategic resource management as mediated by competitive advantage confirms that learning orientation, strategic resource management, and entrepreneurial orientation constructs adopted from entrepreneurship and strategic management literature are empirically verified components of strategic entrepreneurship.

Since learning orientation, strategic resource management, and entrepreneurial orientation constructs represented knowledge management capabilities, strategy, and resources components of the resource-based theory respectively, it is hereby concluded that the possession of knowledge management capabilities, strategy, and resources alone cannot promote SMEs' performance unless such resources are managed strategically. Thus, superior SMEs' performance is obtained through the creation of competitive advantage emanating from adopting a strategic entrepreneurship approach that

combines altogether learning orientation, strategic resource management, and entrepreneurial orientation.

### **Contributions of the Study**

The study has contributed to existing strategic entrepreneurship literature in five grounds; first, it has introduced strategic resource management construct as a firm's strategy (Ireland et al., 2003) to be combined with learning orientation and entrepreneurial orientation constructs which are intangible resources (Barney, 1991) to form strategic entrepreneurship. A composite measure has been developed describing strategic resource management as a unidimensional second-order factor consisting of three first-order factors viz. structuring resource portfolio, bundling resources, and leveraging capabilities.

Second, this study has created a composite measure of SMEs' performance for financial performance measures as suggested by Shepherd and Wiklund (2009). It has been found that SMEs' performance is a unidimensional first-order factor composed of three items viz. growth in assets, sales, and number of employees as financial performance measures. Past studies have not paid proper consideration on the dimensionality of SMEs' performance (Santos & Brito, 2012).

Third, the study has operationalized the resource-based theory, into a workable model (Fig. 1) that represents the direct and indirect influence of learning orientation, strategic resource management, and entrepreneurial orientation on SMEs' performance and competitive advantage as a mediating variable.

Fourth, the study has introduced competitive advantage as a mediating variable between strategic entrepreneurship and SMEs' performance in accordance with the resource-based theory (Theriou et al., 2009). It has been found that competitive advantage is a second-order factor composed of two first-order factors viz. market sensing and market responsiveness.

Fifth, the study has obtained empirical evidence on the influence of strategic entrepreneurship components on SMEs' performance under the mediation of competitive advantage in Tanzanian welding industry SMEs.

Inclusion of learning orientation, strategic resource management, entrepreneurial orientation, competitive advantage and SMEs' performance constructs in a single model with direct and indirect influence among the constructs coupled with the development of composite measures of these constructs distinguishes this study from past studies.

### **Implications of the Findings**

#### ***Theoretical Implications***

Despite the applicability of the resource-based view and the knowledge-based view in describing SMEs' performance, isolation of these views diminishes the potential benefits offered by the strategic entrepreneurship approach. In supporting this argument, Pemberton and Stonehouse (2000) cited in Theriou et al. (2009) explained that knowledge is a primary source of all other resources and strategies and that competitive advantage and firm performance are governed by knowledge management capabilities; thus, the knowledge-based view strengthens the resource-based view. The findings of this study imply that the resource-based theory, the composite theory derived from the resource-

based view and the knowledge-based view, holds a better chance to explain the influence of strategic entrepreneurship components on SMEs' performance under the mediation of competitive advantage than the individual views when used in isolation.

### ***Policy Implications***

Findings of this study inform that welding SMEs are owned and managed by individuals with low levels of both formal and technical education. The current Tanzanian SME policy *inter alia* advocates for the provision of education, training, and other programs that are conducive to the development of entrepreneurship (URT, 2003). Since it has been found that SMEs' performance can better be promoted by adopting strategic entrepreneurship approach, the findings of this study encourage the need for advocating design of training and other education programs to equip SMEs with knowledge that will lead to the acquisition of appropriate resources and the strategic management of such resources.

### ***Limitations of the Study***

This study has four limitations that require attention when using the findings of this study: First, the sample was drawn from a single industry viz. the welding industry. The decision to use a single industry was reached in a bid to obtain deep insights into the relationship of strategic entrepreneurship, competitive advantage, and SMEs' performance. By using a single industry, one may be confident in the research findings as opposed to those obtained from multiple industries where one industry may severely dictate the overall findings. This study therefore admits that the generalization of the research findings cannot be extended beyond the welding industry. Second, although SMEs' performance was measured using a five-year period, data collection was conducted using a survey method with a cross-sectional design; thus, the findings reflect only the performance for the past five years with reference to December 2016 as a base year. The findings do not fit in describing trends regarding the relationship of strategic entrepreneurship, competitive advantage, and SMEs' performance over different periods, i.e., time series. Third, strategic entrepreneurship is a new field of research (Dogan, 2015; Foss & Lyngsie, 2011; Gelard & Ghazi, 2014); it can be defined using several constructs from entrepreneurship and strategic management fields. The definition of strategic entrepreneurship in this study is limited to a synergy of learning orientation, strategic resource management, and entrepreneurial orientation. Fourth, SMEs' performance may be measured using various indicators. Measurement of SMEs' performance in this study is limited to financial performance consisting of growth in assets, sales, and number of employees.

### ***Recommendations***

#### ***Recommendations for Practice***

SMEs eager to obtain and sustain competitive advantage that leads to superior performance are urged to embrace learning orientation which influences entrepreneurial orientation and strategic resource management. Through continuous learning, SMEs may be in good positions to understand the environment in which they are operating;

necessary actions may be competently taken to improve performance. Continuous learning may also facilitate the acquisition of appropriate resources and strategies necessary to carry out daily undertakings of SMEs in the welding industry under a dynamic environment.

### **Recommendations for Further Research**

Based on the research findings, this study puts forth four recommendations; first, the structures of some model variables were found to deviate from the original scales, i.e., two items of learning orientation viz. commitment to learning and intra-organizational knowledge sharing were deleted, two items of entrepreneurial orientation viz. innovation and pro-activeness were deleted, and one item of competitive advantage viz. differentiated products was also deleted. It is strongly recommended to replicate this study in other industries in a bid to establish the applicable scales of the research variables.

Second, the direct influences of learning orientation, strategic resource management, and entrepreneurial orientation on SMEs' performance were unexpectedly found to be non-significant; future studies may supplement quantitative paradigm with qualitative paradigm to explore the reasons for such insignificant influence.

Third, future studies may select and use other constructs from entrepreneurship and strategic management literature to describe strategic entrepreneurship in lieu of learning orientation, strategic resource management, and entrepreneurial orientation and thereafter compare the findings to the findings of this study.

Fourth, the developed conceptual framework is recommended for use in future studies to ascertain its applicability in other industries.

### **Abbreviations**

AGFI: Adjusted goodness of fit index; AST5: Assets growth for the past 5 years; AVE: Average variance extracted; Cmin: Minimum chi-square statistic; CR: Composite reliability; df: Degrees of freedom; EMP5: Growth in the number of employees for the past 5 years; EO: Entrepreneurial orientation; GFI: Goodness of fit index; MI: Modification index; NFI: Normed fit index; SAL5: Sales growth for the past 5 years; TLI: Tucker-Lewis index; Total AUT: Total score for autonomy construct; Total BRE: Total score for bundling resources construct; Total CAG: Total score for competitive aggressiveness construct; Total CLE: Total score for commitment for learning construct; Total DPR: Total score for differentiated products construct; Total INN: Total score for innovation construct; Total IOR: Total score for intra-organizational knowledge sharing construct; Total LCA: Total score for leveraging capabilities construct; Total MRE: Total score for market responsiveness construct; Total MSE: Total score for market sensing construct; Total OMI: Total score for open-mindedness construct; Total PRO: Total score for pro-activeness construct; Total RTA: Total score for risk-taking construct; Total SRE: Total score for structuring resources construct; Total SVI: Total score for shared vision construct; URT: United Republic of Tanzania; USD: US dollar

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### **Authors' Contributions**

KK designed and conducted the study under the supervision of NI. Specifically, KK designed a research proposal, collected and analyzed the data, and prepared a draft version of this paper. In all stages, NI read the work and accordingly raised some comments which were incorporated to address the observed weaknesses in this study. Finally, all authors approved the submission of the paper to the *Journal of Global Entrepreneurship Research* to be considered for publication. All authors read and approved the final manuscript.

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### Availability of Data and Materials

Datasets for this study are available and the same can be obtained from a corresponding author on reasonable request.

### Competing Interests

The authors declare that they have no competing interests.

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