Dimensions of entrepreneurial orientation and small and medium enterprise performance in emerging economies

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The removal of trade barriers has encouraged the entry of new competitors into formerly protected markets. This situation creates pressure on many small and medium enterprises (SMEs) in emerging economies such as Tanzania. Using a survey method and cross-sectional research design, the research examines three dimensions of entrepreneurial orientation (EO), namely: pro-activeness, risk-taking and competitive aggressiveness. Understanding their relationships and variance may help to improve our ability to explain SME performance. The findings contribute to how SME performance in emerging economies can be enhanced to enable SMEs to face challenges posed by competitor influx in the context of an open market economy. The findings indicate a strong relationship between EO dimensions and performance, with risk-taking and competitive aggressiveness moderating the effect of pro-activeness. The proposed model could predict 72% of the variance explained in SME performance.

Keywords: small business; entrepreneurial; performance; entrepreneurial orientation dimensions; emerging economies

1. Introduction

An African Proverb states that 'If the rain falls, it falls on everybody', referring to the fact that opportunities are available for both small and large businesses. It also holds true for the plight of small businesses in emerging economies such as Tanzania. Many of these emerging economies are under pressure due to movements away from a closed to an open market economy. Business owners and governments must be aware of the opportunities for small and medium enterprises (SMEs). In sub-Saharan Africa, the emerging economy of Tanzania referred to in this study, as well as in other emerging economies such as China, Asia, South Africa and Brazil, SMEs form the largest group within the private sector. SMEs are estimated to constitute over 90% of all active enterprises (Kozak, 2007). The global removal of trade barriers in the past three decades has increased internationalisation of markets and enhanced entry of new competitors into formerly protected markets. The shift from a state-protected economy to an open market economy introduced new operating conditions, markets and challenges. Two previous studies indicate that SMEs are not responding successfully to these challenges and are losing customers as a result of colloquial competition, resulting in poor enterprise performance (Ellis & Mdoe, 2003; Kristiansen et al., 2005).

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Entrepreneurial orientation (EO) refers to methods, practices and decision-making styles of managers or business owners use to act entrepreneurial (Tang et al., 2008). While research has established that dimensions of EO are positively related to performance (Li et al., 2008), little information exists in emerging economies on how the dimensions of pro-activeness, competitive aggressiveness and risk-taking contribute to performance. Lumpkin & Dess (1996) argue that dimensions of EO vary with the type of industry and the context in which the firm is operating. Welter & Smallbone (2011:107) emphasise a need to interpret entrepreneurial behaviour in the context of the socio-economic, political and cultural environment in which it occurs. In the light of these arguments, this paper considers it crucial to examine the three dimensions of EO in the context of the emerging economies.

In this regard, this paper examines the relationship between dimensions of EO and SME performance. While previous studies have emphasised the relationship between EO and SME performance (Covin et al., 2006:59; Li et al., 2008), this study goes beyond the traditional approach to examine the amount of variance explained in SME performance by individual dimensions of EO. This will enable business owners and governments to identify the relevant predictors of SME performance in the context of emerging economies.

The next section covers the literature review and the hypotheses that guided the research, followed by the research method used to collect and analyse data, the results and discussions thereof, as well as the contributions and limitations.

2. Theoretical contribution

The concept of EO was first introduced by Khandwalla (1977) and Miller (1983). According to these authors, firms with high EO are alert to new opportunities; subsequently, exploitation will strengthen their competitive positions. Li et al. (2008) associated EO with the first mover advantage, a tendency to take advantage of emerging opportunities to enhance a firm's performance. This is also applicable to entrepreneurial societies driven by high need for achievements (Hofstede, 1980 in Nieman & Nieuwenhuizen, 2009). This study argues that EO is an important variable in SMEs in emerging economies. Such environments are characterised by new emerging opportunities resulting from free movement of capital, goods and technologies. This allows entrepreneurs to exploit opportunities with the minimum boundary restriction. SMEs in this former protected environment often lack EO to recognise or seize opportunities presented.

2.1 Dimensions of entrepreneurial orientation

Miller (1983) identified three dimensions of EO, namely: innovation, risk-taking and pro-activeness. Covin & Slevin (1991), building on Miller's work, referred to EO as a strategic posture reflecting how firms implicitly and explicitly choose to compete. This may suggest that EO is a relevant construct in emerging economies confronted by stiff competition in an open market economy. While Miller (1983) emphasised three dimensions of EO, a popular model of EO suggesting five dimensions added autonomy and competitive aggressiveness to Miller's conceptualisation (Lumpkin & Dess, 1996, 2001; Walter et al., 2006). In the context of the study, this research

examines three dimensions of EO, namely: pro-activeness, risk-taking and competitive aggressiveness.

New entrants and products coming into the business environment expose customers to new brands that frequently change their preferences and behaviour. To address these dynamics, this paper postulates that pro-active behaviour, risk-taking and competitive aggressiveness may add to the SMEs' competitive advantage necessary to attain and sustain performance in emerging markets. The pro-activeness posture is considered appropriate in emerging economies to seize opportunities ahead of their rivals. However, to be the first in the market that is associated with pro-active behaviour requires an ability to take risks. In the context of an open market economy, rivals move freely and quickly to seize the same opportunities. In this view, this study considers competitive aggressive behaviour as crucial to defend already developed competitive advantage. These arguments justify a need to study the relationships between the three dimensions of EO and performance.

2.2. Relationship between dimensions of EO and performance

With the understanding that EO is a construct that varies according to the context, the next sections present a review of the dimensions of EO.

2.2.1 Pro-activeness and performance

Pro-activeness is an opportunity-seeking behaviour, a forward-looking perspective involving the introduction of new products or services ahead of competitors and acting in anticipation of future demand to create change and shape the environment (Lumpkin et al., 2009; Monsen & Boss, 2009). Pro-activeness, according to Lumsdaine & Binks (2009), supports disruptive innovation leading to pro-active firms sensing opportunities, taking risks, innovating products and/or services, as well as administrative processes. They pro-actively identify gaps in the market and respond to fill them with a series of innovations. Lumpkin & Dess (2001) support this argument by pointing out that pro-activeness is a firm's response to address unattended market opportunities. This approach is needed to address the unarticulated needs of the customers and to gain competitive advantage.

Pro-active behaviour thus capitalises on being the first to seize opportunities, also called first mover's advantage (Li et al., 2008), the first to offer value products and services to customers, build the firm's reputation, and attract and retain customers to continue buying products and services offered by them. Pro-active behaviour may benefit SMEs in emerging economies characterised by new emerging opportunities and is relevant in strategic entrepreneurship. This argument leads to the formulation of Hypothesis 1:

> Hypothesis 1: Pro-activeness is positively related to SME performance in emerging economies.

2.2.2 Risk-taking and performance

The literature differentiates between risk and uncertainty. Entrepreneurs, as well as SMEs, are more likely to operate in a risky environment than in an uncertain environment. Operating in the former protected economies made it easier to predict

the outcome of the decisions made (Wickham, 2006). It is within this context that entrepreneurs are reported to take calculated risks when they decide to venture into new investments or markets (Morris & Paul, 1987). In situations where entrepreneurs take calculated risks, they collect relevant information that enables them to make informed decisions. However, Keh et al. (2007) argue that the process of information acquisition and utilisation involves risk due to the commitment of substantial effort and costs. The outcome may not necessarily ensure the realisation of the expected outcome.

The investment of resources in the dynamic and competitive environment where factors are continuously changing involves risks. Lumpkin et al. (2009) and Monsen & Boss (2009) describe risk-taking as a tendency to take bold actions, such as venturing into unknown or new markets, committing a large portion of resources to ventures with uncertain outcomes and/or borrowing heavily for the purpose of investing in uncertain business. Risks can be associated with several factors, such as political instability, unsupportive policy and regulatory environment and information asymmetry, which may impede the realisation of a firm's objectives. Tang & Murphy (2012), supporting this argument, point out that firms operating in less developed business support services and weak regulatory environments, experience less protection and are often compelled to unethical behaviour, such as corrupt transactions, to legitimatise their business.

The literature has long associated risk-taking with firm performance. Tang & Murphy (2012) argue that in a perceived high-risk business environment, few people are willing to attempt new initiatives. Those who are willing to do so are likely to generate more profit, enhancing the firm's growth, if their businesses succeed. One would thus expect a positive relationship between risk-taking and a firm's performance as reported in the developed economies (Keh et al., 2007). It is from this background that Hypothesis 2 was formulated:

> Hypothesis 2: Risk-taking is positively related to SME performance in emerging economies.

2.2.3 Competitive aggressiveness and performance

The competitive environment requires firms to be alert to the environmental dynamics and respond aggressively to rivals to maintain or attain a competitive position. Competitive aggressiveness is a driver to face the intense competition posed by rivals. Baker & Sinkula (2009) support this argument that a dynamic market environment demands and is defined by aggressive product development, customer support systems and a highly adaptable product process in order to win the market. Miller (1983: 771) identified three dimensions of entrepreneurial orientation namely innovation, risk taking and pro-activeness, and emphasised that competitive aggressiveness implies beating competitors to the punch. This implies that SMEs need to compete with the competitive intensity of new entrants into the market. Competitive aggressiveness is the firm's response to competitors in an effort to protect its competitive market position.

Drawing from previous studies, this study suggests that competitive aggressiveness may imply a tendency to challenge competitors to achieve entry or improve their competitive position to outperform industry rivals in the marketplace (Lumpkin & Dess, 2001; Monsen & Boss, 2009). In an open market economy where SMEs operate freely and

customers are exposed to a wide range of products, tastes and preferences, a competitive aggressive posture might be relevant to protect and attain a competitive market position. This may suggest that competitive aggressiveness is more of a response to rivals' competitive threats than a posture to defend the competitive advantage or secure new competitive advantage over rivals. Competitive advantage has long been associated with a firm's performance. This argument leads to the formulation of the Hypothesis 3:

> Hypothesis 3: Competitive aggressiveness is positively related to SME performance in emerging economies.

2.3 Amount of variance explained in SME performance

Understanding the relationship between variables does not explain to what extent the variable accounts for the outcome variable (performance). This argument is centred on the fact that norms of EO are expected to vary among and within industries (Schindehutte et al., 2008), as well as in the context in which the firm operates. Lumpkin & Dess (1996) support this argument by emphasising the use of individual dimensions of EO when studying a firm's performance. In this regard, it is considered crucial to examine the percentage of variance that can be explained in SME performance by the individual dimensions of EO used to study SME performance in emerging economies. Since EO has been viewed as multidimensional construct (Li et al., 2008), it is compelling to believe that each dimension accounts for a different amount of variance in SME performance. The higher the degree of variance accounted for in the outcome variable by a given predictor, the higher the value of the predictor (Field & Miles, 2010; Pallant, 2011).

In summary, it is confirmed that EO has long been associated with the improvement of firms' competitive advantage that leads to performance (Li et al., 2008). However, this link is likely to be influenced by a firm's pro-active behaviour and willingness to take calculated risks (Morris & Paul, 1987). Lumpkin & Dess (2001) argue that pro-activeness is a tendency to be the first to seize an opportunity or create a business idea and emphasises that it is more suitable in dynamic environments where opportunities are emerging. Conversely, in competitive environments, competitive aggressive posture is more relevant to defend acquired competitive advantage. This implies that while pro-activeness is a firm's response to opportunities, competitive aggressiveness is a firm's response to rivals in the effort to defend competitive advantage. Risk-taking, however, is associated with the firm's performance, because a firm that is willing to take calculated risks is likely to gain benefits from business if it succeeds before its rivals seize the same opportunities.

The EO dimensions in this paper are associated with the SME performance and it is plausible that they account for the significant extent of variance in SME performance. This argument leads to the formulation of Hypotheses 4, 5 and 6:

> Hypothesis 4: Pro-activeness explains a significant amount of variance in SME performance in emerging economies.
>
> Hypothesis 5: Risk-taking explains a significant amount of variance in SME performance in emerging economies.
>
> Hypothesis 6: Competitive aggressiveness explains a significant amount of variance in SME performance in emerging economies.

3. Research methodology

A survey method was used to collect data from SMEs in three industries, namely: manufacturing, service and retail. Owners/managers were interviewed in three administrative regions of Tanzania, namely: Dar-es-Salaam, Morogoro and Iringa. The questionnaire on the dimensions of EO was adapted from previous studies (Lumpkin & Dess, 1996; Le Roux et al., 2004). Minor modifications to suit the Tanzanian environment were made. The adjustment of the questionnaire was made after a pilot study that had been carried out in 20 firms covering Dar-es-Salaam, Morogoro and Iringa. The pilot test respondents were excluded from the final analysis.

The cross-sectional research design was used to collect data at one point in time (Wilson, 2010). For the sake of increasing sampling efficiency, a stratified probability random sampling method was used, in which firm size and type of industry formed the basis for stratification (Nieto & Santamaria, 2010). A total of 360 SMEs owners/managers were interviewed and, after reviewing the completeness and eligibility of questionnaires, 291 questionnaires were retained with an approximate response rate of about 81%. The sample was considered adequate to proceed with the data analysis. The definition of SME adopted in this study is, according to the Ministry of Industry and Trade in Tanzania, a firm with fewer than 100 employees or not more than TAS 800 million capital investment (Ministry of Industry and Trade, Tanzania, 2003).

3.1 Measurements

To examine construct validity, items across the scale were subjected to a principal component factor analysis with oblique rotation. The oblique rotation assumed the existence of the relationship among extracted factors.

3.2 Independent variables

Different scholars have developed measures of EO (Lumpkin & Dess, 2001; Krauss et al., 2005). Measurement tools developed by Covin & Slevin (1989) and Lumpkin & Dess (2001) were adapted. The pro-activeness dimension used four measurement items in order to assess how the firm was able to seize an opportunity in relation to its competitors (Monsen & Boss, 2009). The risk-taking dimension also used four measurement items, which focused on how far the firm is willing to venture into the unknown (Lumpkin & Dess, 1996; Monsen & Boss, 2009). The competitive aggressiveness dimension used five measurement items, which intended to solicit information on how a firm relates with its rivals. The owners/managers were asked to rate the extent of their agreement on their firm's compliance with a set of statements based on the measurement items of dimensions of EO. The questionnaire used a five-point Likert scale to measure different variables relating to a specific dimension of EO. A scale ranging from 1 to 5 was used, with scores from 1 = strongly disagree to 5 = strongly agree.

3.3 Dependent variables

Previous research suggests that performance is multidimensional in nature and it is beneficial to integrate different dimensions of performance in empirical studies (Walter et al., 2006; Wolff & Pett, 2006). To capture SME performance, this study used profit growth, return on asset (ROA) and return on investment (ROI). Owing to

the reluctance of SMEs' owners/managers to give detailed financial information, indirect questions were asked, such as total average sales, total average costs, investment costs and average total asset value. The responses from these questions were used as inputs to compute the performance measures, such as profit, ROA and ROI, using Equations (1), (2) and (3), respectively:

$$\text{Profit} = \left(\text{average total sales}\right) - \left(\text{average total costs}\right) \tag{1}$$

$$\text{ROA} = \frac{\text{net income}}{\text{average total assets}} \tag{2}$$

$$\text{ROI} = \frac{\text{gain from investment } - \text{cost of investment}}{\text{cost of investment}} \tag{3}$$

3.4 Data analysis

Factor analysis was used to determine the dimensionality of the constructs to see whether the constructs were uni-dimensional. Factor analysis is the data analysis procedure used to reduce the number of variables into a small number of factors that can easily be managed. The extracted factors were used for Pearson's correlation and multiple regressions. Prior to hierarchical regressions, the data were tested for compliance with the assumptions (Field, 2009). While Pearson's correlation examines the relationship amongst variables, the hierarchical regressions examine the relationship between dimensions of EO and SME performance and the amount of variance explained in SME performance by the dimension of EO.

To determine whether the amount of variance (R^2) explained in SME performance was significant, the F-ratio was calculated (see Equation (4)) in which 'N' is the number of cases and 'k' is the number of predictors in the model:

$$F = \frac{(N - k - 1) \times R^2}{k(1 - R^2)} \tag{4}$$

In events where more predictors were added, such as risk-taking and competitive aggressiveness in Model 2 and Model 3 respectively, the R^2 change (ΔR^2) and F-change (ΔF) were used to make a judgement as to whether the added variable had made a significant contribution to the overall variance explained in the performance after controlling the effects of other predictors in the model. The F-ratio change was computed using a similar formula presented in Equation (1), except that the R^2 change and the R^2 in the new model corresponded with the parameters in the respective model. Equation (5) includes the following parameters R_2^2 , R_{Change}^2 and k_{Change} :

$$F_{Change} = \frac{(N - k_2 - 1) \times R_{Change}^2}{k_{Change}(1 - R_2^2)} \tag{5}$$

The hierarchical regression not only assists in determining what unique variances are explained by each independent variable, but also helps us to understand more fully the relationship with performance.

4. Results

The distribution of businesses reflects the reality of business distribution in Tanzania. The majority segment in the study were small businesses that account for about 66% of the sample, large businesses 3% of the sample, micro businesses 17% of the sample and medium businesses 14% of the total number of businesses surveyed (Table 1). The distribution of businesses presented in these findings is the reflection of the real situation in terms of business distribution in Tanzania, which is dominated by small business with very few medium and large businesses. The descriptive data for level of education, age of business and firm size are set out in Table 1.

Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's test for sphericity are set out in Table 2. The KMO was intended to test whether the sample was adequate to run factor analysis. The Bartlett test examined the suitability of data for factor analysis.

The KMO measure of 0.899 shows that the high sampling adequacy for the factor analysis exceeds the cut-off point of 0.5 (Kaiser, 1970, 1974). The significant Bartlett's test at $p < 0.001$ suggests that the original correlation matrix is significantly different from an identity matrix, which confirms the existence of correlations between test variables that subsequently support the suitability of the data for factor analysis.

The compliance of data for factor analysis allows the credible interpretation of the rest of the output. Principal component factor analysis for factor extraction, as suggested by Field (2009), was adapted. Table 3 presents a list of eigenvalues associated with each factor before extraction, after extraction and after rotation.

Table 1: Descriptive data

	Frequency	Percentage
Level of education		
Primary education and below	65	22.34
Secondary education	86	29.55
Certificate	62	21.31
Diploma and graduate	78	26.80
Total	291	100.00
Age of business		
5 years or less	98	33.68
6 to 10 years	107	36.77
11 to 20 years	67	23.02
21 years or more	19	6.53
Total	291	100.00
Firm size		
Micro enterprises	50	17
Small enterprises	193	66
Medium enterprises	40	14
Large enterprises	8	3
Total	285	100.00

Table 2: Kaiser–Meyer–Olkin measure of sampling adequacy and Bartlett's test

KMO measure of sampling adequacy	0.899
Bartlett's test of sphericity	
Approximate chi-square	0.00026
Degrees of freedom	78
Significance	0.000

According to Pallant (2011), the eigenvalues for each factor represent the amount of total variance explained by that particular linear component. The analysis then extracted all factors with eigenvalues of 1.0 and above, based on Kaiser's (1970) recommendation of which unrotated solution retained three factors that explained 72.510% of the total variance. The oblique rotation, where the assumption is that the extracted factors were related, was used to optimise the effect of the factor structure and equalise the importance of each factor. Before rotation, Factor 1 (competitive aggressiveness) accounted for considerably more variance (50.55%) compared with 12.326% and 9.634% of variance for Factor 2 (pro-activeness) and Factor 3 (risk-taking), respectively. After rotation, however, Factor 1 (competitive aggressiveness) accounted for only 26.015% of variance compared with 24.578% and 21.918% of variance for Factor 2 (pro-activeness) and Factor 3 (risk-taking), respectively. It seems as if the three distinct factors account for the inter-correlations between the scale items. Although competitive aggressiveness explains the most variance, pro-activeness and risk-taking also explain significant amounts of common variance with a relatively low amount of variance compared with competitive aggressiveness.

A summary of the pattern matrix for exploratory factor analysis after oblique rotation is set out in Table 4. Field & Miles (2010) suggest that in oblique rotation it is advisable to present results of both the pattern matrix (Table 4) and the structure matrix (Table 5) to be able to compare the factor structure and confirm whether there were correlations among factors as a justification of using oblique rotation.

Examining the pattern and structure matrices, the findings show a similar pattern of factor loadings. However, the 'double loadings' observed on a structured matrix (Table 5) confirm the existence of correlations among factors. The prevalence of correlations amongst factors supported the use of oblique rotation that assumed relationship among extracted factors (Field, 2009).

The relationship among variables was examined using Pearson's correlation to determine the nature of their relationship. Preliminary analyses were performed and SME performance measures – namely: profit growth, ROA and ROI – were natural log-transformed to comply with the assumptions of normality, linearity and homoscedasticity to ensure credibility of the findings. A summary of the correlation matrix of test variables is set out in Table 6.

The SME performance measures – namely: LnProfit, LnROA and LnROI – recorded strong correlations. For example, LnProfit and LnROA ($r = 0.765^{**}$), LnProfit and LnROI ($r = 0.731^{**}$) and LnROA and LnROI ($r = 0.917^{**}$). Following a strong correlation among SME performance measures, it was compelling to create a composite SME performance, which combined LnProfit, LnROA and LnROI. From

Table 3: Total variance explained by extracted factors

	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
Component	**Total**	**% of variance**	**Cumulative %**	**Total**	**% of variance**	**Cumulative %**	**Total**	**% of variance**	**Cumulative %**
1	6.571	50.550	50.550	6.571	50.550	50.550	5.047	26.015	26.015
2	1.602	12.326	62.876	1.602	12.326	62.876	5.042	50.592	24.578
3	1.252	9.634	72.510	1.252	9.634	72.510	4.697	72.510	21.918
4	0.794	6.106	78.616						
5	0.573	4.404	83.020						
6	0.430	3.308	86.328						
7	0.361	2.773	89.102						
8	0.345	2.651	91.753						
9	0.307	2.365	94.118						
10	0.284	2.182	96.299						
11	0.212	1.630	97.930						
12	0.193	1.487	99.416						
13	0.076	0.584	100.000						

Note: Extraction method: principal component analysis.

Table 4: Pattern matrix for exploratory factor analysis after oblique rotation

	Component		
Item	**1**	**2**	**3**
Competitive aggressiveness			
Firm typically seeks to avoid competitive clashes, preferring a 'live and let live' posture	0.951	0.035	0.094
Firm makes no special effort to take business from competitors	0.876	0.09	0.054
In response to competitor's actions, the firm is very aggressive	0.825	0.070	0.047
Firm typically adopts a very competitive 'undo the competitors' posture	0.823	0.022	0.034
Firm offers products/services to customers in a different way from competitors	0.223	0.197	0.131
Pro-activeness			
In dealing with competitors, the firm is seldom the first business to introduce new products/services	0.076	0.947	0.036
Firm is always the first to introduce new products/services	0.022	0.900	0.040
In dealing with competitors, the firm typically responds to actions competitors initiate	0.030	0.898	0.038
Firm has a tendency to be ahead of competitors in introducing novel business ideas or products/services	0.028	−0.895	0.032
Risk-taking			
Firm likes to take big financial risks	0.074	0.015	0.907
Firm invests only in business that ensures success and profitability	0.017	0.023	0.835
Firm believes that higher financial risks are worth taking for higher rewards	0.017	0.013	0.756
Firm pursues new business ideas while well aware that some will fail	0.146	0.043	0.752

Notes: Extraction method: principal component analysis. Rotation method: oblimin with Kaiser normalization.

this point onwards the SME performance referred to in this paper was the overall performance that combined the three performance measures. The findings also showed that firm size was significantly negatively correlated with the overall SME performance ($r = -0.167^{**}$), suggesting that small firms recorded high performance compared with large firms.

The SME performance recorded significant positive correlation with pro-activeness ($r = 0.485^{**}$) and competitive aggressiveness ($r = 0.548^{**}$), while it recorded significant negative correlation with risk-taking ($r = -0.676^{**}$). The pro-activeness recorded significant positive correlation with risk-taking ($r = 0.424^{**}$) and significant negative relationship with competitive aggressiveness ($r = -0.323^{**}$). However, competitive aggressiveness recorded significant negative relationship with risk-taking ($r = -0.306^{**}$). The fact that these correlations existed suggested that the dimensions of EO were interrelated and it was reasonable not to assume independence among factors, supporting the use of oblique rotation.

A sequential or hierarchical regression was used to examine the relationship between dimensions of EO and SME performance (Hypotheses 1, 2 and 3), and the amount of variance explained in SME performance by individual dimensions of EO, namely: pro-activeness, risk-taking and competitive aggressiveness (Hypotheses 4, 5 and 6).

The results on the relationship between dimensions of EO and SME performance are set out in Table 7.

Table 5: Structure matrix for exploratory factor analysis after oblique rotation

Item	Component		
	1	2	3
Competitive aggressiveness			
Firm makes no special effort to take business form competitors	0.911	0.488	0.541
In response to competitors' actions, the firm is very aggressive	0.887	0.520	0.536
Firm typically seeks to avoid competitive clashes, preferring a 'live and let live' posture	0.882	0.409	0.412
Firm typically adopts a very competitive 'undo the competitors' posture	0.831	0.420	0.476
Firm offers products/services to customers in a different way from competitors	0.424	0.403	0.402
Pro-activeness			
Firm is always the first to introduce new products/services	0.508	0.931	0.502
Firm has a tendency to be ahead of competitors in introducing novel business ideas or products/services	0.507	0.926	0.494
In dealing with competitors, the firm typically responds to actions which competitors initiate	0.472	0.895	0.427
In dealing with competitors, the firm is seldom the first business to introduce new products/services	0.398	0.890	0.396
Risk-taking			
Firm likes to take big financial risks	0.418	0.401	0.859
Firm pursues new business ideas while well aware that some will fail	0.582	0.494	0.853
Firm invests only in business that ensures success and profitability	0.430	0.385	0.814
Firm believes that higher financial risks are worth taking for higher rewards	0.439	0.399	0.771

Notes: Extraction method: principal component analysis. Rotation method: oblimin with Kaiser normalization.

4.1 Revisiting the hypotheses

The next sections briefly revisit the hypotheses that guided the research study.

4.1.1 Hypotheses 1, 2 and 3

The above findings showed that pro-activeness ($\beta = 0.247^{**}$) and competitive aggressiveness ($\beta = 0.548^{**}$) recorded significant positive relationships with SME performance at $p < 0.01$, supporting Hypothesis 1 and Hypothesis 3, respectively. On the other hand, risk-taking ($\beta = -0.747^{**}$) recorded a significant negative relationship with SME performance at $p < 0.01$, failing to support Hypothesis 2 (Table 7). Hypothesis 2 was not confirmed because risk-taking was expected to have a positive relationship with SME performance.

4.1.2 Hypotheses 4, 5 and 6

Sequential regression was used to examine the amount of variance explained in SME performance by individual dimensions of EO – namely: pro-activeness, risk-taking and competitive aggressiveness – and the findings were presented in Models 1 to 3 respectively (Table 7). According to Pallant (2011), the R^2 in the regression measures the amount of variance explained in the outcome variable for the case of this study SME performance. ΔR^2, on the other hand, measures the change in the amount of variance (R^2) as a result of adding a new predictor in the model, whilst holding the effect of other predictors constant.

Table 6: Correlation matrix for extracted factors and SME performance

	Test variable								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Type of industry									
2. Firm size	−0.412**								
3. Level of education	−0.343**	0.410**							
4. SME performance	−0.123	−0.167**	0.339**						
5. LnProfit	−0.178**	0.140*	0.482**	0.574**					
6. LnROA	0.023	−0.272**	0.258**	0.416**	0.765**				
7. LnROI	0.009	−0.293**	0.233**	0.398**	0.731**	0.917**			
8. Competitiveness	−0.137*	0.119*	0.330**	−0.548**	0.489**	0.358**	0.348**		
9. Pro-activeness	0.051	−0.095	−0.288**	0.485**	−0.532**	−0.401**	−0.358**	−0.323**	
10. Risk-taking	−0.121*	0.138*	0.398**	−0.676**	−0.618**	0.431**	−0.393**	−0.306**	0.424**

Notes: *Correlation is significant at the 0.05 level (two-tailed). **Correlation is significant at the 0.01 level (two-tailed).

Table 7: Parameter estimates (β) and model parameters for dimensions of EO

	Models		
	Model 1[a]	**Model 2[b]**	**Model 3[c]**
Dimensions of Entrepreneurial Orientation		Parameter Estimates (β)	
Competitive aggressiveness	–		−0.747**
Risk taking		−0.247**	−0.518**
Pro-Activeness	0.548**	0.627**	0.486**
Model Parameters*			
R^2	0.300	0.355	0.795
F – ratio	123.794	79.164	639.933
Adjusted R^2	0.297	0.350	0.792
R^2 Change	0.300	0.055	0.440
F-Change	123.794	24.478	614.413
Sig. F-Change	0.000	0.000	0.000

[a]Predictors: (Constant), Pro-activeness; [b]Predictors: (Constant), Pro-activeness, Risk taking; [c]Predictors: (Constant), Pro-activeness, Risk taking, Competitive aggressiveness; *[d]Dependent Variable: SME Performance

In events where more predictors were added, such as risk-taking and competitive aggressiveness in Model 2 and Model 3 respectively, the ΔR^2 and ΔF were used to make judgement on whether the added variable had significant contribution to the overall variance explained in the performance after controlling the effects of other predictors in the model.

The findings presented in Table 7, Model 1 and Figure 1 show that when only competitive aggressiveness was included in the model the amount of variance explained in SME performance was $R^2 = 0.30$, $F = 123.794$ ($p < 0.01$). The addition of pro-activeness and risk-taking in Model 2 and Model 3 showed that the amount of total variance explained increased to $R^2 = 0.355$, $F = 79.164$ ($p < 0.01$) and $R^2 = 0.795$, $F = 369.933$ ($p < 0.01$), respectively. The ΔR^2 and ΔF in Model 2 and Model 3 represented a specific amount of variance explained by individual dimensions of EO, namely: pro-activeness $\Delta R^2 = 0.002$, $\Delta F = 24.478$ ($p < 0.01$), and risk-taking $\Delta R^2 = 0.44$, $\Delta F = 614.413$ ($p < 0.01$). Similar findings reflected in Figures 2 and 3 showed that pro-activeness and risk-taking explained 0.2% and 44% of variance, respectively. These findings indicate that the individual dimensions of EO (pro-activeness, risk-taking and competitive aggressiveness) accounted for a significant amount of variance in SME performance, which supported Hypotheses 4, 5, and 6.

The next section discusses the strategic implications of the findings, the limitation of this study and recommendations for the way forward.

5. Discussion of findings

This paper has examined the relationship between SME performance and dimensions of EO, as well as the amount of variance explained in SME performance by dimensions of

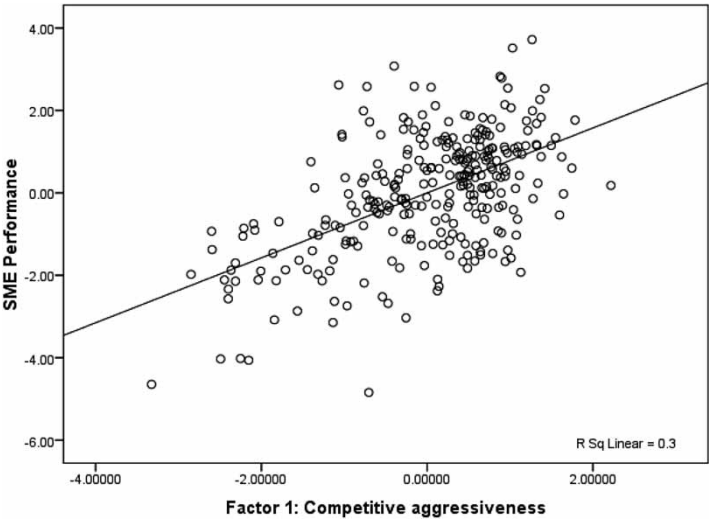

Figure 1: Strength of relationship between competitive aggressiveness and SME performance

EO, namely: pro-activeness, risk-taking and competitive aggressiveness in emerging economies.

The results from the sequential multiple regression confirm a significant positive relationship between pro-activeness and SME performance ($\beta = 0.247^{**}$) and between competitive aggressiveness and SME performance ($\beta = 0.548^{**}$) (Table 7, Models 1 and 2), leading to the acceptance of Hypotheses 1 and 3 that pro-activeness and competitive aggressiveness are positively related to SME performance, respectively.

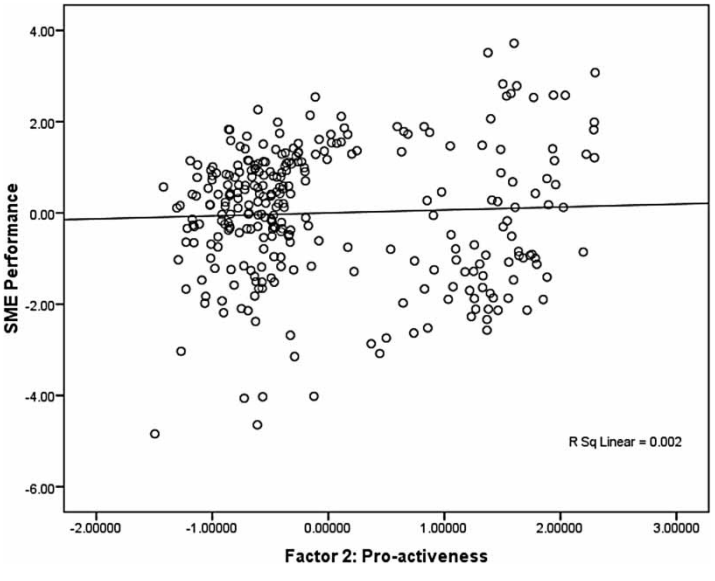

Figure 2: Strength of relationship between pro-activeness and SME performance

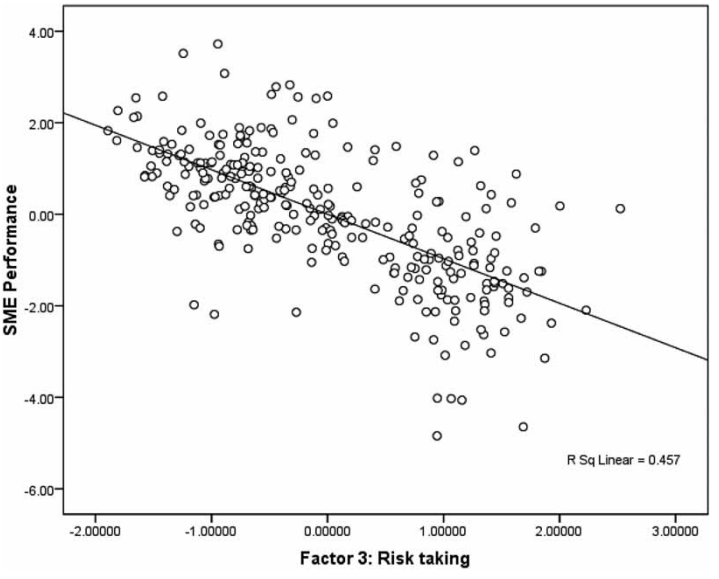

Figure 3: Strength of relationship between risk-taking and SME performance

The recorded positive relationship implies that as SMEs put emphasis on pro-active and competitive aggressiveness behaviour, they exploit opportunities before competitors to build competitive advantage and take bold steps to defend created advantage through competitive aggressiveness. This may suggest that in developing economies where new opportunities are opening up, a pro-active posture is more relevant for timely seizure of emerging opportunities. Competitive aggressive posture may give advantage to firms to defend their competence from rivals, which is important in the open market economy where rivals have fewer restrictions to exploit similar opportunities.

The positive correlation between pro-activeness and risk-taking ($r = 0.424^{**}$) suggest that risk-taking behaviour is likely to promote pro-active initiatives necessary for firms to attain high performance. This observation is consistent with the previous studies in developed economies which suggested that pro-active behaviour is associated with high risk-taking behaviour. These findings may suggest that in emerging economies risk-taking behaviour is necessary to promote pro-active behaviour for firms in order to take advantage of emerging opportunities.

The highly significant negative relationship between SME performance and risk-taking ($\beta = -0.747^{**}$) recorded in Table 7, Model 3 provides adequate statistical evidence to reject Hypothesis 2 that risk-taking is positively related to SME performance. These findings suggest that in emerging economies in situations where firms perceive high risk in the business environment, firms are not likely to attain high performance. In developed economies, risk-taking behaviour is associated with performance, which may not necessarily be the case in emerging economies where SMEs operate in a weak regulatory environment and experience fewer developed business support services. SMEs operating in emerging environments thus feel threatened and not supported enough to engage in risky businesses (Tang & Murphy, 2012). Emerging economies are frequently cited as examples of a weak regulatory business

environment and are blamed for stunting the development of entrepreneurship (Ministry of Trade and Industry, 2003; Ngalinda & Mutagahwa, 2006). The overall findings may suggest that in developing economies, contrary to developed economies, the risk-taking behaviour moderates the relationship between pro-activeness and SME performance and may not have a direct benefit on a firm's performance, as postulated earlier.

The results on the amount of variance explained in SME performance show that competitive aggressiveness, pro-activeness, and risk-taking explained 30%, 5.5% and 44% of variance in SME performance respectively (Figures 1, 2 and 3). The significant ΔF for Models 1, 2 and 3 suggests that each dimension of EO explained a significant amount of variance in SME performance, thus supporting Hypotheses 4, 5 and 6 (Table 7). The findings further suggest that the open market environment in developing economies, where rivals are free to enter and leave the business environment, the understanding of competitive aggressiveness, pro-activeness and risk-taking behaviour of firms is crucial to explain SME performance. While risk-taking may not necessarily lead directly to higher performance in developing economies, its positive association with pro-activeness behaviour has tremendous benefits for firms attaining performance. Competitive aggressive firms are able to sustain performance in the open market environment for long-lasting impact.

Despite the inspiring findings of this study, there are limitations that should be mentioned. Firstly, the restriction of the sample to the Tanzanian context makes the generalisation of findings difficult. Further research in a wider context may broaden our understanding of how culture influences competitive aggressiveness and enhances SME performance. Research to establish the relationship between the regulatory environment, business support services and the perceived risk may add value in the effort to lower the risk of the business environment that could promote pro-active behaviour and enhance SMEs' performance.

Even with these limitations, this study contributes to additional insights into the relationship between dimensions of EO and SME performance in emerging economies. The paper shows that a clear understanding of pro-activeness, risk-taking and competitive aggressiveness improves our ability to explain SME performance in emerging economies. This is crucial for SMEs whose survival is determined by their ability to compete in the face of stiff competition from rivals.

6. Conclusion

The open market economy has encouraged entry of new competitors into formerly protected markets, which causes pressure on local SMEs. In order to penetrate new markets and withstand competitions posed by rivals, a firm's performance remains a crucial factor for the survival of SMEs in this competitive environment. This is especially important for SMEs in emerging economies, which formerly adopted socialist policies undermining participation in the private sector as well as in economic growth. With the shift to an open market economy, doors opened for experienced entrepreneurs from developed economies to compete in both local and foreign markets. SMEs in emerging economies, however, suffer as a result of the competition. Examining factors accounting for a firm's competitive advantage that leads to SME performance is timely, given the importance of SMEs in the socio-economic development and the competitive environment in which they operate.

There is a growing consensus among experts on the role of EO in exploitation of opportunities that strengthen firms' competitive advantage. Previously, EO was associated with the firms' performance in developed economies. However, recently the literature indicates inconsistency in results in terms of the relationship between EO and SME performance and points out that dimensions of EO vary with the context and the type of industry in which firms operate. The limited testing in emerging economies, as well as the understanding that emerging economies form a different context from previous environments in which EO and SME performance were examined, made this study necessary. The nature of the relationship amongst three dimensions of EO – namely: pro-activeness, risk-taking and competitive aggressiveness – and SME performance, and the extent of variance explained in SME performance by the dimensions of EO, were investigated.

The overall findings have strategic implications in the growing literature of entrepreneurship and small businesses, which are facing severe competition in the open market economy. This paper argues that the shift from protective policies to an open market economy in emerging economies, such as Tanzania, created opportunities in which risk-taking promotes pro-active behaviour necessary for firms to attain SME performance. Firms that adopt competitive aggressive posture to defend their developed competitive advantage can sustain performance. This paper shows that a clear understanding of pro-activeness, risk-taking and competitive aggressiveness improves our ability to explain SME performance.

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