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Entrepreneurial Orientation, Total Quality Management, Competitive Intensity, and Performance of SMEs: A Resource-Based Approach

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Abstract

Drawing upon resource-based theory, as well as contingency theory, this study examined the role of competitive intensity in moderating the relationships between entrepreneurial orientation, total quality management, and SME performance. Using a stratified random sampling, 714 self-administered questionnaires were distributed to owner-managers of SMEs operating in Kano and Kaduna in the north-west geopolitical zone of Nigeria. Of the 714 questionnaires distributed, 440 unusable questionnaires with 62 percent responses were returned and further analysed. The hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM). Results supported the hypothesised main effects of entrepreneurial orientation, and total quality management, on SME performance. Also, the competitive intensity was found to moderate the relationships between entrepreneurial orientation and SME performance. On the contrary, no significant interaction effect was found between total quality management and competitive intensity. The theoretical contribution of the present study lies in its use of competitive intensity as a moderator of the relationships between entrepreneurial orientation, total quality management, and SME performance.

Keywords: Entrepreneurial Orientation; Total Quality Management; Competitive Intensity; Performance.

1 Introduction

Small and medium-sized enterprises (SMEs) have been identified as major drivers of economic growth, competitiveness and jobs creation, in both developed and developing countries (1-5). It is also generally accepted in both theory and practice that SMEs are used as engine for solving socio- economic problems such as unemployment, poverty alleviation. For example, SMEs have been regarded as critical to economic growth, employing 88.8 million people, as well as generating €3,666 trillion in valued added, representing 28 percent of Gross Domestic Product (GDP) in the 28 European Union (EU) member states (6). Relatedly, the contribution made by SMEs to the GDP and employment of high income countries, such as Australia, Austria, Canada, and Germany, were 55 percent and 65 percent, respectively. It is also estimated that in the United Kingdom (UK), SMEs contribute 60 percent to total employment and about47 percent of all private sector turnover (7). It has also been reported that in upper middle income countries, SMEs are important economic agents for growth.

In Southeastern Asia, SMEs are integral to ASEAN economic integration, providing approximately 80 percent of employment, and contributed as much as 50 percent to the GDP, as well as significantly constituting more than 96 percent of enterprises in the region (8). Specifically, in Malaysia, the contribution made by SMEs to the GDP in 2015 was 36.3 percent (9), while in China, SMEs contributed 60 percent to GDP in 2015 (10).

In contrast to the aforementioned countries in developed and emerging economies, the contribution made by SMEs to the GDP of Nigeria was 48 percent in 2015 (11). In the same vein, compared to the countries having the same levels of development with Nigeria, such as South Africa, Ghana, and Kenya, among others; SMEs contribute a much higher proportion to GDP than currently observed in Nigeria. For example, while SMEs in Nigeria contribute 48 percent of the country's GDP in 2015, in South Africa, Ghana, and Kenya,

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SMEs contribute about 55 percent, 70 percent and 98 percent of the countries' GDPs, respectively (12-15).

Although Nigeria remains Africa's biggest economy, evidence has shown that business enterprises, including SMEs have been facing challenges, such as entrepreneurial orientation deficiencies, poor market orientation, lack of competent management, intense competition, low demand for product and service lack of financial support, lack of training and experience, unfriendly business environment, and limited capacity for innovations, among others (16-20). Therefore, given the aforementioned statistics and issues, it will be pertinent to understand the underlying factors that affect SME performance. Accordingly, the purpose of this study was to examine whether competitive intensity would moderate the relationships among entrepreneurial orientation, total quality management, and performance in Nigerian manufacturing SMEs. To this end, the rest of the paper is organized as follows. Section 2 provides a detailed review of literature of literature toward the development of a theoretical model that explains the moderating role of competitive intensity in the relationships among entrepreneurial orientation, total quality management, and SME performance. Hence, these relationships was explained from resource-based and contingency perspectives. Section 3 describes the methodology employed in this study. Next, empirical results are presented in section 4. The final section discussed theoretical and practical implications of the findings before offering suggestions for future research.

2 Literature Review

2.1 Entrepreneurial orientation and SME performance

Entrepreneurial orientation has been defined as strategies, processes, and behaviours of firms that are reflected by proactiveness, innovativeness, risk-taking, aggressiveness, and autonomy (21, 22). As noted earlier several dimensions of entrepreneurial orientation are described in the literature. Extant researches have shown that firms that are seeking for sustainable competitive advantage need to have strong entrepreneurial orientation that creates value added services to customers (23, 24). Entrepreneurial orientation is the most consistent predictor of firm performance. Firms that have a strong entrepreneurial orientation are more likely to out-perform other firms that have weak entrepreneurial orientation. More so, firms that are proactive, innovative, aggressive, as well as those that have autonomy and willing to take risk generate higher market share, profitability and sales growth relative to their competitors (25-27). Several empirical studies have confirmed the positive relationship between entrepreneurial orientation and business performance, across a variety of research contexts (e.g., 28, 29-31). We therefore expect entrepreneurial orientation to be positively SME performance. Hence, the following hypothesis is postulated:

H1: There will be a positive relationship between entrepreneurial orientation and SME performance.

2.2 TQM implementation and SME performance

A number of authors have examined the relationships between total quality management practices and organizational performance (32-39). Specifically, Powell (38) concluded that firms adopting total quality management has a potential to achieve sustainable competitive advantage. Demirbag, Koh (32) also demonstrated that TQM implementation has a significant and positive relationship with SME' performance. In the same vein, Vinod, Franck (39) found positive relationships between TQM implementation and firm performance. Christos and Evangelos (35) showed that a number of TQM factors, including quality practices of top management, employee involvement, customer focus, process and data quality management, and quality tools and techniques improved organizational performance. In Turkey, Akgün et al's (34) demonstrated that TQM had significant and positive effects on firm's financial performance. Besides the aforementioned empirical studies, there are also several studies that established significant and positive relationships between total quality management practices and firm's performance (e.g., 40, 41, 42). Consistent with above discussion, a positive relationship between TQM and SME performance is also expected in the present study. Accordingly, the following hypothesis is advanced:

H2: There will be a positive relationship between TQM implementation and SME performance.

2.3 Competitive Intensity as a Moderator

Given that competitive intensity is one of the underlying dimensions of external business environment, evidence supporting the role of competitive intensity as a moderator would be largely drawn from business environment literature. Past research suggests that competitive intensity plays a crucial role in determining organizational performance (43-47). Specifically, Ramaswamy (44) has contributed to the literature by investigating the moderating effect of competitive intensity on the relationship between ownership and performance of large manufacturing firms across both public and private sector in India. Results of their empirical analyses revealed that the relationship between ownership and performance is contingent upon the intensity of competition.

Additionally, Li, Lundholm (45) showed that firm's future profitability and stock returns are negatively influenced by the increase in the level of competitive intensity. In a more recent study, Lahiri (43) established that the relationship between firm resources and firm performance is moderated by competitive intensity, such that the relationship is stronger when there is increase in the level of competitive intensity than when it decreases. As noted earlier, results regarding the link between entrepreneurial orientation and firm performance were inconsistent (48-50). These contradictory findings reported in the literature suggest incorporating some other organizational variables as moderator(s) on these relationships in order to shed light on these contradictory findings. Previous studies have demonstrated the theoretical and methodological importance of including a moderating role of external business environment on the relationship between entrepreneurial orientation and business performance. However, most of these studies mainly focused on the other characteristics of external business environment, i.e., market turbulence, environmental dynamism, and technological turbulence (e.g., 49, 51), thereby paying less attention on other characteristics of firm's competitive intensity. Therefore, the following hypothesis is proposed.

H4: Competitive intensity moderates the positive relationship between entrepreneurial orientation and SME performance.

Theory and extant empirical studies also suggest that competitive intensity can moderate the relationship between total quality management implementation and SME performance (52-54). Specifically, Contingency theory suggests that a firm's competitive intensity could be a potential moderator of the relationship between total quality management and SME performance. Such that when competitive intensity is high, the relationship between total quality management and SME performance would become stronger (more positive), whereas, when the competitive intensity is low, the relationship between total quality management and SME performance is weaken (55). Furthermore, in today's highly uncertain business environment, quality improvement programmes and competitiveness are critical to organizational effectiveness. Consequently, when an organization's quality improvement programmes like TQM generates value for customers that is rare and difficult to imitate (26, 27, 38), it can be a source of sustainable competitive advantage which will allow firms to out-perform their competitors who pay lip service to the implementation of total quality management (56). Therefore, the following hypothesis is advanced.

H5: Competitive intensity moderates the positive relationship between total quality management implementation and SME performance.

3 Method

3.1 Sample and Procedure

In the present study, the population of interest will be the SMEs in the manufacturing sector of Nigeria. According to the National Bureau of Statistics and Small and Medium Enterprises Development Agency of Nigeria (57), there are currently 6,652 SMEs in the manufacturing sector of Nigeria. Out of the 6,652, a total number of 3,090 are based in Kano and the Kaduna states. For the purpose of this study, the target population will be 3,090 SME in Kano and Kaduna, the northwest geo-political zone of Nigeria. Kano and Kaduna states are selected for this study because they have high concentration of business enterprises in the northwest geo-political zone of Nigeria. Therefore, following Saunders, Lewis, and Thornhill's Saunders, Lewis (58) sample size determination table, given population of 3,090 SMEs in Kano and Kaduna states, a sample size of 357 is required. Hence, 357 owners and managers are expected to respond to the research questionnaires. The unit of analysis was organizational, in which owners and managers were invited to participate in the study. Owners and managers were specifically involved as key informants because they are the most informed about firms' strategies and capabilities (59), and could therefore respond to the research issues and the information sought accurately (60). Additionally, owners and managers were chosen as the key informants in the present study because decisions regarding the strategic decision making activities of smaller firms rest very much in the hands of these individuals, and could therefore stand in a better position to respond to the survey correctly (61).

The data for this research was obtained through a self-administered survey. In order to evaluate non-response bias in the present study, a time-trend extrapolation approach were used dividing the respondents into two main groups, namely; those who responded within 30 days (early responders) and those who responded after 30 days (late responders) as recommended by Armstrong and Overton (62). Statistically, this approach entails conducting an independent samples t-test to detect any possible non-response bias on the main study variables. Accordingly, the results suggest that non- response bias does not exists in this study. Furthermore, given that self-reported surveys were used to collect data at the same time from the same participants, we also conducted common method variance (CMV) test using Harman's one-factor test was used in the present study (63, 64). The results of CMV test based on principal components factor analysis yielded 32 factors, with first factor accounting for only 37% of the variance. It was also found that no general factor was evident in the unrotated factor structure. As such, the results suggest that CMV was not a major concern in this study.

3.2 Measures

3.2.1 Entrepreneurial orientation

Entrepreneurial orientation was assessed using Covin and Slevin's (50) entrepreneurial orientation scale. Specifically, this scale contains nine items, of which three items were designed to measure the innovativeness dimension of entrepreneurial orientation, three items to assess risk taking, and the remaining three to measure proactiveness. Entrepreneurial orientation was rated using seven-point Likert scale ranged from 1 = *strongly disagree* to 7 = *strongly agree*. Sample item include: "Our firm favours a strong emphasis on R&D, technological leadership, and innovations". "The internal consistency coefficient (i.e., Cronbach Alpha) for entrepreneurial orientation was 0.87.

3.2.2 Total Quality Management

A 7-item scale developed by Chenhall (65) was used to measure total quality management in this study. Specifically, the items in this scale asked the participants to indicate the extent to which their firms have implemented programmes over the past three years to improve the quality of products and processes, efficiency, minimizing waste, as well as involving employees in the continuous improvement. Additionally, total quality management was rated by the participants using seven-point Likert scale ranged from 1 = *strongly disagree* to 7 = *strongly agree*. Sample item include: "Our firm implements programs to improve the quality and reliable delivery of materials and components provided by suppliers The Cronbach's Alpha for total quality management was 0.88.

3.2.3 Competitive intensity

To assess competitive intensity, Jaworski and Kohli's (66) Competitive Intensity Scale was administered. Competitive intensity was assessed with six items, such as "There are many "promotion wars" in our industry", and "our competitors are relatively weak". Participants were asked to use a seven-point Likert scale ranged from 1 = *strongly disagree* to 7 = *strongly agree* to rate extent of their agreement with statements describing the intensity of competition in their industry.

Sample item include: "Price competition is a hallmark of our industry". The internal consistency coefficients (i.e., Cronbach's Alpha) for competitive intensity scale were 0.93.

3.2.4 Organizational performance

Six-items were used to assess a broad range of SME' performance indicators. Five items were adapted from the work of Powell (38), and the remaining item were drawn from the work of Baker and Sinkula (67). Examples of these items is: "Over the past 3 years, financial performance of our firm has exceeded our competitors".

Table 1: Demographic Profile of the Respondents Surveyed

	Frequency	Percentage
Gender		
Male	261	64.0
Female	147	36.0
Age		
20-30 years	28	6.9
31-40 years	116	28.4
41-50 years	180	44.1
50 years and above	84	20.6
Educational qualification		
Primary School	2	.5
Secondary School	49	12.0
Diploma/NCE	78	19.1
Bachelor Degree	113	27.7
Masters	116	28.4
Others	50	12.3
Marital status		
Single	172	42.2
Married	236	57.8
Ethnicity		
Hausa/Fulani	64	15.7
Igbo	265	65.0
Yoruba	51	12.5
Others	28	6.9
Position		
Owner	79	19.4
Manager	329	80.6

Table 2: Demographic Profile of Firms Surveyed

	Frequency	Percentage
Ownership		
Sole proprietorship	45	11.0
Partnership	141	34.6
Limited Liability Company	222	54.4
Firm size		
Less than 50 employees	17	4.2
50-99 employees	215	52.7
100-249 employees	87	21.3
250-499 employees	48	11.8
500 or more employees	41	10.0
Industry		
Food and beverages	104	25.5
Packaging/containers	32	7.8
Metal and metal products	35	8.6
Printing and publishing	176	43.1
Agro-allied, furniture	29	7.1
Building materials	9	2.2
Others	23	5.6
Firm age		
3 – 6 years	36	8.8
7 – 9 years	79	19.4
10 – 12 years	73	17.9
13 years or more	220	53.9

Responses were on a seven-point Likert scale ranged from 1 = *strongly disagree* to 7 = *strongly agree*. Cronbach's Alpha was 0.88 for organizational performance scales, suggesting good reliability.

3.3 Analytical Approach and Model Estimation

The structural equation model in this study was estimated using PLS path modeling in conjunction with Smart PLS 3.0 software (68). The PLS path modeling was considered appropriate technique of data analysis for several reasons. First, the PLS path modeling is considered to be suitable data analysis technique in this study because it can simultaneously assess the measurement model, which describes the link between theory (latent constructs) and data (corresponding indicators) as well as relationships among constructs. Second, the goal of the present study is to predict the effect of entrepreneurial orientation, total quality management, and competitive intensity on the performance of SME. Hence, the present study is causal-predictive in nature where a complex model with many variables, indicators and relations will be tested. This kind of complex model requires a path modeling approach to be employed because several researchers (e.g., 69, 70, 71) have recommended the use of PLS path modeling when the goal of research is to predict the dependent variable.

4 Results

4.1 Assessment of Measurement Model

The measurement model was evaluated on the basis of individual indicator reliability, internal consistency reliability, convergent validity, as well as discriminant validity (69, 72, 73). The full Measurement model was presented in Table 3.

4.2 Individual Indicator Reliability

In this study, individual indicator reliability was evaluated based on standardized loadings for all latent constructs (69, 72, 74-76). According to Carmines and Zeller (77), the reliability of an individual ıtem is confirmed when its standardized loading is 0.707 or higher. As shown in Table 1, for each latent construct, all standardized loadings have exceeded the Carmines and Zeller's (77) accepted cut-off point of 0.707, except four items (i.e., EO05, TQ07, CI05, and CI06), which were deleted from the Measurement model. Thus, individual indicator reliability has been found to be acceptable based on the measurement model results.

4.3 Construct Reliability

It has been noted earlier that reliability can be ascertained at either the individual indicator level or at a given construct level (76, 78). In this study, construct reliability was determined based on composite reliability index (69, 70, 74, 79). According Hair, Ringle (74), a satisfactory construct reliability is established when the composite reliability index 0.70 or higher. Therefore, it can be seen in Table 3 that the composite reliability indices of all latent constructs were between 0.863 and .0.943. This suggests that satisfactory construct reliability is achieved because the composite reliability indices reported in this present study were above the acceptable cut-off point of 0.70.

Table 3: Measurement Model Results

Latent constructs and indicators	Standardized Loadings	Composite Reliability	Average Variance Extracted
Entrepreneurial orientation		0.941	0.777
EO01	0.856		
EO02	0.918		
EO03	0.902		
EO04	0.885		
EO06	0.879		
EO07	0.912		
EO08	0.877		
EO09	0.821		
Total Quality Management		0.943	0.735
TQ01	0.897		
TQ02	0.883		
TQ03	0.888		
TQ04	0.900		
TQ05	0.838		
TQ06	0.724		
Competitive intensity		0.912	0.721
CI01	0.860		
CI02	0.887		
CI03	0.843		
CI04	0.803		
SME performance		0.929	0.686
FP01	0.824		
FP02	0.815		
FP03	0.855		
FP04	0.823		
FP05	0.812		
FP06	0.839		

4.4 Convergent Validity

Convergent validity refers to the degree to which two or more measures of the same theoretical construct assessed by different methods are in agreement (80, 81). The existing literature on PLS path modelling indicates that convergent validity is ascertained using the average variance extracted (AVE; 71, 75, 82, 83). In particular, to achieve adequate convergent validity, Fornell and Larcker (82) recommended that AVE values should be 0.50 or higher. As indicated in Table 3, AVE values ranged between 0.679 and 0.777, and all latent constructs demonstrate AVE values higher than the recommended threshold of 0.50. Hence, it can be concluded that adequate convergent validity has been established in the present study.

4.5 Discriminant Validity

The present study used Fornell-Larcker criterion approach to establish discriminant validity. Fornell-Larcker approach involves comparing the square root of AVEs (the diagonal entries) with the correlations between constructs (the off-diagonal entries) (69, 82, 84). According to Roldán and Sánchez-Franco (84), adequate discriminant validity is achieved if, the diagonal elements are significantly greater than the off-diagonal elements in the corresponding rows and columns. The results of the discriminant validity analysis using Fornell-Larcker criterion are reported in Table 4. Following Roldán and Sánchez-Franco (84), adequate discriminant validity has been established in the present study because the square root of AVEs were greater than the correlations between constructs .

Table 4: Results of Discriminant Validity Based on Fornell-Larcker Criterion

	Latent Construct	1	2	3	4
1	Entrepreneurial orientation	**0.882**			
2	Total quality management	-0.244	**0.857**		
3	Competitive intensity	-0.474	0.557	**0.849**	
4	SME performance	0.615	-0.317	-0.718	**0.828**

Note: "Diagonal elements are the square root of the variance shared between the constructs and their measures (AVE). Off-diagonal elements are the correlations among constructs".

4.6 Structural Model/Hypotheses Testing

It could be recalled that the conceptual model proposes that competitive intensity moderates the relationships between entrepreneurial orientation, total quality management, and SME performance in Nigeria. In line with empirical evidence, resource based theory, as well as contingency theory, six research hypotheses were formulated and tested based on the results of structural model. Drawing on PLS path modelling literature, the structural model was evaluated based on five main criteria, namely: algebraic sign, significance of the structural path coefficients, f^2 values, R^2 values, and assessment of PLS estimates at the construct level (Q^2 values). Following Hair, Hult (69), as well as Henseler, Ringle (73), bootstrapping with 5000 resamples was used to generate beta values, standard errors, *t*-values, and *p*-values. The full results of structural model that included both the direct effect model, (baseline model), and moderating effect model are presented in Table 5.

Table 5: Structural Model Results

Hypotheses	Relations	Beta	SE	t-value	p-value	Findings
	Main Effect:					
H1	EO	0.44	0.06	7.64***	0.00	Supported
H2	TQM	0.11	0.04	2.63***	0.00	Supported
	Moderating Effect:					
H3	EO x CI	-0.12	0.04	2.84***	0.00	Supported
H4	TQM x CI	-0.01	0.05	0.18	0.43	Not supported

Note: EO = Entrepreneurial orientation; TQM = Total Quality Management; CI = Competitive intensity; SMEP = SME performance; Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed), *significant at 0.1 (1-tailed).

4.7 Algebraic Signs

As indicated in Table 5, the algebraic signs (beta values) in the direct effect model were all positive, which is consistent with the first three research hypotheses were formulated. Specifically, the positive beta values direct effect model suggests that Hypotheses 1-3, the relationships between exogenous latent variables and endogenous latent variables are positive. For example, there is a positive relationship between entrepreneurial orientation and SME performance.

4.8 Significance of the Structural Path Coefficients

Regarding the significance of the structural path coefficients, of the six hypotheses postulated and tested, H1, H2, and H3 were statistically significant, while H4 was not found to be statistically significant. It could be recalled that Hypothesis 1 predicted that there will be a positive relationship between entrepreneurial orientation and SME performance. As indicated in Table 5, a significant positive relationship between entrepreneurial orientation and SME performance was found ($\beta = 0.44$, $t = 7.64$, $p < 0.01$). Accordingly, Hypotheses 1 was supported. Hypothesis 2 predicted that there will be a positive relationship between total quality management and SME performance. Results (Table 5) indicated that total quality management had a significant positive relationship with SME performance ($\beta = 0.11$, $t = 2.63$, $p < 0.01$), supporting Hypothesis 2. It could be recalled that Hypothesis 3 postulated that competitive intensity moderates the positive relationship between entrepreneurial orientation and SME performance. Specifically, this relationship is stronger (i.e. more positive) when business environment is highly competitive than when it is not competitive. The results shown in Table 5 indicated that the interaction terms representing entrepreneurial orientation and competitive intensity, towards predicting SME performance ($\beta = -0.12$, $t = 2.84$, $p < 0.01$) was statistically significant. Hence, Hypothesis 3 was fully supported. Following procedures recommended by Dawson and Richter (85), as well as Dawson (86), information from the structural model results was used to plot a graph depicting the moderating effect of competitive intensity on the relationship between entrepreneurial orientation and SME performance. Figure 2 demonstrates that the relationship between entrepreneurial orientation and SME performance is stronger (i.e. more positive) when business environment highly is competitive than when it is not competitive.

Regarding Hypothesis 4, which posited that competitive intensity moderates the positive relationship between total quality management and SME performance. Specifically, this relationship is stronger (i.e. more positive) when business environment highly is competitive than when it is not competitive. As indicated in Table 5 , this hypothesis was not because the interaction terms representing total quality management and competitive intensity, towards predicting SME performance was not statistically significant ($\beta = -0.01$, $t = 0.18$, $p > 0.10$).

4.9 Assessment of Effect Size (f^2)

The strength of the effect of exogenous latent variables on endogenous latent variable in the main effect PLS path model is reported in Table 6. As shown in Table 6, the strength of the effect of the four exogenous latent variables, namely: entrepreneurial orientation, total quality management, and competitive intensity on endogenous latent variable were 0.298, 0.011, 0.040, and 0.605, respectively. Accordingly, based on Cohen's (1988) guidelines, the effects sizes of these four exogenous latent variables on SME performance can be described and interpreted as medium, none, small, and large, respectively. Results of moderating effects size are also reported in Table 7. Following Cohen's (1988) threshold, Table 7 indicated that the strength of the moderating effect of competitive intensity on the relationships between entrepreneurial orientation, total quality management, and SME performance was 0.123, suggesting small effect size.

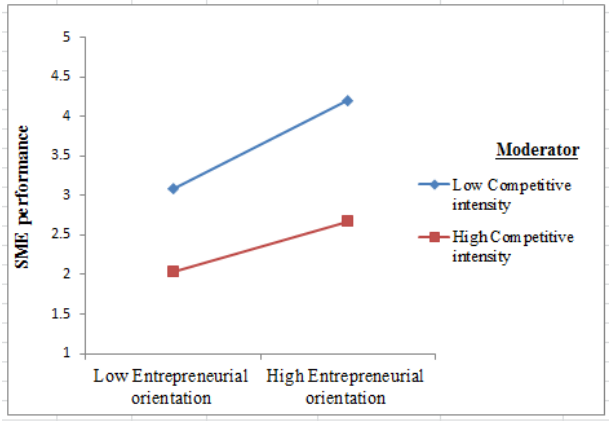

Figure 2: Interaction Effect of Entrepreneurial Orientation and Competitive Intensity on SME performance

Table 6: Effect Sizes in the Main Effect PLS Path Model

Endogenous Latent Variables	Effect size (f^2)
Entrepreneurial orientation	0.298
Total quality management	0.011
Competitive intensity	0.605

Note: Endogenous Latent Variable = SME Performance

Table 7: Moderating Effect Size

	Included	Excluded	f-squared	Effect size
R-squared	0.675	0.635	0.123	Small

4.10 Coefficient of Determination

Table 5 presents the R-squared values of the main effect structural model, as well as the moderating effect structural model. The coefficient of determination for the main effect PLS model was 0.635. This suggests that the four sets of exogenous latent variables (i.e., entrepreneurial orientation, total quality management, and competitive intensity) collectively explain 64% of the variance in SME performance. In the same vein, our results also showed that the coefficient of determination for the moderating effect PLS model was 0.675. This suggests that after computing the interaction terms, the four sets of exogenous latent variables (i.e., entrepreneurial orientation, total quality management, and competitive intensity) collectively explain 68% of the variance in SME performance. Taken together, the coefficients of determination for both the main effect PLS models, as well as the moderating effect PLS model were above Hence, Falk and Miller's (1992)

acceptable levels of R-squared values. Hence, it can be concluded that the R-square values reported in both the main effect and moderating effect PLS models were satisfactory and acceptable.

4.11 Assessment of PLS Estimates at the Construct Level

In line with Chin's (75) recommendation, Results of Stone-Geisser test of predictive relevance (Q^2) are presented in Table 6. As shown in Table 8, the crossvalidated redundancy (Q^2 value) for endogenous latent variable (SME performance) was 0.427, suggesting that the structural model in this study has predictive relevance (73, 75).

5 Discussion

Overall, the present study provided supportive evidence regarding the role of competitive intensity as a moderator on the relationships between entrepreneurial orientation, total quality management practices, and SME performance. This responds to calls for more research on the role of business environment factors in predicting organizational performance. The subheadings of the discussions of research results section are organized according to the objectives of the study. As noted earlier, the first objective of the present study was to assess the influence of entrepreneurial orientation on SME performance. Based on the results of Partial Least Squares path modeling, the present study reported that entrepreneurial orientation positively influenced SME performance.

Table 8: Construct Cross-Validated Redundancy

	SSO	SSE	Q¬≤ (=1-SSE/SSO)
Entrepreneurial orientation	3,264.000	3,264.000	
Total quality management	2,448.000	2,448.000	
Competitive intensity	1,632.000	1,632.000	
SME performance	2,448.000	1,401.617	0.427

It is imperative to remember that entrepreneurial orientation was defined as a firm-level predisposition and commitment to engage in behaviors that lead to change in the organization or marketplace, such as initiating and sustaining new ideas that lead to new product offerings, implementing new business processes in order to expand new markets, trying out new product offerings in the face of uncertainty, encouraging employees to be independent in initiating and implementation of innovative ideas, and monitoring industry trends and competitors' best practices Voss, Voss (87). A plausible explanation for this is that a firm that engages in entrepreneurial orientation is likely to achieve superior business performance and sustained competitive advantage (23, 51, 88). Thus, entrepreneurial orientation requires a firm to engage in product-market innovation, undertake somewhat risky ventures, and is first to come up with "proactive" innovations, beating competitors to the punch" Miller (22).

The significant positive influence of entrepreneurial orientation on SME performance in this study was consistent with many of the past empirical studies, such as Li, Huang, and Tsai (48), Jalali, Jaafar, and Ramayah (31), Real, Roldán, and Leal (89), Tang, Chen (90), Collectively, these studies found a significant positive impact of entrepreneurial orientation on various similar organizational performances. The result was also in accordance to the proposition by resource-based theory that a firm can achieve sustained competitive advantage and superior performance by formulating and implementing strategy that generates increased value for the firm relative to its competitors; and sustainability is said to be achieved if the increased value remains when competitors stop trying to copy or imitate the competitive advantage (26, 27, 91, 92). Based on theory and empirical evidence, it could be summed up that entrepreneurial orientation could bring forth positive SME performance, which include better return on assets, financial profitability or return on equity, return on sales, higher level of return on investments than that of competitors, increase in market share relative to competitors, as well as increase in sale volume relative to competitors, among others.

Total quality management was also reported to have a significant positive influence on SME performance in this study. This denotes that firm that implements total quality management is able to achieve sustainable business performance. The results also provided empirical support to the resource-based theory that articulated total quality management practices as a crucial element in achieving sustained competitive advantage and superior performance of firm, relative to its competitors (26, 27, 91, 92). Furthermore, this finding was very much similar to the previous studies in the literature of total quality management, including Akgün, Ince (34), Christos and Evangelos (35), Powell (38), Shaukat, Jen Li (36), and Fields and Roman (93), Despite different context in terms of cultural backgrounds, organizational settings, as well as demographic factors, the aforementioned empirical studies reported similar findings to the present study in which total quality management practices had impacted various organizational performance. If firms implement total quality management practices by adopting a series of strategies, such as quality practices of top management, employee involvement, customer focus, process and data quality management, they are more likely to achieve sustainable competitive advantage by being able to achieve superior business performance. Based on theory and empirical evidence the present study has succeeded in substantiating the empirical link between total quality management and SME performance in Nigerian context. To sum it up, this study has succeeded in achieving the second research objective.

The findings of the present study provide substantial support for the moderating role of competitive intensity. They provide practical implications regarding how small and medium enterprises successfully cope with various pressures from competitors (94). In particular, results suggest that small and medium enterprises operating in highly competitive environment increase their performance by practicing entrepreneurial orientation. They response to the threat of their competitors by being proactive, innovative and risk takers (95). Accordingly, the empirical findings of the present study contribute to previous literatures by demonstrating that competitive intensity differentially moderates the relationship between entrepreneurial orientation and SME performance. In other words, competitive intensity serves as a variable that strengthen the relationship between entrepreneurial orientation and SME performance.

Unexpectedly, the results of the present study do not support the initial postulation of the moderating role of competitive intensity on the relationship between total quality management practices and SME performance. In other words, competitive intensity was not found to be a significant moderator between total quality management and SME performance. Perhaps the inconsistent result could be attributed to the study context. Specifically, one of the plausible reasons for the unexpected findings could be that, in Nigeria, due to financial constraints as results of current economic recession, SMEs do not properly implement total quality management strategy toward sustained organizational performance. This plausible explanation for the unexpected non-significant results is consistent with Abubakar and Mahmood's (96) argument that total quality management strategy is resource consuming and the implementation of such strategy dependent largely on firm's resource capacity. The higher the firm's resource capacity, the more likely it would properly implement TQM; and vice versa

5.1 Practical implications

From a practical point of view, the results of this research provided important insights on how entrepreneurial orientation, total quality management, and competitive intensity could enhance the overall performance of SMEs in Nigerian manufacturing sector. Subsequently, the results of this study would serve as a blueprint for the policy-makers and practitioners in formulating vital policies that could assist and help in improving the overall performance of SMEs. The findings suggested that managers of SMEs require working alongside strategic business units, including marketing and quality assurance departments to design relevant policies that help in promoting customer satisfaction and firm performance (97, 98).

Furthermore, the findings of this study indicated that entrepreneurial orientation was a significant predictor of SME performance. The findings have practical implications for SMEs in Nigeria. In particular, findings indicate that proactiveness, aggressiveness and innovativeness have emerged as important strategies that grants SMEs better capability to exploit the new opportunities in the Nigerian business environment, thereby achieving sustained competitive advantage (99). Managers of SMEs ought to realize that research and development capabilities, and new product lines will play an important role in the survival and prosperity of their firms than ever before (99). Additionally, the findings confirm the significant positive relationship between total quality management practices and performance of SMEs in Nigerian manufacturing sector. This finding implies the need to encourage employees' involvement and participation in the implementation of total quality management. Specifically, SMEs ought to develop formal reward and recognition systems in order to encourage employee involvement and participation, provide feedback to the employees, as well as support teamwork (32). This finding also suggests the need for commitment of top management in the implementation of total quality management. The top management of SMEs should develop an appropriate organization culture, vision, and quality policy in order to satisfy customer expectations and improve their organizations' performance (32).

Finally, the findings also indicate that competitive intensity moderated the relationships between entrepreneurial orientation, and SME performance. Thus, given that the external environment in which organizations compete is dynamic and rapidly changing, it is imperative for managers of SMEs to also constantly change their strategies and operations to reflect these increasing changes in business environment (100). Thus, managers should focus on the strategy variables, particularly entrepreneurial orientation, since these variable significantly related to performance in their environments and adjust their strategies accordingly (101).

5.2 Limitations and Future Research Directions

Despite its contributions, the present study has a number of limitations that merit discussion. The following section discusses the limitations of the study. First, SME performance data used in the present study was only perceptual or subjective. Although researchers (e.g., 102, 103) showed that subjective measure of firm performance is valid and reliable proxies for objective measures, however, objective measures of firm performance has been found to be relatively free from measurement error (104, 105). Therefore, future research could incorporate objective measures of SME performance in order to replicate the findings of the current study. Second, the present study offers quite limited generalizability because it focused mainly on SMEs in Nigerian Manufacturing sector, particularly those located in Kano and Kaduna in Northwest geo-political zone. Thus, subsequent similar works are needed to include SMEs in other sector of the economy or geo-political zones in order to generalize the findings. Furthermore, future research could study and compared Manufacturing sector with other sector including banking sector, and real estate industry.

Third, the present study employed a cross-sectional design. One major weakness of cross-sectional design is that it does not allow causal inferences to be made from the population. Hence, given the shot coming of cross-sectional design, future research is strongly needed using longitudinal research design in order to measure and re-examine the relationship between entrepreneurial orientation, total quality management, competitive intensity and SME performance by collecting data at different points in time to confirm the findings of the present study. Fourth, it could be remembered that all items for each construct in this study were rated by single key informants (owner/manager). Research demonstrates that the use of single key informants can produce valid and reliable results when the key informants are highly knowledgeable about the affairs of their firm. Nevertheless, use of single key informants is susceptible to judgmental biases when the key informants are not highly knowledgeable in the affairs of their firms (106). Although it is not always be feasible, using multiple informants would have clearly strengthened the results. Hence, future research is needed to replicate the findings of the current study using multiple informants.

Fifth, the present study reported that the structural model explained 64 percent of the total variance in in SME performance. This implies that there remain some variables

that could significantly explain the variance in SME performance, but not included in the research model. In other words, the remaining 36 percent of the variance in SME performance might be explained by other factors. Hence, this represents a methodological limitation of the present study. Future research is therefore needed to include more variables that might yield additional variance in SME performance. For example, given the fact that the context of this (Nigeria) is prominently a collectivist culture (107), it is likely that cultural orientation might moderate the relationships between entrepreneurial orientation, total quality management, and SME performance. Thus more research is needed to confirm whether collectivist culture maters in the relationships between entrepreneurial orientation, total quality management, and SME performance.

6 Conclusions

The primary goal of the present study was to examine the underlying factors influencing the performance of small and medium enterprises in Nigerian context. Investigating the factors that influence SME performance was particularly important owing to the contributions of small and medium enterprises to the economic growth of Nigeria. Specifically, this study tested the direct effects of entrepreneurial orientation, and total quality management on SME performance. The study also tested the moderating role of competitive intensity on the relationships between entrepreneurial orientation, total quality management, and SME performance. Generally, the cross-sectional analyses provide empirical support for the hypothesized relationships. This study showed that competitive intensity is an important boundary condition of the relationships between entrepreneurial orientation, total quality management, and SME performance. The results also supported theory and research in demonstrating the main effects of entrepreneurial orientation, and total quality management on SME performance on SME performance. Furthermore, the present study has provided some empirical support for the moderating effect of competitive intensity on the relationship between entrepreneurial orientation, total quality management, and SME performance.

To conclude, the present study adds new knowledge in relation to the impact of entrepreneurial orientation, and total quality management, on SME performance in the Nigerian setting. A point of particular importance is that the present study has provided additional empirical evidence in the domain of resource-based theory (26, 27), as well as contingency theory (52-54) by moving beyond the direct effect of entrepreneurial orientation, and total quality management on SME performance by incorporating competitive intensity as a moderator on these relationships. The findings will aid both practitioners and managers to take action towards enhancing firms' sustainable competitive advantage by implementing value-creating strategies, including focusing on customer satisfaction, employees' quality of worklife, developing and implementation of new innovative ideas, It is also important to take risk taking strategies into consideration when devising interventions towards enhancing their firms' sustainable competitive advantage because higher risk has long been associated with greater probability of higher return on investment. Responding to a highly competitive market in which competitors adopts an aggressive program to keep the costs of theirs product very low is also an important strategic option to achieve and/or maintain a sustainable competitive advantage.

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