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Entrepreneurial orientation, competitive advantage, and SMEs' performance: application of firm growth and personal wealth measures

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Abstract

SMEs' performance can be measured using various indicators. Guided by the resource-based view, this study aimed at determining the influence of entrepreneurial orientation on SMEs' performance under the mediation of competitive advantage using firm growth and personal wealth measures. Entrepreneurial orientation was adopted as an intangible resource in form of processes. A survey method with cross-sectional design was used to collect data from 300 owners-managers of welding industry SMEs located in Dar es Salaam, Mbeya, and Morogoro urban centers in Tanzania. By the aid of AMOS software, data analysis comprised of developing measurement and structural models using structural equation modeling technique. Sample data were then bootstrapped using 200 samples to determine the indirect effect of entrepreneurial orientation on SMEs' performance through competitive advantage. Findings from this study inform that competitive advantage mediates the relationship between entrepreneurial orientation and SMEs' performance for both firm growth and personal wealth performance measures. This study has contributed to existing literature by providing evidence on use of personal wealth as measures of SMEs' performance. The findings of the study imply that the resource-based view is suitable in describing not only physical resources but also intangible resources such as entrepreneurial orientation. Future studies may investigate the influence of more constructs such as learning orientation on SMEs' performance under the mediation of competitive advantage using the same firm growth and personal wealth performance measures. Such studies will establish whether the findings of this study are specific to entrepreneurial orientation construct or applicable to other constructs as well.

Keywords: Competitive advantage, Entrepreneurial orientation, Firm growth, Personal wealth, SMEs' performance

Introduction

SMEs' performance refers to the outcomes of firms' business activities (Kotane & Kuzimina-Merlino, 2017). It can be measured using various indicators. Firm growth indicators are among important SMEs' performance measures. Shepherd and Wiklund (2009)



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identified five common firm growth measures that have been used in past studies; these are growth in sales, employees, profit, assets, and equity. There is no doubt that SMEs' performance measures have been developed in western countries. Entrepreneurs in western world are motivated by availability of opportunities to be exploited while entrepreneurs in least developed countries are motivated by necessities (Eijdenberg, 2016). While earnings from entrepreneurial businesses in western countries can solely be used to foster firm growth, part of earnings from least developed countries go to personal expenses to support the lives of the entrepreneurs. This reality has raised a need to measure SMEs' performance using personal wealth indicators as suggested in Eijdenberg (2016). Since use of personal wealth to measure SMEs' performance in least developed countries like Tanzania is a new approach, it is not yet known whether entrepreneurial orientation influences such measures (Eijdenberg, 2016).

The current study simultaneously investigated the influence of entrepreneurial orientation on SMEs' performance under the mediation of competitive advantage using the conventional firm growth and novel personal wealth measures. Therefore, the study used assets, sales, and number of employees as measures of firm growth (Shepherd & Wiklund, 2009). Food purchasing, health care paying, and shelter acquisition capabilities were used as personal wealth performance measures (Eijdenberg, 2016). The use of the two types of performance measures was employed to foster comparison of research results to obtain empirical evidence so as to ascertain the extent the personal wealth measures are closer or far away from traditional firm growth performance measures.

Therefore, the main objective of this study was to determine the influence of entrepreneurial orientation on SMEs' performance under the mediation of competitive advantage using firm growth and personal wealth SMEs' performance measures. Specifically, the study aimed at determining the (1) influence of entrepreneurial orientation on competitive advantage, (2) influence of competitive advantage on SMEs' performance, and (3) mediating effect of competitive advantage on the relationship between entrepreneurial orientation and SMEs' performance.

In accomplishing the main and specific objectives, the study adopted a quantitative research paradigm with cross-sectional design to collect data from owners-managers of welding industry SMEs in urban centers of Dar es Salaam, Mbeya, and Morogoro in Tanzania. The study used five dimensions of entrepreneurial orientation construct as adopted from Campos, Nuno de la Parra, and Parellada (2012) and three dimensions of competitive advantage as adopted from Ramaswami, Srivastava, and Bhargava (2006). Furthermore, the study used three performance measures for firm growth as adopted from Shepherd and Wiklund (2009) and three performance measures for personal wealth as adopted from Eijdenberg (2016).

Literature review

Entrepreneurial orientation refers to "processes, practices, and decision-making activities that lead to new entry" (Lumpkin & Dess, 1996, p.136). A firm is said to enter new entry when it introduces new products, services, technological innovations, markets, or business model innovations that did not exist before (Covin, Wales, & J., 2019). Earlier studies measured entrepreneurial orientation construct using three dimensions, namely, innovativeness, pro-activeness, and risk taking (Miller, 1983 cited in Zulkifli & Rosli, 2013).

Later, two more dimensions were introduced to measure entrepreneurial orientation; these are autonomy and competitive aggressiveness (Lumpkin & Dess, 1996). A keen look on literature reveals that researchers have been using both measures, for example, Amin (2015), Amin, Thurasamy, Mohamad, Aznur, and Kaswuri (2016), Chenuos and Maru (2015), and Mahmood and Hanafi (2013) used three dimensions to measure entrepreneurial construct. Other researchers such as Campos and Valenzuela (2013), Zehir, Can, and Karaboga (2015), and Zulkifli and Rosli (2013) used five dimensions to measure the construct.

Entrepreneurial orientation has actually emerged as one of the most studied construct in entrepreneurship and management literature for more than three decades ago (Covin et al., 2019; Gupta, 2015). Despite the presence of many articles studying entrepreneurial orientation in top entrepreneurship and related journals, literature is in deficit of high value added entrepreneurial orientation research domains (Covin et al., 2019). Most studies have used entrepreneurial orientation as an independent variable while firm performance has been used as a dependent variable; this frequently studied relationship has led to replications with little consideration to identification and assessment of mechanisms and mediating variables through which firm performance occurs (Covin et al., 2019).

Although there exists a number of mediators between entrepreneurial orientation and firm performance, this study anticipates that competitive advantage is likely to mediate the relationship. This mediation is supported by the resource-based view which suggests that a firm's competitive advantage and superior performance emanate from the firm-specific resources and capabilities that are costly for copying by rivals, valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1991). Furthermore, Barney (1991) reiterates that resources include but not limited to assets, capabilities, organizational processes, firm attributes, information, and knowledge. Since entrepreneurial orientation refers to among others the processes that lead to new entry (Lumpkin & Dess, 1996), this study argues that entrepreneurial orientation is an intangible firm resource that creates competitive advantage and eventually promotes firm performance. Differences in performance among different firms are much driven by intangible rather than physical assets due to the fact that intangible assets unlike physical assets are not vulnerable to imitation (Connor, 2002).

Competitive advantage occurs when a firm implements a value creating strategy that is not concurrently implemented by rivals (Barney, 1991). Despite the importance of competitive advantage as described in the resource-based view, the mediating effect of competitive advantage on the relationship between entrepreneurial orientation and firm performance is not yet extensively studied (Mahmood & Hanafi, 2013). Competitive advantage can be reflected in several dimensions such as differentiated products, market sensing, collaboration with partners, focus on high value customers, market responsiveness, customers as assets, information transparency, and supply chain leadership (Ramaswami et al., 2006). Competitive advantage is a construct whose measurement is still fragmented, for example, Mahmood and Hanafi (2013) used differentiated products, market sensing, and market responsiveness as dimensions of competitive advantage. In another study by Ismail, Rose, Abdullah, and Uli (2010), competitive advantage was measured using cost-based advantage, product-based advantage, and service-based advantage. Other measurements of competitive advantage include price or cost, quality,

delivery dependability, product innovation, and time to market (Wijetunge, 2016). These heterogeneous measures of competitive advantage elevate difficulty in knowledge accumulation.

Despite the consensus among scholars that firm performance is a dependent variable in entrepreneurial orientation studies, no generic measures of firm performance are agreed so far. Past studies have been using diverse indicators to measure firm performance. However, financial performance measures have been mostly used as compared to non-financial performance measures. According to Chong (2008), examples of financial performance measures include profit before tax, profit per employee, growth in revenue, and growth in number of employees. Examples of non-financial performance measures are customers' satisfaction, customers' referral rate, growth in customers' base, and market share (Chong, 2008). Use of heterogeneous performance measures is a probable reason for mixed results found in literature (Shepherd & Wiklund, 2009). In addition to financial and non-financial measures, it has been argued that personal wealth measures can be used in the least developed countries to measure SMEs' performance (Eijdenberg, 2016).

Findings from past studies show that entrepreneurial orientation influences SMEs' performance (Amin, 2015; Amin et al., 2016; Fatoki, 2012; Mahmood & Hanafi, 2013; Mata & Aliyu, 2014; Rauch, Wiklund, Lumpkin, & Frese, 2009; Yeni, 2015; Zehir et al., 2015). These findings are in agreement with the resource-based theory which suggests that a firm's competitive advantage and superior performance emanate from the firm-specific resources and capabilities (Barney, 1991). Despite the importance of competitive advantage in promoting firm performance as suggested in the resource-based view, past studies have not paid much attention in studying its mediating effect on the entrepreneurial orientation—firm performance relationship (Mahmood & Hanafi, 2013). However, some studies have observed the positive and significant influence of entrepreneurial orientation on competitive advantage (Mustafa, Rehman, Zaidi, & Iqbal, 2015). In another study, Mahmood and Hanafi (2013) found partial mediation between entrepreneurial orientation and SMEs' performance. Furthermore, past studies have also demonstrated that competitive advantage positively and significantly influences firm performance (e.g., Ismail et al., 2010; Majeed, 2011; Muafi & Roostika, 2014; Wijetunge, 2016; Zhou, Brown, & Dev, 2009). From these findings and the postulation of the resource-based view, this study hypothesizes that

H₁: Entrepreneurial orientation positively influences competitive advantage,

H₂: Competitive advantage positively influences SMEs' performance, and

H₃: Competitive advantage mediates the relationship between entrepreneurial orientation and SMEs' performance.

Methodology

Research design

A survey method with cross-sectional design was used to collect the data from owners-managers of welding industry SMEs located in Dar es Salaam, Mbeya, and Morogoro urban centers in Tanzania. Sample size for the study was determined by rule of thumb under the guidance of the requirements for data analysis techniques. A sample size of 120 subjects is considered adequate for factor loadings ± 0.5 or above (Hair Jr., Black,

Babin, & Anderson, 2010). Structural equation modeling requires 15–20 observations for each independent variable or predictor (Hair Jr. et al., 2010).

This study used entrepreneurial orientation construct as a predictor of SMEs' performance and competitive advantage. Furthermore, competitive advantage construct was used as a predictor of SMEs' performance. Entrepreneurial orientation has 14 items and competitive advantage has 12 items. Thus, the highest number of items in the model is 14. Multiplying 14 by a minimum number of observations (subjects), which is 15 yielded a minimum sample size of 210 subjects. Structural equation modeling technique uses a chi-square statistic to assess model goodness of fit. The statistic is sensitive to high sample sizes, that is the larger the sample size, the high the likelihood the model will fail (Barret, 2007). Thus, the sample size of 100 to 400 subjects is suggested for models that require use of structural equation modeling (Hair Jr. et al., 2010). Using the rule of thumb, a sample size of 300 subjects was considered adequate hence used in this study.

Measurements of variables and data collection

This study developed measurement and structural models that comprised of three constructs; these are entrepreneurial orientation, competitive advantage, and SMEs' performance. The constructs were measured using various dimensions and items as shown in Table 1.

Data were collected from owners-managers of welding industry SMEs in the research area. Respondents were asked to indicate their agreement or disagreement to the questions in a structured questionnaire with 5-point Likert scale (from “strongly disagree” = 1 to “strongly agree” = 5) for entrepreneurial orientation and competitive advantage constructs. Furthermore, respondents were asked to indicate the level of change of personal wealth measures for the past 5 years to December, 2016 as a base year using a five points scale from “a lot less” = 1 to “a lot more” = 5.

Table 1 Measurement of model variables

Construct	Dimension	Number of items	Source
Entrepreneurial orientation	Pro-activeness	Three	Campos et al. (2012)
	Risk taking	Three	
	Competitive aggressiveness	Two	
	Autonomy	Three	
	Innovativeness	Three	
Competitive advantage	Differentiated products	Three	Ramaswami et al. (2006)
	Market sensing	Four	
	Market responsiveness	Five	
SMEs' performance (growth measures)	Growth in assets	One	Shepherd and Wiklund (2009)
	Growth in sales	One	
	Growth in number of employees	One	
SMEs' performance (personal wealth measures)	Food purchasing capability	One	Eijdenberg (2016)
	Health care paying capability	One	
	Shelter acquisition capability	One	

Data analysis

Entrepreneurial orientation and competitive advantage are second-order constructs and their dimensions are first-order constructs. To reduce model complexity, total scores for dimensions of entrepreneurial orientation and competitive advantage were computed using a statistical package for social sciences (SPSS) computer software. Total scores transformed the dimensions into observed variables while entrepreneurial orientation and competitive advantage were transformed into first order constructs. SMEs' performance measures are observed variable thus were not transformed. The transformed variables are shown in Table 2.

By the aid of analysis of moment structures (AMOS) computer software, data analysis comprised of developing measurement and structural models using confirmatory factor analysis (CFA) and structural equation modeling (SEM) techniques, respectively. Since the study used two types of SMEs' performance measures, two measurement models were developed; one for firm growth measures and the other for personal wealth measures. Likewise, two structural models were developed under the same types of performance measures.

Furthermore, sample data were bootstrapped using 200 samples to determine the direct effect of entrepreneurial orientation on competitive advantage, direct effect of competitive advantage on SMEs' performance, and indirect effect of entrepreneurial orientation on SMEs' performance through competitive advantage. Significance levels were assessed at 5% level of significance and bias corrected (BC) 95% confidence interval (CI) levels for each effect was assessed. The bias corrected 95% confidence interval with 0 exclusion provides evidence for significant mediation effect (Memon, Cheah, Ramayah, Ting, & Chuah, 2018; Cepeda, Nitzl, & Roldán, 2018).

Results

Confirmatory factor analysis

CFA technique was used to assess the factor loadings, construct correlations, and model fit indices for the developed models based on firm growth and personal wealth measures. The subsequent sections present the measurement models.

Measurement model for firm growth measures

Differentiated products (Total DPR) dimension of competitive advantage (CA) construct had a factor loading of 0.24 which is too low (< 0.5) (Zainudin, 2015) hence

Table 2 Transformed model constructs

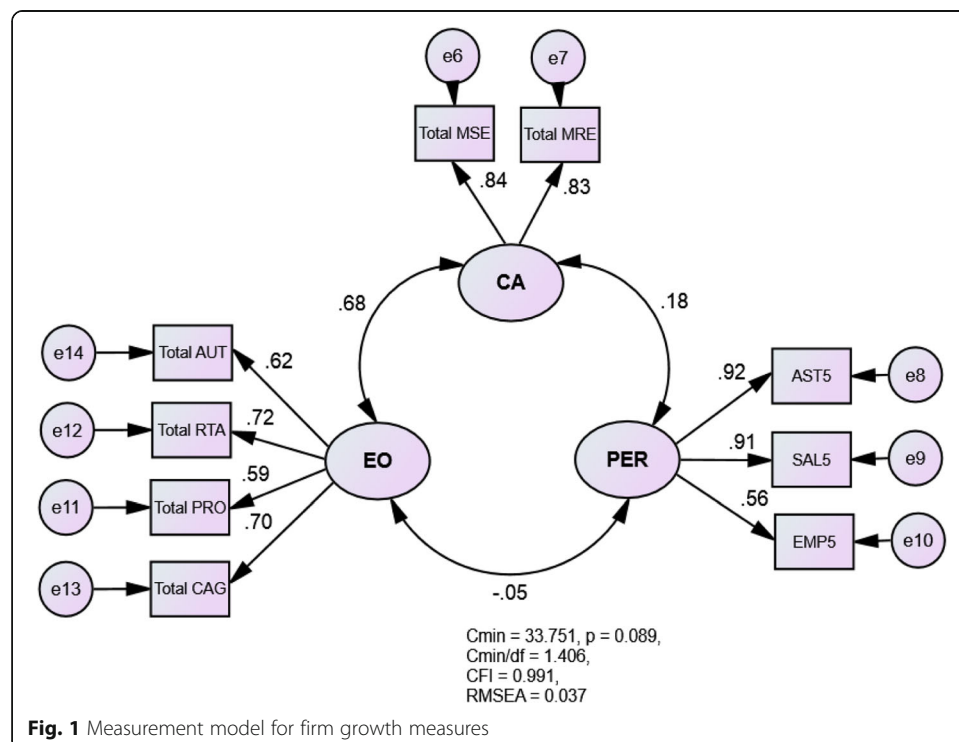
First-order construct	Observed dimensions	Abbreviation
Entrepreneurial orientation (EO)	Pro-activeness	Total PRO
	Risk taking	Total RTA
	Competitive aggressiveness	Total CAG
	Autonomy	Total AUT
	Innovativeness	Total INN
Competitive advantage (CA)	Differentiated products	Total DPR
	Market sensing	Total MSE
	Market responsiveness	Total MRE

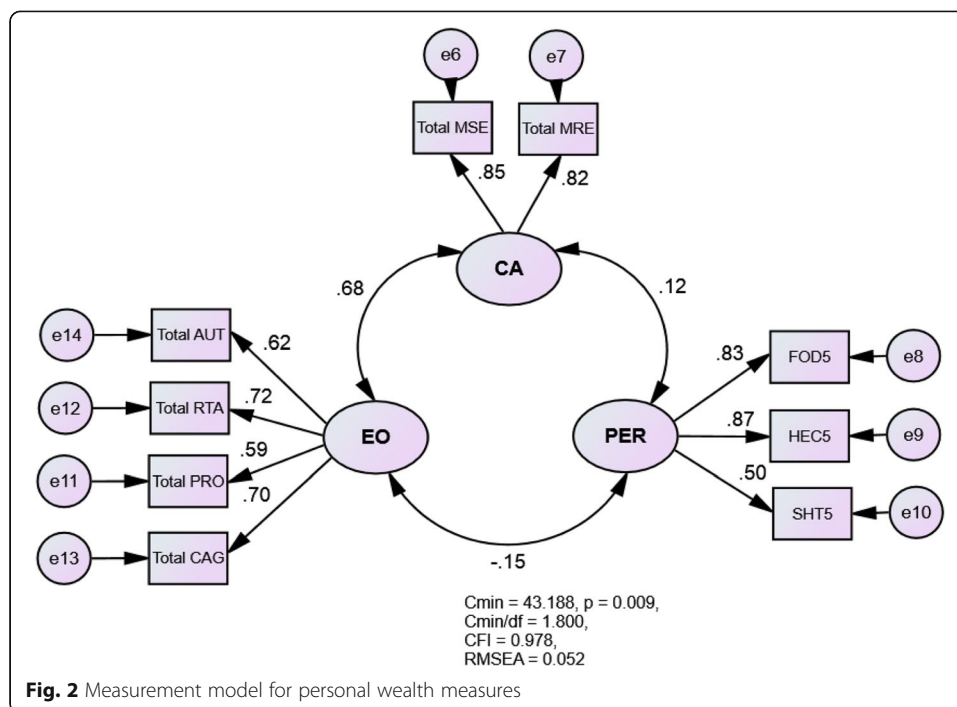
deleted from the model. The remaining dimensions had factor loadings greater than 0.5 hence retained for further analysis. Innovativeness (Total INN) dimension of entrepreneurial orientation construct was also deleted due to high modification index (18.227) with risk-taking (Total RTA) dimension of entrepreneurial orientation. After deletion of the two dimensions, the measurement model was found acceptable with minimum chi-square statistic (33.751, $p > 0.05$), cmin/df ratio < 2.5 , CFI > 0.90 , and RMSEA < 0.06 (Zainudin, 2015), and construct correlations less than 0.90 (Pallant, 2005; Tabachnick & Fidell, 2007) (see Fig. 1).

Construct reliability (CR) and average variance extracted (AVE) values for firm growth measures were found to be 0.850 and 0.663, respectively. AVE values higher than 0.5 and CR values higher than 0.6 indicate acceptable construct validity and reliability respectively (Zainudin, 2015).

Measurement model for personal wealth measures

Two dimensions, which are differentiated products (Total DPR) dimension of competitive advantage and innovativeness (Total INN) dimension of entrepreneurial orientation, were deleted from the model. Total DPR was deleted due to low factor loading (0.26) and Total INN was deleted due high modification index (19.072) with risk-taking (Total RTA) dimension of entrepreneurial orientation. The remaining factor loadings were found to be ≥ 0.50 . Correlations among the model constructs were less than 0.90 (Pallant, 2005; Tabachnick & Fidell, 2007). Minimum chi-square statistic (43.188, $p < 0.05$), cmin/df < 2.5 , CFI > 0.90 , and RMSEA < 0.06 (Zainudin, 2015) (see Fig. 2). Using personal wealth measures, SMEs' performance construct yielded CR value of 0.788 and AVE value of 0.565.





The minimum chi-square statistic was found to be significant informing that the theory implied covariance matrix is different from the observed covariance matrix. This finding is not awkward since large sample sizes more than 200 tend to produce a significant chi-square statistic (Barret, 2007). This study used a sample size of 300 subjects. Taking into consideration the effect of large sample size on statistical significance of chi-square statistic and since all other model fit indices were found to be acceptable, the model was deemed acceptable for further analysis.

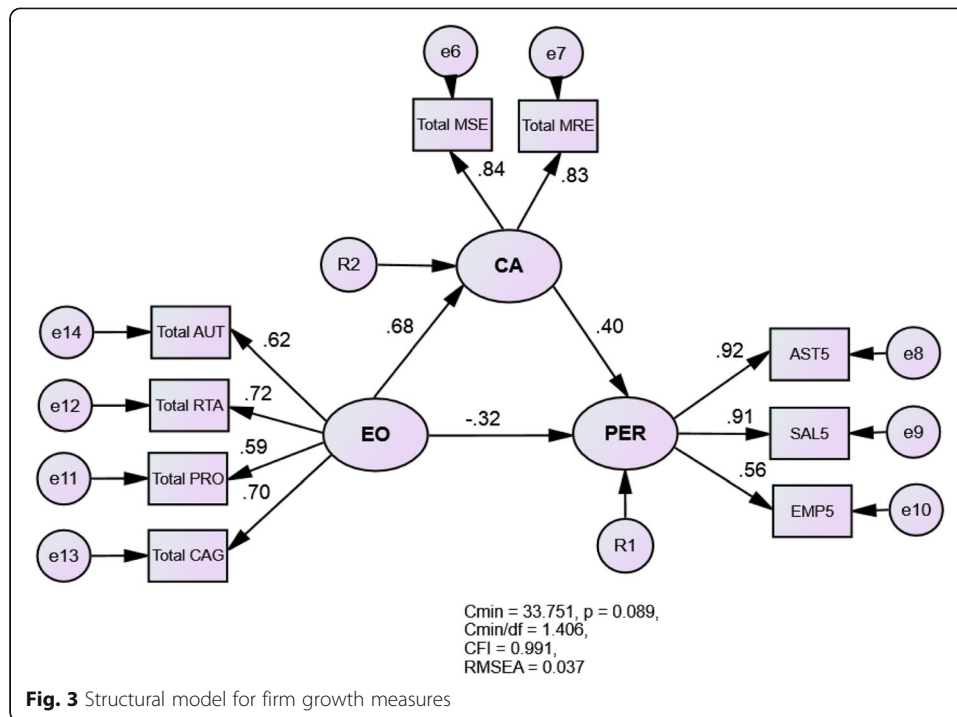
Hypotheses testing

By the aid of AMOS computer software, path analysis was conducted to determine the influence of entrepreneurial orientation on competitive advantage and the influence of competitive advantage on SMEs' performance. Furthermore, bootstrapping was performed to determine the mediating effect of competitive advantage on the relationship between entrepreneurial orientation and SMEs' performance.

Structural model for firm growth measures

Results from the structural model (Fig. 3) for firm growth measures show that entrepreneurial orientation positively and significantly influences competitive advantage ($\beta = 0.68$, $p < 0.001$). Likewise, competitive advantage positively and significantly influences SMEs' performance ($\beta = 0.40$, $p < 0.001$).

Sample bootstrapping results for direct and indirect effects for firm growth measures are summarized in Table 3. The results are three fold: firstly, the influence of entrepreneurial orientation on competitive advantage was found to be positive and significant at 5% level of significance and the bias corrected 95% confidence interval does not include 0. Secondly, the influence of competitive advantage on SMEs' performance was found



to be positive and significant at 5% level of significance and the bias corrected 95% confidence interval does not include 0. Thirdly, the indirect influence of entrepreneurial orientation on SMEs' performance through competitive advantage was found to be positive and significant at 5% level of significance and the bias corrected 95% confidence interval does not include 0. These results provide evidence that hypotheses H_1 , H_2 , and H_3 are supported by the collected data.

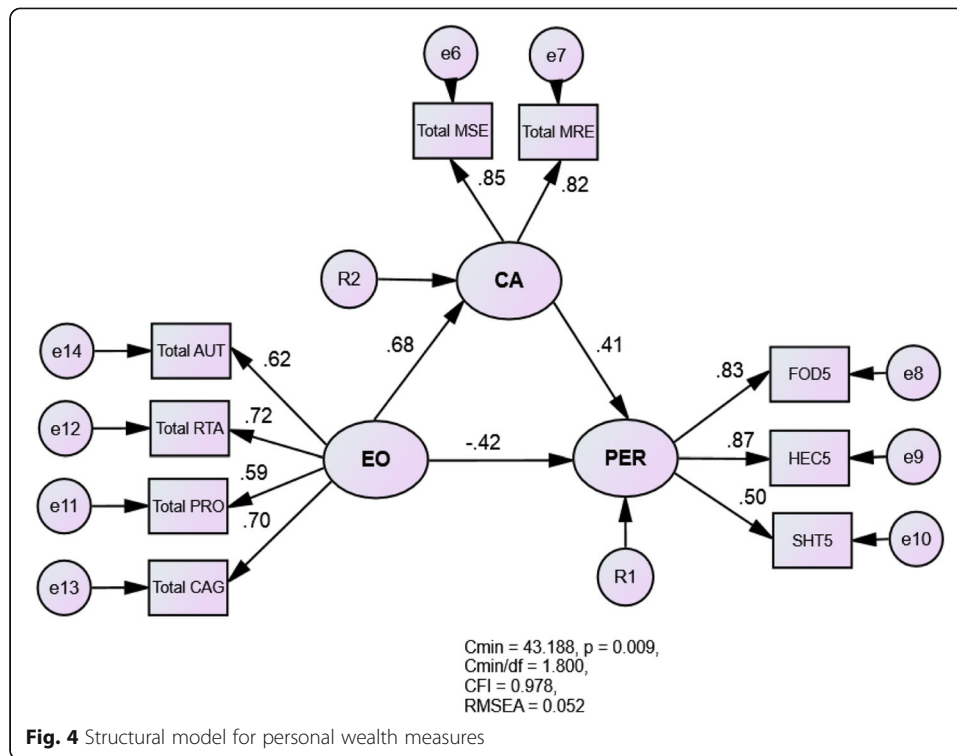
Structural model for personal wealth measures

Figure 4 is the structural model for personal wealth measures. Results show that entrepreneurial orientation has a positive and significant influence on competitive advantage ($\beta = 0.68$, $p < 0.001$) and competitive advantage has a positive and significant influence on SMEs' performance ($\beta = 0.41$, $p < 0.001$).

Sample bootstrapping results for direct and indirect effects for personal wealth measures are shown in Table 4. The results on entrepreneurial orientation—competitive advantage, competitive advantage—SMEs' performance, and entrepreneurial orientation—competitive advantage—SMEs' performance relationships were found to be positive and significant at 5% level of significance. In addition, the bias corrected 95%

Table 3 Direct and indirect effects for firm growth measures

No.	Hypothesis	Coefficient (β)	p value (2-tailed)	Significance ($\alpha = 0.05$)	95% corrected bias (BC)		Decision
					Lower	Upper	
H_1	$CA \leftarrow EO$	0.685	0.016	Significant	0.583	0.775	Supported
H_2	$PER \leftarrow CA$	0.399	0.008	Significant	0.195	0.675	Supported
H_3	$PER \leftarrow CA \leftarrow EO$	0.273	0.007	Significant	0.127	0.507	Supported



confidence intervals were all free from 0 inclusion. These results inform that hypotheses H_1 , H_2 , and H_3 are supported by the collected data.

Discussion

This study aimed at determining the influence of entrepreneurial orientation on SMEs' performance under the mediation of competitive advantage using firm growth and personal wealth performance measures. The influences of entrepreneurial orientation on competitive advantage; competitive advantage on SMEs' performance; and the mediating effect of competitive advantage on entrepreneurial orientation and SMEs' performance relationship were determined using both firm growth and personal wealth measures. Measurement and structural models were developed using the original sample, and then bootstrapping (200 samples) was performed to determine the direct effect of entrepreneurial orientation on competitive advantage, direct effect of competitive advantage on SMEs' performance, and indirect effect of entrepreneurial orientation on SMEs' performance through competitive advantage. Findings were then compared to ascertain the extent the findings from personal wealth measures are closer or far away from findings obtained when using traditional firm growth performance measures.

Table 4 Direct and indirect effects for personal wealth measures

No.	Hypothesis	Coefficient (β)	p value (2-tailed)	Significance ($\alpha = 0.05$)	95% CI bias corrected (BC)		Decision
					Lower	Upper	
H_1	$CA \leftarrow EO$	0.684	0.019	Significant	0.581	0.774	Supported
H_2	$PER \leftarrow CA$	0.406	0.017	Significant	0.122	0.708	Supported
H_3	$PER \leftarrow CA \leftarrow EO$	0.278	0.016	Significant	0.088	0.513	Supported

During measurement model development, two dimensions which are differentiated products (Total DPR) and innovativeness (Total INN) were deleted from both models (measurement models for firm growth and personal wealth measures). The former dimension was deleted from competitive advantage construct due to low factor loadings implying that the dimension poorly reflects the construct. The latter dimension was deleted from entrepreneurial orientation construct due to high modification indices with risk-taking (Total RTA) dimension; this indicates presence of redundant dimension. The deletion of both dimensions may be attributed to the fact that, to the large extent, welding industry SMEs in Tanzania do not often invent their own products, the designs of such products are dictated by instructions from customers (key informant interviews, personal communication, September 6–30, 2017). However, deletion of those dimensions did not affect the constructs' definitions because the retained dimensions reflect the same constructs just like the deleted ones do.

On the one hand, SMEs' performance was treated as a unidimensional construct reflected by firm growth measures, and on the other hand, SMEs' performance was treated as a unidimensional construct reflected by personal wealth measures. In both cases, findings show that factor loadings for all items were greater or equal to 0.50 and significant at 0.05 level of significance indicating that the items measured the same underlying construct. Further analysis on the SMEs' performance construct using firm growth measures revealed that CR value was 0.850 and AVE was 0.663. Furthermore, using personal wealth measures, SMEs' performance construct yielded CR value of 0.788 and AVE value of 0.565. AVE values higher than 0.5 and CR values higher than 0.6 indicate acceptable construct validity and reliability, respectively (Zainudin, 2015). Based on these findings, SMEs' performance construct reflected by firm growth and personal wealth measures passed construct validity and reliability tests.

The study formulated three hypotheses to accomplish the specific objectives. Firstly, it was hypothesized that entrepreneurial orientation positively influences competitive advantage. This hypothesis was supported by both firm growth and personal wealth measures using the original sample and the bootstrapped samples. The findings comply with the resource-based view which postulates that firm's competitive advantage emanates from resources owned or controlled by the firm. Amid scanty literature, investigating the influence of entrepreneurial orientation on competitive advantage, similar findings have been reported by Mustafa et al. (2015).

Secondly, it was hypothesized that competitive advantage positively influences SMEs' performance. As in the case of first one, both firm growth and personal wealth measures supported the hypothesis using the original sample and the bootstrapped samples. The findings confirm the resource-based view which postulates that competitive advantage promotes firm performance. These findings are in line with the findings reported in past studies (see Ismail et al., 2010; Majeed, 2011; Muafi & Roostika, 2014; Wijetunge, 2016; Zhou et al., 2009).

Thirdly, the study hypothesized that competitive advantage mediates the relationship between entrepreneurial orientation and SMEs' performance. Findings from bootstrapping data supported the proposition for both firm growth and personal wealth measures. The findings are in line with the resource-based view which postulates that competitive advantage and firm performance emanate from resources owned or controlled by the firm. Such findings have also been reported by Mustafa et al. (2015).

Although it was not possible to compare the findings of this study with findings from past studies using personal wealth performance measures due to lack of literature on the subject, it is interesting to note that the coefficient values for all hypotheses using firm growth measures are very close to the coefficient values for all hypotheses using personal wealth measures (see Table 3 and Table 4). Thus, it is evident that the proposition of Eijdenberg (2016) that personal wealth measures can be used in least developed countries to measure SMEs' performance has been supported in this study.

Conclusion, implication, and recommendations

Conclusion

Based on the findings and discussion of the same, it is evident that firm growth and personal wealth performance measures produced similar findings. Thus, this study concludes that when both firm growth and personal wealth performance measures were used: first, entrepreneurial orientation positively and significantly influenced competitive advantage; second, competitive advantage positively and significantly influenced SMEs' performance; and third, competitive advantage mediated the relationship between entrepreneurial orientation and SMEs' performance. Although firm growth measures have been developed in western world, this study has revealed that the measures are still applicable in least developed countries. Despite the novelty of personal wealth performance measures, it has been demonstrated that the measures are as good as the firm growth measures.

Contribution of the study

Guided by the resource-based view, this study determined the influence of entrepreneurial orientation on SMEs' performance under the mediation of competitive advantage. Firm growth and personal wealth measures were used as indicators of SMEs' performance. This study has contributed to the existing literature by providing empirical evidence on the extent entrepreneurial orientation influences SMEs' performance under the mediation of competitive advantage using personal wealth as measures of SMEs' performance which are food purchasing, health care paying, and shelter acquisition capabilities. The need to use these performance measures in Tanzania and other least developed countries was raised in the work of Eijdenberg (2016). However, since then, to the best knowledge of the authors, no study has attempted to obtain empirical evidence on their suitability as SMEs' performance measures in Tanzania. Use of both firm growth and personal wealth performance measures distinguishes this study from past studies.

Implication of the findings

Entrepreneurial orientation has been used as a firm resource in form of processes (Barney, 1991), this study has proved that the influence of entrepreneurial orientation on SMEs' performance is mediated by competitive advantage. The findings of this study inform that the resource-based view is suitable to explain not only physical resources but also intangible resources such as entrepreneurial orientation. In modern business environment, firm performance is much driven by intangible resources than physical resources (Connor, 2002). Therefore, firm owners-managers ought to invest not only in physical resources but also in intangible resources in order to create competitive advantage and eventually promote SMEs' performance.

In practice, given the differences in paradigms in which entrepreneurs in western world and least developed countries operate; whereby the former cohort is motivated by opportunities, and the latter is motivated by necessities (Eijdenberg, 2016), time has come for researchers and other stakeholders in least developed countries to embrace use of both personal wealth and traditional firm growth performance measures to capture the whole picture of SMEs' performance. After investment of resources in a firm for some time, firm owners-managers tend to stop investing anymore; hence, use of firm growth measures such as growth in assets, sales, and number of employees may indicate poor SMEs' performance while much of earnings from SMEs are spent to sustain the livelihood of entrepreneurs and the associated accumulation of wealth. Since this wealth is obtained from the enterprises owned and managed by entrepreneurs, although there may not be significant firm growth over a certain measurement period, it may not be right to claim poor performance of such SMEs while the lifestyle of entrepreneurs keeps changing positively. This reality prompts the need to use both personal wealth and traditional firm growth performance measures when assessing SMEs' performance in least developed countries. In this regard, the findings from this study are expected to kindle debates on the suitability of personal wealth as SMEs' performance measures. The findings are also expected to stand as a stepping stone in future studies.

Limitation of the study

The data for this research were collected from the welding industry in Tanzania; thus, the findings cannot be generalized beyond the welding industry. Furthermore, it is well known that competitive advantage and SMEs' performance can be measured using various dimensions. In this study, measurement of competitive advantage is limited to three dimensions which are differentiated products, market sensing, and market responsiveness. Likewise, measurement of SMEs' performance is limited to firm growth measures (assets, sales, and employees) and personal wealth measures (food purchasing, health care paying, and shelter acquisition capabilities).

Recommendations

This study has revealed the interconnection between the entrepreneurs' earnings from enterprises and their lifestyle as related to SMEs' performance. Firm growth measures are not the only indicators of SMEs' performance. Therefore, it is hereby recommended that measurement of SMEs' performance whether in research works or practice should not be confined only to firm growth measures but also to personal wealth measures. Concurrent use of both measures in least developed countries will appropriately portray the SMEs' performance than use of firm growth only.

This study has attempted to investigate the influence of entrepreneurial orientation on SMEs' performance under the mediation of competitive advantage. The findings provide promising avenues to investigate the influence of more constructs such as learning orientation on SMEs' performance under the mediation of competitive advantage using the same firm growth and personal wealth performance measures. Such studies will establish whether the findings of this study are specific to entrepreneurial orientation construct or applicable to other constructs.

Abbreviations

AMOS: Analysis of moment structures; AST5: Assets growth for the past 5 years; AVE: Average variance extracted; BC: Bias corrected; CA: Competitive advantage; CFA: Confirmatory factor analysis; CI: Confidence interval; Cmin: Minimum chi-square statistic; CR: Construct reliability; df: Degrees of freedom; EMP5: Growth in the number of employees for the past 5 years; EO: Entrepreneurial orientation construct; FOD5: Food purchasing capacity for past 5 years; HEC5: Health care paying capacity for past 5 years; MI: Modification Index; SAL5: Sales growth for the past 5 years; PER: Performance construct; SEM: Structural equation modeling; SHT5: Shelter acquisition capacity for past 5 years; SMEs: Small and medium enterprises; SPSS: Statistical Package for Social Sciences; Total AUT: Total score for autonomy construct; Total CAG: Total score for competitive aggressiveness construct; Total INN: Total score for innovation construct; Total MRE: Total score for market responsiveness; Total MSE: Total score for market sensing; Total PRO: Total score for pro-activeness construct; Total RTA: Total score for risk-taking construct

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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 Innovation and Entrepreneurship* 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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