

Modelling the Link between Entrepreneurial Orientation, Learning Orientation and SMEs Performance: The Moderating Role of Technological Orientation

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Abstract

The primary goal of this study is to investigate the link between entrepreneurial orientation, learning orientation and SMEs performance, with a particular emphasis on the moderating role of technological orientation. The paper used cross-sectional survey design to collect data from the sample of 272 SMEs operating in Kaduna Metropolis. The preliminary analysis was conducted using SPSS and the hypothesis was analysed using PLS-SEM. The first finding indicates a positive but insignificant relationship between entrepreneurial orientation and the performance of SMEs. It further documents for the second finding that learning orientation is positively and significantly associated with SME performance. Furthermore, the third finding indicates that technological orientation is positive and significantly moderates the relationship between entrepreneurial orientation and the performance of SMEs. The fourth finding revealed that technological orientation is negative and moderates the relationship between learning orientation and SMEs performance significantly. Therefore, the study recommends that SMEs owners-managers, policy makers and regulatory agencies should encourage sound entrepreneurial orientation, learning orientation and technological orientation culture with a view to increase SMEs performance. Thus, the study is expected to benefit both management and owners of SMEs in the country by improving their understanding of how they can use and implement different strategies to achieve higher performance.

Keywords: Entrepreneurial Orientation, Learning Orientation, Technological Orientation, SMEs Performance

1. Introduction

The performance and contributions of Small and Medium Enterprise (SMEs) has become a major concern for academics and practitioners across the globe. This is because SMEs played an important role, ranging from poverty reduction to job

creation in many countries (Aminu & Shariff, 2016). The evolution of SMEs sector serve as an engine for poverty relief, job opportunities, improvement of local technology, output diversification and multiplication of potential entrepreneurs (Ajayi, Ojelade, Adedokun & Oladeji, 2017;

Joel, Tarus, Kibet & Kimitei, 2015; Eniola, Anthony & Abiodun, 2014).

In a developing economy like China, SMEs account for 90% of all businesses, more than 50% of tax revenue, more than 80% of urban employment, and 60% of Chinese GDP (Chinese National Bureau of Statistics, 2017). Similarly, the South African Ministry of Trade and Industry (2017) reported that SMEs accounts for 91% of formal businesses, 60% of employment, and 52% to 57% of South African GDP. According to the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) (2017) and the National Bureau of Statistics (NBS) (2017), SMEs account for approximately 39.5% of total employment and 8.89% of GDP in Nigeria. In comparison to the developing countries mentioned, this indicated a poor performance and contribution of SMEs in Nigeria.

Similarly, the history of poor performance of SMEs made Nigerian government to come up with various initiatives and programmes. For example, the creation of Nigerian Industrial Development Bank (NIDB) in 1964; Small Industrial Credit Scheme (SSICS) in 1971; People's Bank of Nigeria (PBN) in 1989; National Economy Empowerment and Development Strategy (NEEDS) in 2003; SMEDAN in 2003;

Microfinance Institution (MFIs) in 2005; Development Bank of Nigeria (DBN) in 2014; Government Enterprise and Empowerment Programme (GEEP) in 2016; Agric-Business Small and Medium Enterprise Investment Scheme (AGSMEIS) in 2017 and the most recent is Micro Small and Medium Enterprises Survival Fund (MSMESF) in 2020, which was designed specifically to solve the problems of poor SMEs performance in Nigeria.

However, researchers have suggested several factors from a variety of theoretical perspectives to understand the underlying causes of poor SMEs performance. These include entrepreneurial orientation (EO) (Oktavio, Thomas, & Endo, 2019; Aminu, 2016), market orientation (MO) (Lee, Kim, Seo, & High, 2015; Kholi & Jaworski, 2012), learning orientation (LO) (Sandeep & Rayees, 2015), and innovation orientation (IO) (Chung, Animesh, Han, & Pinsonneault, 2019; Lai, Yusof, & Kamal, 2016). Despite the growing body of evidence linking EO, LO, and SMEs' performance, little is known about how TO interact with EO and LO to improve SMEs' performance. To bridge that gap, this paper proposed a model to determine whether TO have a moderating effect on the relationship between EO, LO and SMEs performance. Therefore, this research is the first to use TO

to moderate EO, LO and SMEs FP relationship

The paper is organized as follows: reviews of the literature, including EO and SMEs FP, LO and SMEs FP, and how TO plays a moderating role in the relationship between EO, LO, and SMEs FP; research framework for the study; methodology, result and discussion and finally, limitations and suggestions for future research.

2. Literature Review

2.1 Entrepreneurial Orientation and SMEs Performance

EO is defined as the processes, practices, and decision-making activities that lead to new entry (Lumpkin & Dess, 1996). It is the sum of a firm's innovativeness, proactiveness, and risk-taking (Miller, 1983). These dimensions have been widely used in previous studies (Moreno & Casillas 2008; Covin & Slevin 1989). Lumpkin and Dess (1996) later added two dimensions; competitive aggressiveness and autonomy. This implies that EO has five dimensions; innovativeness, proactiveness, risk-taking, competitive aggressiveness, and autonomy (Lumpkin & Dess, 1996; Miller, 1983). Therefore, Covin and Slevin (1989), viewed EO as a one-dimensional. Lumpkin and Dess (1996), on the other hand, believe that EO is a multidimensional construct because

several dimensions of it occur in different combinations.

Previous research on the relationship between EO and SMEs FP has yielded mixed results. Aminu (2016), for example, looked at how innovation, risk-taking, and proactiveness affect the financial performance of 125 small businesses in Kano State, Nigeria. The findings show that each of the EO dimensions (innovativeness, proactivity, and risk-taking) has a significant impact on simple firms' financial performance. Similarly, Shaher and Ali (2020), discovered the mediating effect of LO on the relationship between EO and innovation performance of Kuwait SMEs. The study used stratified random sampling method to select 221 participants (owners and CEOs of SMEs in Kuwait). Results of the analysis show that LO played a partial mediating role in the association of EO with innovation performance. Hence, this study takes into cognisance LO as mediating variable and suggested the need for future research to consider TO as moderating variable and thus it leaves a huge gap which will be addressed by the present study.

On the contrary, Sorayah et al. (2017), used PLS-SEM to explore the relationship between EO dimensions (proactiveness, innovativeness, risk taking) on business performance of one hundred and twenty

eight women entrepreneurs. The results show that only risk-taking has significant relation to performance women business, while innovativeness and proactiveness did not. In addition, Olubiyi, Egwakhe, Amos, and Ajayi (2019) used a multistage sampling technique to select 460 SMEs in Lagos State, Nigeria, from the manufacturing, agricultural, service, and real estate sectors. Describing and inferential statistics were used to analyze the data. The findings revealed that proactiveness and taking risks had a significant positive impact on SMEs' profitability in Lagos State. Competitive aggressiveness, on the other hand, had a negative but significant effect on SMEs' profitability, whereas autonomy and innovativeness had no effect. Hence, it can be seen that majority of the previous studies reported mixed findings and thus suggest the need for replicating the study. In this regard, the study advanced the following hypothesis:

Hypothesis 1: Entrepreneurial orientation is significantly related to SMEs performance.

2.2 Learning Orientation and SMEs Performance

According to Farrell et al. (2008), LO refers to the organizational philosophy or values that create knowledge and use that knowledge to improve performance through activities such as commitment to learning,

open-mindedness, and sharing vision. It is the acquisition of knowledge or insights that has the potential to influence behavior. Previous research (Sinkula et al., 1997) proposed that LO has three important interconnected dimensions: commitment to learning, open-mindedness, and shared vision. As a result, any SME with high levels of LO in their operations can achieve superior performance (Cheng & Sheu, 2017).

Previous empirical studies found mixed results in the link between LO and SMEs FP. For example, Maria Del, Javier, and Joaquin (2016) investigated the impact of LO on the performance of SMEs in México. They used a sample of 335 small businesses to determine how much LO affects performance. The findings indicate that the LO has a positive and significant impact on the performance of SMEs. In addition, Sandeep and Rayees (2015) looked at how company size influences the relationship between LO and company performance in their research. In Punjab, India, they used 278 manufacturing companies. According to the findings, LO has a positive impact on a company's financial performance. According to the findings, the relationship between LO and company performance is significantly moderated by the size of the company (based on investment).

On the contrary, Justin, Simon, Nadine, and Linda (2016) investigated the impact of LO on SMEs in Cape Town, South Africa. PLS-SEM was used to examine a survey of 122 businesses. According to the study's findings, LO has a positive but insignificant influence on organizational performance. From the perspective of dynamic capabilities, Samson et al. (2019) investigated the relationship between the availability of external financing on the LO and the performance of SMEs in Nasarawa State, Nigeria. According to the findings, LO is related to firm performance in a positive but insignificant way. Furthermore, the findings show that the presence of external financial resources strengthens the relationship between the LO and the FP. Thus, it can be seen that most of the previous studies reported mixed findings and thus suggest the need for replicating the study in another context. In view of this, the study advanced the following hypothesis,

Hypothesis 2: Learning orientation is significantly related to SMEs performance.

2.3 Technological Orientation as a Moderator

A mentioned in the previous section, previous studies that examined the relationship between EO, LO, and SMEs FP has yielded mixed results. These

discrepancies suggest that moderator variables are needed to strengthen the EO, LO, and SMEs FP relationships. As a result, the study propose TO as a moderating variable worth including in our model. Therefore, TO denotes the firm's ability to apply its technical expertise to create a new technical solution that meets the market's needs and desires (Spanjol, Qualls & Rosa, 2011). Several studies have looked into the impact of TO on SMEs' performance. The influence of TO on FP among 266 SME's in North-western Nigeria was investigated by Naala, Nordin, and Omar (2017). TO has a significant positive relationship with SME's FP, according to the findings. A significant relationship between TO and innovation superiority and firm performance has been confirmed by Gatignon and Xuereb (1997).

While existing research (Voss & Voss, 2000) found no significant effect of TO on a firm's subjective and objective performance, none of the studies have looked into the role of TO in the relationship between EO, LO, and SMEs' performance. This study believe when SMEs have EO and LO, they also need TO in order to perform at higher level. Thus, relationship between EO, LO, TO, and SMEs FP is theoretically based on Barney's (1991) RBV theory. According to the RBV, a firm's ability to use the available bundle of valuable intangible and tangible resources is the basis for competitive advantage (Barney,

1991; Rumelt, 1984). As a result, EO, LO, and TO are all valuable resources that assists businesses in outperforming their competitors and achieving higher levels of performance. In the light of the aforementioned theoretical and empirical contributions, the following hypotheses are advanced:

Hypothesis 3: Technonological orientation does not moderate the relationship between

entrepreneurial orientation and SMEs performance.

Hypothesis 4: Technonological orientation does not moderate the relationship between Lerning orientation and SMEs performance.

Based on extant research and resource base view theory, a conceptual model (Figure 1) has been developed. The conceptual model depicts the moderating role of TO in affecting EO, LO and SMEs FP relationships.

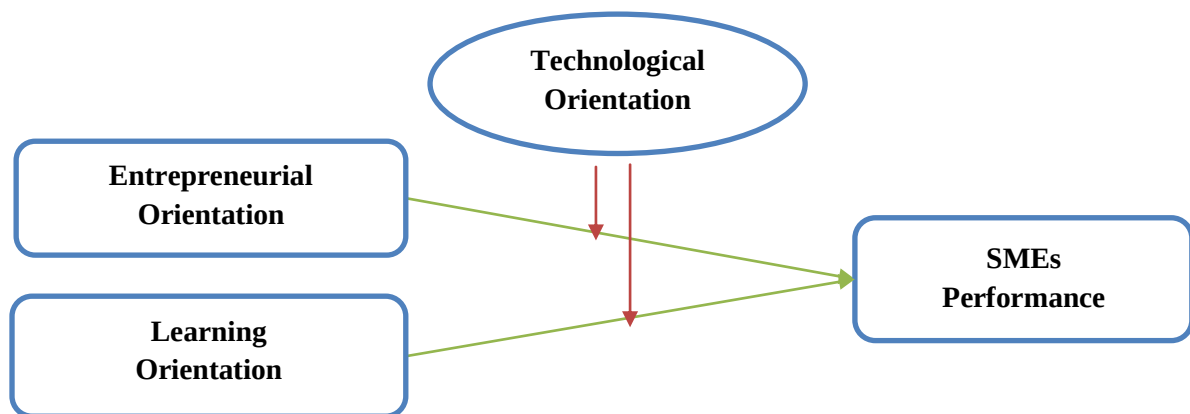


Figure 1: *Conceptual Framework*

3. Methodology

3.1 Participants and Procedures

Data were collected from 272 SMEs in Kaduna Metropolis. These SMEs' owners/managers were given self-reported questionnaires. Before administering the survey, the participants were first informed about the purpose of the research and that their participation in the current study was entirely voluntary. In all, 228 questionnaires were returned, and out of these returned, 212 questionnaires were found usable for

analysis. In this regards, Sekaran (2003), stated that for a cross-sectional study, a rate of 30% could be accepted. Thus, the present study has 212 questionnaires representing 78% which is sufficient for analysis.

3.2 Measurement of Variables

The present study has four variables to be measured using 5-Point Likert scale with an option ranging from '1' Strongly Agree (SA) to '5' Strongly Disagree (SD). These variables are EO, LO, TO and SMEs FP.

Specifically, SMEs FP was measured by six (6) items adapted from the study of Sulyanto and Rahab (2012). EO was measured by nine (9) items adopted from Covin and Slevin (1989). LO was measured by eleven (11) items adopted from Sinkula

et al. (1997). Lastly, TO was measured by ten (10) items adapted from Gatignon and Xuereb (1995). Therefore, table 1 present the summary of the variables measurement of the study.

Table 1: Variables Measurement

Variables	Items	Source
EO	9	Covin and Slevin (1989)
LO	11	Sinkula et al. (1997)
TO	10	Gatignon and Xuereb (1995)
FP	6	Sulyanto and Rahab (2012)

Note: EO = Entrepreneurial Orientation, LO = Learning Orientation,

TO = Technological Orientation, FP = Performance,

3.3 Technique of Data Analysis

This study used PLS path modeling with SmartPLS 3.0 software (Ringle, Ringle, & Sarstedt, 2015) to test the hypotheses and examine the complex relationships involving the moderating role of the TO. This is due to the fact that the PLS technique has many features and is widely used in empirical research in both management and entrepreneurship (Gorondutse & Hilman, 2016; Arrègle, Cabantous, Clegg, Germain, Mignonac, Monin, & Shibib, 2012). In essence, PLS path modeling was used for a variety of reasons. First, PLS path modeling is better suited for studies involving a large number of exogenous constructs explaining a small number of endogenous constructs (Hair et al., 2017; Chin, 2010). Second, because it bootstraps the study sample, PLS

path modeling can account for measurement error and deal well with non-normal data (Chin, 1998). Third, PLS path modeling assumptions are flexible in developing and validating complex models, with the advantage of estimating large models of moderation and mediation analysis (Albahussin & El-garaihy, 2013). Finally, PLS path modeling is becoming a more valuable method for latent variable path analysis with both reflective and formative measures (Allard, Henseler, Ildikó, & Zuzana, 2016; Fornell & Bookstein, 1982). As such, PLS-SEM is deemed appropriate. Following Henseler, Ringle, and Sinkovics (2009), we used two-step to assess PLS path modelling;

- i. Assessment of Measurement Model
- ii. Assessment of Structural Model

4. Results and Discussion

4.1 Measurement Model

According to Hair, Hult, Ringle, Sartedt, Danks, and Ray (2021), assessing the measurement model begins with assessing the indicator and internal consistency reliabilities, followed by convergent and discriminant validity for the reflective construct.

Indicator Reliability: The indicator reliability should be evaluated by examining the outer loadings of each construct (Hair et al., 2021; Duarte & Raposo, 2010). According to Hair, Hult, Ringle and Sarstedt (2017), indicator outer loadings should be greater than 0.70, and outer loadings between 0.40 and 0.70 should be acceptable for deletion only if it increases composite reliability (CR) and average variance extracted (AVE). As a result, the outer loadings for each of the reflective constructs in this study successfully met the indicator reliability criterion (See table 2 and figure 2).

Internal Consistency Reliability: The internal consistency reliability demonstrates the consistency of the indicators in measuring the construct (Hair et al., 2017). The researchers established a threshold of 0.7 or higher for interpreting composite reliability (Hair et al., 2017; Bagozzi & Yi, 1988). As shown in table 2, the composite reliability coefficients range between 0.838 and 0.903, indicating that the internal consistency reliability of this study was met.

Convergent Validity: Convergent validity is the degree to which a measure correlates positively with alternative measures of the same construct (Hair et al., 2017). Chin (1998) recommends that the AVE of each reflective construct be at least 0.50. In this study, EO has an AVE value of 0.513, TO has a value of 0.523, and SMEs FP has a value of 0.609 (See table 2). These values indicate that all of the study constructs have convergent validity and, as a result, explain more than half of the variance in their respective indicators.

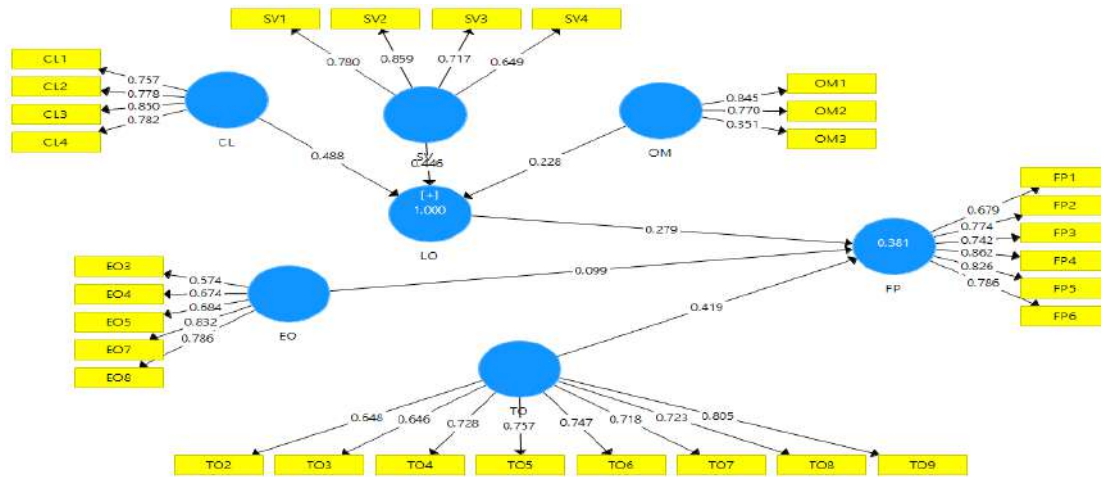


Figure 2: Measurement Model including Two-stage Approach

Table 2: Measurement Model: Reliability and Convergent Validity (n=212)

Constructs	Item	Loading	AVE	CR
EO	EO_3	0.574	0.513	0.838
	EO_4	0.674		
	EO_5	0.684		
	EO_7	0.832		
	EO_8	0.786		
T O	TO_2	0.648	0.523	0.897
	TO_3	0.646		
	TO_4	0.728		
	TO_5	0.757		
	TO_6	0.747		
	TO_7	0.718		
	TO_8	0.723		
	TO_9	0.805		
	TO_10	0.805		
SME FP	FP_1	0.679	0.609	0.903
	FP_2	0.774		
	FP_3	0.742		
	FP_4	0.862		
	FP_5	0.826		
	FP_6	0.786		

Note: EO = Entrepreneurial Orientation, TO = Technological Orientation, FP = Performance,

AVE = Average Variance Extracted and CR = Composite Reliability

Discriminant Validity: Discriminant validity is simply the degree to which a construct differs from other constructs (Duarte & Raposo, 2010). As a result, the discriminant validity was evaluated using the Heterotrait-Monotrait Ratio (HTMT) proposed by Henseler et al (2015). They also recommended that the HTMT value be 0.85 or 0.9. Table 3 showed that all of the reflective constructs met the HTMT criteria.

Table 3: *Discriminant Validity (HTMT) (n=212)*

Constructs	EO	FP	TO
EO			
FP	0.276		
TO	0.228	0.597	

Note: EO=Entrepreneurial Orientation, FP=Performance, TO=Technological Orientation

Furthermore, the formative constructs (LO) were evaluated based on tolerance level (TOL) or variance inflated factor (VIF), outer weights, outer loadings, and t-values. As shown in table 4, the VIF values of all indicators (i.e., lower order component) of the formative construct (LO) are less than the threshold of 5. It demonstrates that there is no collinearity between indicators because the VIF values ranged from 1.543 to 2.147. The outer weights values of the formative indicators CL, OM, and SV, on the other hand, provide sufficient evidence of the relative contributions to the key construct.

Similarly, the outer loadings of formative indicators show the absolute contribution to the construct because their values exceed the 0.50 threshold. As a result, all three indicators are crucial (both absolutely and relative) to the main construct (Hair et al., 2017). Although CL has a negligible outer weight, its absolute contribution is significant. Hair et al. (2017) proposed that when a construct's outer weight is non-significant but its outer loading is high, the construct should be retained and interpreted as absolutely important but not relatively important.

Table 4: *Formative Measurement Model (n=212)*

Formative Construct	Formative Indicators	VIF	Outer Weights	Outer Loadings	T Statistics
LO	CL	1.822	0.379	0.842	1.922
	OM	1.543	0.342	0.786	2.291
	SV	2.147	0.455	0.906	1.990

Note: LO = Learning Orientation, CL=Commitment to learning, SV=Share Vision, OM=Open-mindedness

Researchers (Henseler, Dijkstra, Sarstedt, Ringle, Diamantopoulos, Straub, & Calantone, 2014) proposed using standard root mean square (SRMR) and Normed Fit Index (NFI) to measure GoF in PLS models. According to Hu and Bentler (1999), the

SRMR value should be 0.080, and according to Bentler and Bonett (1980), the NFI values should be between 0 and 1, with the closer the NFI to 1, the better the fit. According to Table 5, the SRMR coefficient is 0.039, which is less than the acceptable threshold

of 0.080 recommended by Hu and Bentler (1999). Similarly, the value for NFI is 0.955, which is better according to Bentler and Bonett's recommendation (1980). This

meant that the model used in this study fit the data set using both the SRMR and the NFI criterion.

Table 5: *Model fit Using SRMR and NFI*

Criterion	Saturated Model	Estimated Model
SRMR	0.039	0.039
d_ULS	0.032	0.032
d_G	0.017	0.017
Chi-Square	18.349	18.365
NFI	0.955	0.955

4.2 Structural Model

The structural model will be used to test the hypothesis. According to Hair et al. (2021), there are four key criteria for evaluating the structural model in PLS-SEM. These include evaluations of: (1) path coefficient significance, (2) coefficient of determination (R^2), (3) effect size (f^2), and (4) predictive relevance (Q^2).

The first step in evaluating a structural model is to determine the significance of the path coefficients. In order to assess the significance of the path coefficients, this

study used the standard bootstrapping procedure with 5,000 bootstrap samples and 212 sample data (Hair et al., 2017; Sarstedt et al., 2014). The bootstrapping result in Table 6 shows a significant moderation relationship with SME FP when EO and TO are associated at the 5% significance level ($B = 0.125$, $t = 2.556$, $p = 0.011$). When LO and TO interact, a negative and significant moderation relationship is found on SME FP ($B = -0.114$, $t = 2.188$ & $p = 0.029$). This provides empirical evidence for rejecting hypothesis ($H0^3$) as well as hypothesis ($H0^4$).

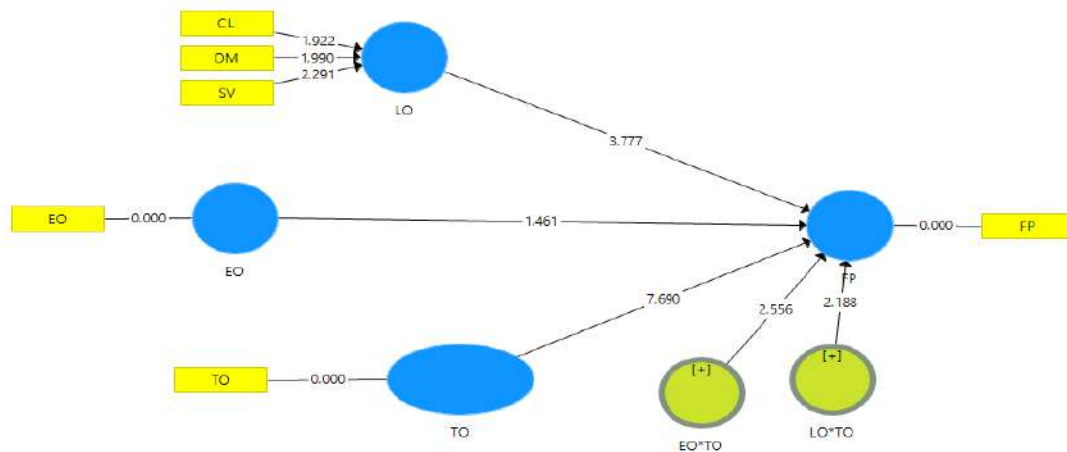


Figure 3: Bootstrapping for Direct and Moderation

Table 6: Path Coefficient for Direct and Moderation Relationships

Constructs	'Beta'	'Std. Dev.'	'T Statistics'	'P Values'	Decision
EO -> FP	0.089	0.061	1.461	0.144	Fail to Reject
EO*TO -> FP	0.125	0.048	2.556	0.011	Reject
LO -> FP	0.275	0.071	3.777	0.000	Reject
LO*TO -> FP	-0.114	0.054	2.188	0.029	Reject

Note: EO = Entrepreneurial Orientation, LO = Learning Orientation,

TO = Technological Orientation and FP = Performance

The coefficient of determination (R^2) of endogenous constructs is the second structural model evaluation (Hair et al., 2017). According to Chin (1998), R^2 values of 0.67, 0.33, and 0.19 for endogenous latent constructs are significant, moderate, and weak, respectively. As shown in table 7, the exogenous constructs of this study (EO &

LO) and the moderator (TO) explain 38.1% of the total variance in SME FP. As a result, according to Chin's (1998) recommendations, the R-squared value (R^2) value explained by these exogenous constructs and the moderator on the target endogenous construct (SME FP) is moderate.

Table 7: Coefficient of Determination (R^2) for direct and Moderation Relationships

Construct	R-Square (R^2)
SMEs Performance	0.381 (38.1%)

The third second assessment of structural model is the effect size. According to Hair et

al. (2014), the effect size can be determined through the following formula:

$$Effect\ Size\ (f^2) = \frac{R^2_{Included} - R^2_{Excluded}}{Effect\ Size\ (f^2)}$$

Where:

f^2 = F-square value that determines the effect size of a specific exogenous on the endogenous,

$R^2_{Included}$ = R^2 value of the endogenous variable before omitting a particular exogenous construct and $R^2_{Excluded}$ = The changes in the R^2 value of the endogenous variable after excluding a particular exogenous variable from a model.

According to the above formula, f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively (Cohen, 1988). According to Cohen's (1988) proposition, the effect size for EO (0.010)

on endogenous construct (SME FP) is none. This means that EO has no effect on SME FP. On the other hand, the interaction EO*TO (0.031) has a minor effect on the endogenous construct (SME FP). Similarly, the effect size for LO (0.088) on endogenous construct (i.e., SME FP) has a small effect on endogenous construct (SME FP). In contrast, the interaction between LO*TO (0.023) was found to have a minor effect on endogenous construct (SME FP). Furthermore, the effect size for TO (0.266) is classified as medium on endogenous construct (SME FP). As a result, the effect of all exogenous constructs on the endogenous construct can be classified as small, medium, or none.

Table 8: *Effect Size for Direct and Moderation Relationships: F-Square*

Constructs	F ²	Effect Size
EO	0.010	None
EO*TO	0.031	Small
LO	0.088	Small
LO*TO	0.023	Small
TO	0.266	Medium

Note: EO = Entrepreneurial Orientation, LO = Learning Orientation and TO = Technological Orientation

The final structural model evaluation is to determine the predictive relevance of the research model. This study employed the cross-validated redundancy measure (Q^2) to assess the predictive relevance of the model, as recommended by Hairs et al. (2021) and

Chin (1988). Furthermore, Henseler et al. (2009) stated that a research model with a Q^2 greater than zero is considered to have predictive relevance. As shown in table 9, the Q^2 value for the endogenous latent construct cross-validation redundancy test is

greater than zero (0.340), confirming the model's predictive relevance (Hair et al., 2021; Hayes, 2009; Chin, 1998).

Table 9: *Predictive Relevance for Moderation Relationships: Q-Square*

Total	SSO	SSE	1-SSE/SSO
SME Performance	212.000	140.010	0.340

Note: SSO=Sum of squared observation and SSE=Sum of squared prediction errors

4.3 Assessment of the Importance-Performance Matrix Analysis (IPMA)

The IPMA is a special way of expanding the results of the basic PLS-SEM by adding another dimension to the analysis, namely the actual importance and performance of each exogenous construct in explaining the target endogenous construct (Hair, et al, 2017; Höck, Ringle, & Sarstedt, 2010; Fornell, Johnson, Anderson, Cha, & Bryant, 1996; Slack, 1994; Martilla & James, 1977). As a result, IPMA compares the overall effects (importance) of the structural model to the average value of the latent variable scores (performance. The goal is to identify antecedents with relatively high importance for the target construct (i.e., those with a

strong total effect) but also relatively low performance (i.e., low average latent variable scores) to highlight important areas of improvement that can receive high attention from the owner-manager to boost SME performance. As shown in Table 10, TO have a higher importance with a value of 0.433 representing 43% for the target construct (SME FP), but a moderate performance with a value of 56.126. Similarly, LO have an average importance of 0.317, representing 31% of the target construct (SME FP), but perform poorly. Finally, EO has a low importance with a value of 0.089 representing 8% for the target construct (SME FP), but higher performance.

Table 10: *Importance-Performance Matrix Analysis (IPMA)*

Constructs	Importance	Performances
EO	0.089	59.991
LO	0.317	51.505
TO	0.433	56.126

Note: EO = Entrepreneurial Orientation, LO = Learning Orientation and TO = Technological Orientation

5. Discussion of findings

The primary goal of this study is to investigate the moderating role of TO in the relationship between EO, LO, and SME FP. As a result, the study contribute to the literature by providing additional insight into how TO interacts with EO and LO to influence FP. According to the findings of this study, EO has a positive but insignificant effect on FP. This finding is consistent with previous research (e.g., Innocent et al., 2018; Hoque, 2018; Arisi-Nwugballa, Elom, & Onyeizugbe, 2016; Kumarpeli, & Semasinghe, 2015), which found that EO has a positive and insignificant influence on SME FP.

On the other hand, the interaction between EO and TO was discovered to be positively and significantly related to SMEs FP. The findings are also consistent with previous research (e.g., Oktavio et al., 2019; Naala et al., 2017; Aminu, 2016), which established that EO and TO have a positive and significant effect on SME FP.

Furthermore, LO was found to have a positive and significant effect on SME FP. The finding is consistent with previous research (e.g., Radwan et al., 2017; Evelyn & Olawale, 2017; Aminu & Shariff, 2015; Sandeep & Rayees, 2015), which indicates that LO is positively related to SME FP.

While the interaction between LO and TO has a negative and significant impact on SME FP. The finding implies that when SME owner-managers combine LO in terms of CL, OM, SV, and TO strategy, their performance suffers. This may occur at the SME level, particularly when owners-managers perceive new technology to be good and useful in their business operations, but it is either out of their reach due to the cost implications or the complexity of the technology, there should be a tendency for such technology to negatively affect their performance.

5.1 Theoretical, Methodological and Practical Implications

From a theoretical standpoint, only a few previous empirical studies have investigated the direct relationship between TO and SME FP (Naala et al., 2017; Amirkhani & Reza, 2015; Al-Ansari, Altalib, & Sardoh, 2013; Zhou & Li 2010), and little or no study has been found in the available literature that has investigated how TO interact with the present study IVs and DV. Thus, the current study empirically addresses this theoretical gap by expanding our understanding of how TO interacts with EO and LO to influence SME FP. This is also supported and explained by theoretical argument of RVB theory.

From a methodological standpoint, this study used first-order and HCM using PLS-SEM with the help of Smart PLS Version 3.0 software to examine LO (CL, OM, & SV) using the second stage approach as the reflective-formative HCM. As a result, the research successfully reduced the complexity associated with the LO construct thereby achieving parsimony. This enables the theoretical contribution to be expanded by developing and validating a formative LO construct.

From a practical standpoint, the findings of this study is expected to benefit both management and owners of SMEs by improving their understanding of how they can use and implement different strategies to achieve sustainable performance of SMEs in Nigeria. The study's findings will also be used by the CBN, SMEDAN, NBS, and MFIs to develop policies that will improve the performance of SMEs in Nigeria.

5.2 Limitations and Suggestions for Future Study

This study has several limitations that should be addressed in future research. To begin, one of the limitations of this study is in the area of design, which employs a cross-sectional design that captures only responses of data collected over a single period using SME in Kaduna Metropolis. As a result, future research may address this

constraint by conducting longitudinal studies that collect data over two or more time periods. Second, the study is limited to SME from all sectors that are registered with KADCCIMA and operating in Kaduna Metropolis, so the findings cannot be generalized to all SME in the state. As a result, the study suggests that future research be conducted on SME in the state that are both registered with SMEDAN and the Corporate Affairs Commission (CAC). Finally, in Kaduna Metropolis, TO was used to moderate the relationship between IVs and DV (EO, LO, and SME FP). As a result, the study suggests that future researchers who are interested in this area include measurement of other independent variables such as market orientation and innovation orientation against SME FP. It also suggests identifying other potential dependent variables, such as SME sustainability, to investigate the effect of the aforementioned IVs on SME sustainability in developing countries.

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