STRUCTURAL COMPLEXITY AND PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN NIGERIA, THE MODERATING ROLE OF LEARNING ORIENTATION

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Abstract

Aim: *the objective of the study was to assess the effect of complexity on performance of SMEs in Nigeria and to assess the moderating role of learning orientation in the relationship between complexity and performance of SMEs in Nigeria. The study sought to investigate the implication of complexity for small businesses.*

Design/methodology: *the study adopted cross-sectional survey. Data was collected from 383 SMEs in six states drawn from the six geopolitical areas in Nigeria. Data was analysed using partial least square structural equation modelling PLS-SEM and two models, the measurement and structural models tested validity and reliability of the research instrument as well as the hypothesis.*

Findings/result: *the result of the study indicated that, complexity significantly affects the performance of SMEs in Nigeria and learning orientation significantly moderates the effect of complexity on the performance of SMEs.*

Practical implication: *this study elucidates the impact of learning orientation for structure. It can be seen from this study that, learning orientation will affect every member of the organization positively and will act as tool that will moderate all other strategies of the business.*

Originality/value: *the study extended the use of the contingency theory by introducing learning as a mechanism to cope with the uncertainties in the business environment.*

Keywords*: organizational structure, complexity, SME performance, learning orientation*

INTRODUCTION

One of the sectors that is most critical to the economic growth and development of a nation is their Small and Medium Enterprise (SME) sector. They usually represent the highest number of businesses and they are usually much easier to start up compared to larger organizations. In Nigeria, SMEs are classified based on the number of employees in the organization; that is enterprises with 10-49 employees (small) and enterprises with 50-199 employees (medium). Studies show that about 96% of businesses in Nigeria are SMEs. They contribute to 76.5%ofemployment (Price Waterhouse Cooper (PWC), 2020) and their contribution to Gross domestic product (GDP) is currently about 46% (National Bureau of statistics (NBS) - Small and Medium Enterprise Development Agency of Nigeria (SMEDAN), 2021). The sector has naturally become of paramount concern to the government and researchers. Kippa (2022) indicated that, the performance of the SME sector is the only guarantee that the economy of the nation will thrive.

Unfortunately, the performance of the sector has not been satisfactory. Kippa (2021) reported that, businesses in the Nigerian SME sector do not usually grow to become generational, they hardly outlive their owners. Similarly, Hassan and Ogundipe (2017) posited that only about 15% of SMEs in Nigeria make it to 6 or 10 years. By implication, the remaining 75% fail and are unable to carry on with their business. Consequently, Ogunjimi (2021) established that, the employment generated in the SME sector has a significant positive impact on unemployment in Nigeria. Though the sector is given credit for 76.5% employment, they do not really reduced unemployment in Nigeria.

One of the reasons for the poor performance in the sector according to Kipaa, (2021) is the absence of a corporate structure. Structure has been reported to be responsible for the growth and development of business. Because structure determines what needs to be done and how it should be done. If structure is not done correctly, every other thing will equally will be wrong. Li, (2019), opined that, structure is what

determines the future success or failure of the company. According to Nwonu et al., (2017), a poor organization structure will aid poor performance irrespective of the ability of the manager, therefore, the extent to which the structure of a business reduces ambiguity for an employee and clarifies problems such as what the employee is supposed to do, affects their attitudes to work and equally motivates higher overall performance.

One of the most easily identified dimension of structure which helps with clarity of task is complexity (Hall, 1999). Complexity according to Erol and Ordu, (2018) is an offshoot of division of labour and specialization and it refers to how tasks in the organization are differentiated based on skill and training. Wurm (2022) recognized complexity as the dynamic behaviour that emerges from the interaction of distinct parts of an organization; that is how organizations organize themselves as well as how they carry out work.

Though extant studies have established the significant effect of complexity on the performance of organizations, it is not clear whether SMEs can benefit from complexity because of their size. Bigger organization may have the resources to host complex structures but smaller firms may not be able to differentiate tasks amongst employees. This study therefore sought to examine the effect complexity on the performance of SMEs in Nigeria. Furthermore, the study suggested that learning orientation will moderate the effect of complexity on performance of SMEs. That is because, learning orientation is a management philosophy that allows information/knowledge to be disseminated and communicated throughout the organization which improves the capabilities of the employees and better orients them and consequently improves organizational performance (Tajeddini, Altinay and Ratten, 2017; Khan and Bashire 2020). This study therefore examined the effect of complexity on the performance of SMEs in Nigeria as well as the moderating role of learning orientation.

LITERATURE REVIEW

Concept of performance

According to Contu, (2020) Organizational performance refers to the degree to which the organization, with some informational, financial, and human resources, positions itself effectively on the business market. Shaibu, Ogbo, Agbaeze and Ukpere (2019) defined performance as a measure of the state of a firm, or the consequences that emanate from managerial decisions and the implementation of those management decisions by the workers of a particular organization. Pintea and Achim (2010) uphold that regardless of the definition, the term performance leads us to success, competitiveness, action, effort, progress because performance will refer to the capacity of the subject (individual) to register progress as a result of the efforts aiming to achieve and even overcome the established goals.

As a result of the difficulty associated with accessing objective data on SME performance, this study made use of subjective measures of performance. Three approach of subjective measures used mainly in previous studies as identified by Chandler and Hanks (1993) are either assessing the level of owners or managers satisfaction with their organization's performance or their perception of their performance in relation to that of their competitors given some individual components of performance namely; sales growth, return on sales, cash flow, return on investment, net profits, return on assets, growth in market share and growth in the net worth of the company (Gupta & Govindarajan 1984, Chandler & Hanks 1993) and growth/business volume. The study however choose business growth because it is more objective compared to the other two. Consequently, respondents were required to rate their organization's performance in broad categories that indicate growth.

Concept of organizational complexity

Complexity is expressed by the number of differentiated tasks within the organization and the number of professional units that fulfil these tasks and it is a natural outcome of labour division based on specialization (Erol & Ordu, 2018). Beyer and Ullrich (2022) defined organizational complexity as the degree of differentiation that exist within the entities that constitute an organization and opined that high organizational complexity above the cognitive limits of employees and management can contribute to a business performing sub-standardly in comparison to its competitors. Merz and Sogner (2022) studied

organizational complexity on the level of organizing practices that follow multiple and divergent logics via three strategies of segmenting research infrastructure, introducing elements of bureaucratic governance, and implementing standards and standardization. This study viewed complexity as the degree of task differentiation expressed by division of labour based on the skill and specialty of personnel.

Concept of learning orientation

According to Reulink, (2012) learning orientation refers to the ability of an organization to develop new knowledge or insights that have the potential of influencing (strategic) behaviour. Learning orientation is usually viewed as an organizations ability to have an open mind, display commitment to learn and be willing to share knowledge within the organization (Ismulyaty & Lestari 2017; Iyer, Srivastava & Srinivasan, 2019). That way, every member of the organization is better equipped to carry out their responsibility and also influence the general outcome in the organization. The degree of information available in the organization will consequentially affect what the business does, how it does it and the outcomes the organization generates. Bature, Sallehuddin and Hin (2018) observed that learning orientation points out how SMEs can create and use skills, knowledge and technically knowledge to extend strong capabilities that result in superior performance.

Complexity and performance

Several studies have examined the effect of organizational complexity on performance and have reported different outcomes. Nwonu et al., (2017) examined the effect of organizational structure on the organizational performance of 3manufacturing companies in Enugu State, Nigeria with a focus on pharmaceutical manufacturing firms. Using simple linear regression and correlation (bivariate) to test the hypothesis. The results of their study revealed a significant positive effect of complexity on organizational innovativeness but not the growth objective of the firms. With employees of the companies as respondents for the study, the authenticity of responses especially on organizational performance might be limited. Senior level staff may provide reliable responses but the junior staff may not. Udanyaga, (2020) studied the effect of specialization and departmentalization (which are also conceptualizations of complexity) on performance of SMEs in Sri Lanka. Hypothesis were tested using structural equation modeling. The study revealed that specialization and departmentalization had significant impact on the business performance of SMEs in Sri Lanka. Similarly, Pertusa-Ortega and Molina-Azorin, (2018), Bhowmick and D'Souza (2014) amongst others found positive and significant effect of complexity on performance. Consequently, the study hypothesized thus;

HO1: Complexity significantly affects the performance of SMEs in Nigeria.

Learning orientation as moderator

Studies have shown that learning orientation is an integral part of the organization and it a determinant of the success or failure of a business. Baker, Mukherjee and Perin, (2022) stated that learning orientation influences an organizations' ability to achieve competitive advantage and that learning orientation highly correlates and works in conjunction with strategic orientations to accomplish this end. The authors stated that learning orientation is not a strategic orientation but a tool that facilitates other strategies of the organization. While the study by Tajedenni et al. (2017) considered the moderating effect of learning orientation on organizational design and innovation, the study operationalized organizational designs in terms of organic and mechanistic structures. This study however focused specifically on organizational complexity and performance of SMEs to demonstrate how learning particularly affects this dimension of structure which is in fact the most recognized aspect of structure. Following the direction of literature, the study hypothesized that;

HO2: learning orientation significantly moderates the effect of complexity on performance of SMEs in Nigeria.

Theoretical framework

This study was founded on the Contingency Organizational Structure Theory which was birthed from the works of Woodward (1958), Burns and Stalker (1961) and Lawrence and Lorsch (1967). In a study

comparing 100 organizations, Woodward found that there is a relationship between situational factors such as technology, size and organizational performance. Also that, organizations perform better when they are able to match their structure with contingencies. Small businesses for example are conditioned by their size to have structures with less hierarchical levels and decision making power concentrated at the top. Consequently, SMEs can achieve better performance by matching their structure to situation there are in.

Furthermore, Oshita, Pavao and Borges (2017) explained that, Woodward (1958) found that all the company's operating cycle is affected by technology and there is a strong correlation between structure and predictability of production techniques; thus, organizations with stable operations need structures. By implication, irrespective of the size of a business, it needs to have a structure as long as it is an established business that is in operation. The theory further stipulates that what becomes a firm's practice depends on the situations the firm find itself and so, an organization's structure is conversely contingent on its business environment (Chong & Duan, 2022). Chong and Duan (2022) opined that the survival of an organization depends on the fit of the conditions that arise from the environment and their structure. Since this conditions that arise from the environment are usually unknown, this study extended the theory to include learning orientation as a strategic tool that cushions the effect of contingencies thereby contributing to knowledge. Based on previous studies and the extended theoretical framework of the study, the study developed the research model with complexity as the independent variable, SME performance as the dependent variable and learning orientation as the moderating variable.

METHODOLOGY

The target population of this study was 670,447 SMEs in Nigeria as recorded by NBS-SMEDAN, (2021). Data for this study was collected from six states drawn from the six geopolitical regions in the nation. Selection of states was done based on the state with the highest number of SME in the region. Dillman, Smyth and Christian (2014) formula for sample size determination was used to obtain a sample of 383 SMEs. Questionnaires were then distributed proportionately among the states. Out of the 383 questionnaires sent out 312 were found usable for the study.

Measurement of research variables

Erol and Ordu (2018) organizational structure measurement scale originally designed for universities was adapted to fit the study. The scale contained 8 items measuring complexity. Respondents were ask to rate their opinion on a five point Likert-scale ranging from 5, strongly agree to 1 strongly disagree. Items in the questionnaire for complexity included, "Each task in our organization is given to an employee who is specialized in that task", "Employees in our organization have professional competencies related to the task they are given".

The moderating variable learning orientation was assessed using the scale developed by Hult and Farrell (1997). The scale which was developed originally for learning organization capacity in purchasing with 6 items that measure learning orientation was adapted for this study. Respondents rated their agreement with their firm's learning orientation on a 5 point Likert- scale ranging from 5(strongly agree) to1 (strongly disagree). Items in the scale included, "The basic values of this organization include learning as a key to improvement." "Employees in our organization are committed to organizational goals."

The dependent variable (SME performance) was also measured on 5 point Likert scale using the 8-item scale developed by Spillan and Parnell (2006). The items in the questionnaire included, "in the last three years, our profit goals have been achieved", "in the last three years, our products/services have higher quality than those of our competitors", "in the last three years, we have a higher customer retention rate than our competitors", "in the last three years, we have a lower employee turnover rate than that of our competitors".

RESULTS AND DISCUSSIONS

The study utilised structural equation model to analyse the data collected from the respondent. The model comprised of the measurement and structural models. While the measurement model was employed to

ascertain the reliability and validity of the research instrument, structural model was used analyse the hypothesised relationship between study's constructs.

Measurement Model

Measurement model was used ascertain the internal consistency, convergent validity and discriminant validity. First, the item loading was evaluated. Hair, Hult, Ringle, & Sarstedt (2014) argued that loadings of 0.70 and above should be retained while any loading below 0.7 should be deleted. On the contrary, Hulland (1999) advocated for the retainment of loadings of 0.5 and above but deletion of items below this threshold since they add little or no variance to the study constructs. As a consequence, this study retained loading of 0.5 and above and deleted those items loading below 0.5. For instance, COM1, COM2, COM3, COM8, P6, P7, P8, LO5 and LO6 were deleted because they all loaded below 0.5 threshold (*see:* Table 1and Figure 1 below). The internal consistency of the study's construct was assessed using composite reliability. According to Hair et al. (2014), 0.700-0.900 threshold for a construct is needed to consider the instrument to be reliable. In Table 1 below, the composite reliability for all the study constructs range between 0.769 to 0.853. Furthermore, to confirm the study's convergent validity, average variance extracted (AVE) was used as proposed by Fornell and Larcker (1981). Fornell and Larcker (1981) argued that a construct AVE should be 0.5 and above to establish convergent validity. In Table 1 below, the value of AVE for each construct was above 0.5 cut-off.

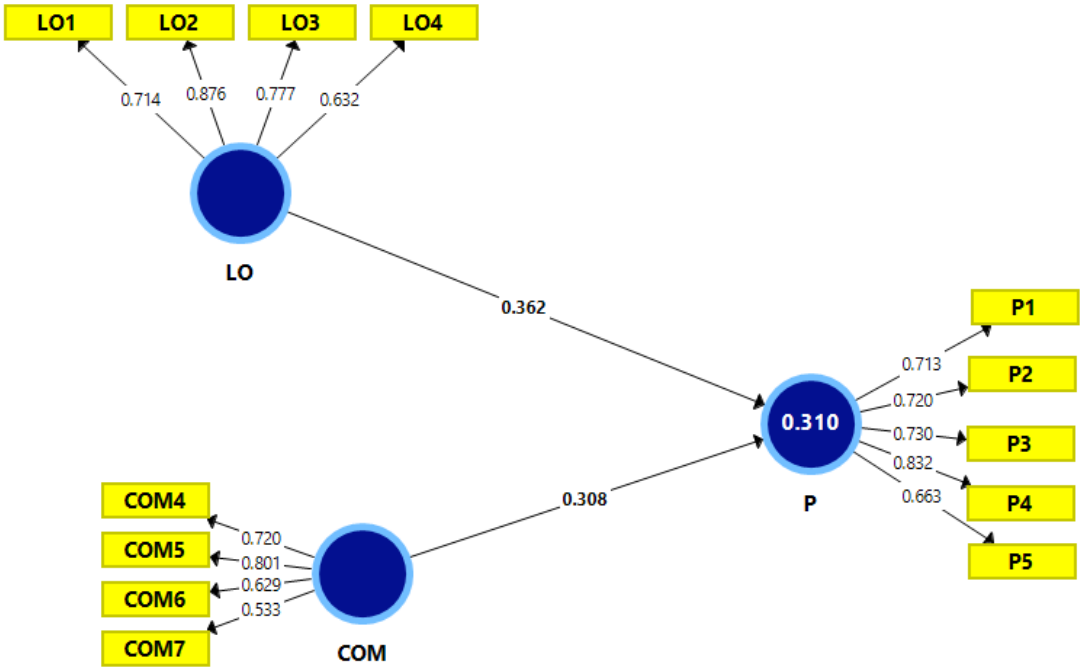

Figure 1: Measurement model

Table 1

Study(n=312): Loadings, Composite Reliability and Convergent Validity

Construct	Indicators	Loadings	Composite Reliability	AVE
Complexity	COM4	0.720	0.769	0.505
	COM5	0.801		
	COM6	0.629		
	COM7	0.533		
Learning Orientation	LO1	0.714	0.840	0.570
	LO2	0.876		
	LO3	0.777		
	LO4	0.632		
Performance	P1	0.713	0.853	0.538
	P2	0.720		

P3	0.730
P4	0.832
P5	0.663

Lastly, the study's discriminant validity was analysed using Heterotrait-Monotrait (HTMT) correlation was recommended by (Henseler, Ringle, & Sarstedt, 2015) owing to its superiority over cross-loading and Fornell and Larcker criterion in detecting lack of discriminant validity (Ojeleye, Ojeleye, Karem, & Abdullahi, 2023). While, Kline (2011) recommended that the corelations between variable should not be greater than 0.85 when the constructs are conceptually different, Henseler et al (2015) advocated for a more relax threshold of 0.900 when the constructs are conceptually similar. As a consequence, since both complexities and learning orientation are conceptual dissimilar, the study employed Kline (2011) benchmark. In the Table 2 below the correlation's figures are all less than 0.85 confirming the discriminant validity between the study's constructs.

Table 2: *Measurement Model: Discriminant Validity (Heterotrait-Monotrait Ratio (HTMT)*

Constructs	**COM**	**LO**	**P**
COM			
LO	0.570		
P	0.566	0.594	

Structural Model Evaluation

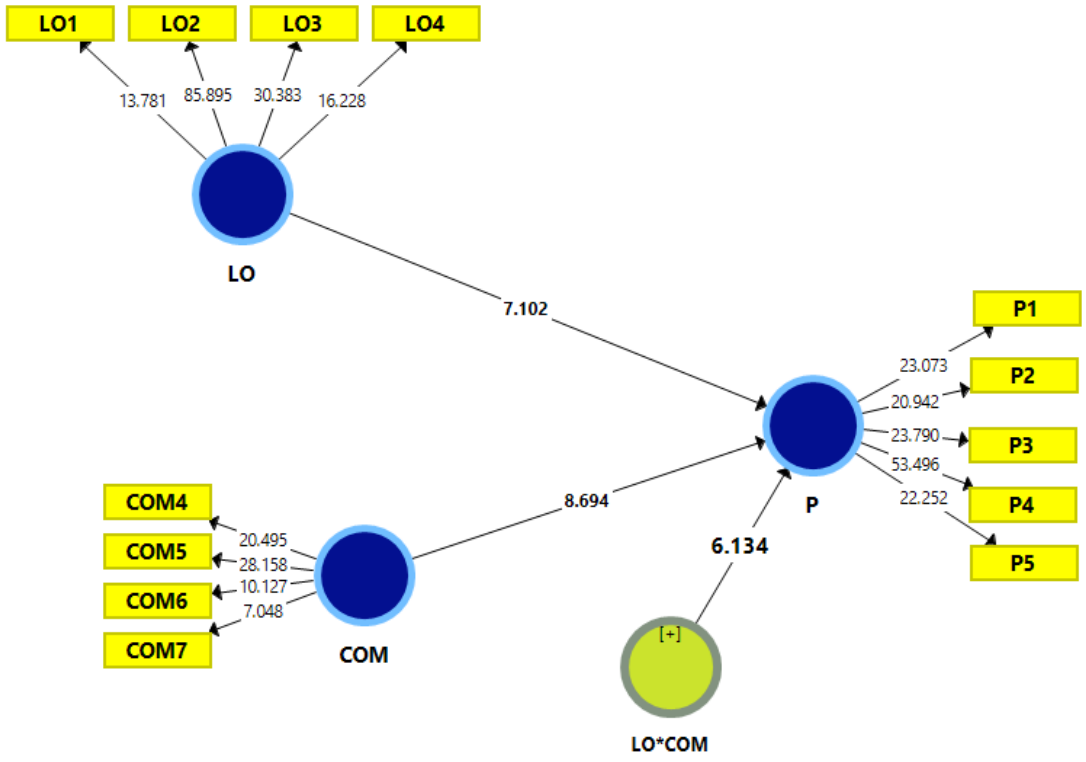

Figure 2: Structural Model

The structural equation model was used to determine the type of connection between the moderating and independent variables; LO and COM respectively and the dependent variable (P). 500 bootstrap samples were utilised for 312 occurrences to examine the significance of the path coefficients of the direct and moderating linkages.

Table 3
Hypothesis Testing for the Direct Relationship

Hypotheses	Relationship	Beta	Standard Error	T-Values	P-Values	Decision
H_{01}	COM->P	0.308	0.033	8.694	0.000	Supported
H_{02}	LO*COM	0.235	0.039	6.134	0.000	Supported
	R^2= 0.310					

p<0.05.

For Hypothesis H_{01} which states that complexity significantly affects the performance of SMEs in Nigeria, the beta coefficient of 0.308 suggests a positive direct relationship between complexities and SMEs performance. The low p-value of 0.000 indicates that this relationship is statistically significant, and the null hypothesis is rejected. In other words, there is evidence to support that complexity has a significant positive impact on SMEs performance In Nigeria.

For Hypothesis H_{02} which states that learning orientation significantly moderates the effect of complexity on performance of SMEs in Nigeria, the beta coefficient of 0.235 indicates a positive relationship between LO and COM interaction to impact SMEs performance. The very low p-value (0.000) signifies strong statistical significance, leading to the rejection of the null hypothesis. This implies that the interaction between LO and COM has a significant positive effect. As such we can conclude that learning orientation significantly moderates the effect of complexity on performance of SMEs in Nigeria. Meanwhile, the R-squared (R^2) value of 0.310 indicates that the models including these relationships can explain approximately 31% of the variance in the dependent variable. Based on Chin (1998) the R^2 values is moderate.

Effect Size

The study investigated the effect size (f^2) of the predictor variables on the criterion variable. This is undertaken to ascertain which among the predictor variables best explain the criterion variable. Cohen (1988) suggested that f^2 values of 0.02, 0.15, and 0.35, to represents small, medium, and large effects respectively. Analysing Table 4 below it can be explained that complexity, learning orientation and the moderating effect all have medium effect.

Table 4
Effect Size (f^2)

Construct	f^2	Effect size
COM	0.162	Medium
OL	0.101	Medium
OL*COM	0.125	Medium

Predictive Relevance

Furthermore, Predictive relevance Q^2 was used to determine the practical utility of the exogenous variable (Ojeleye et al., 2023) depicted in figure 3 below.

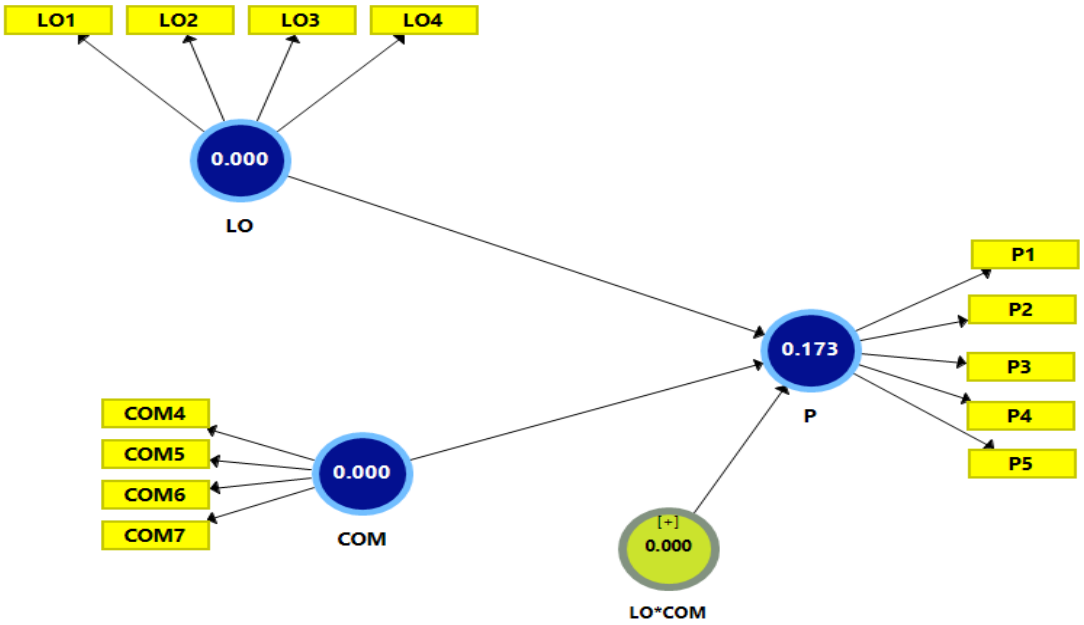

Figure 3: Predictive Relevance

Table 5

Predictive Relevance (Q^2)

Construct	SSO	SSE	Q^2 (=1-SSE/SSO)
COM	2,056.000	2,056.000	
LO	2,056.000	2,056.000	
LO*COM	514.000	514.000	
P	2,570.000	2,12.828	0.173

Hair et al. (2014) is of the opinion that Q^2 value of 0 or negative show that the model is irrelevant in predicting the endogenous variable. The results presented in Table 5 revealed that the model has practical utility since value of 0.173 is greater than zero (0).

Discussion of findings

The aim of this study was to determine the effect of organizational complexity on performance of SMEs in Nigeria and to assess the moderating role of learning orientation. The result of the path model analysis revealed as expected that complexity significantly affects the performance of SMEs in Nigeria and learning orientation significantly moderates the effect. Complexity is an offshoot of division of labour and specialization which involves assigning task to employees based on their specific skill and/or training. However, what is most obtainable in SMEs is multitasking rather than task differentiation and this is because of their size. Our studies review that the more task are handled by the people who are trained for it, the more performance increases. According to Ekperi (2023), when people switch from one task to the other, their brain adjusts and it leads to a cognitive cost referred to as task-switching. When this happens continuously, it leads to a reduction in the quality of employee performance because it will increase the amount of mistakes as well as engender a prolonged time in achieving tasks. Complexity on the other hand ensures focus on a particular task so the task is completed on time, it ensures specialization of task is acquired, it eliminates task ambiguity as well as ensure definite accountability in the work environment. The findings of this study also collaborates the findings of Udanyaga (2020), Nwonu, Abgaeze and Obi-Anike (2017), Venkateswarlu, Perera and Ranga (2020) and Pertusa-Ortega and Molina-Azorin (2018).

The study findings also revealed that learning orientation significantly moderates the effect of complexity on SME performance. That is because, with a learning orientation employees will be better equipped with the skill they have acquired and can set themselves apart for specific task which can make them specialize in a particular skill. Employees can distinguish themselves overtime, gain ownership of their task, become

more confident in carrying out their assignments, more creative and thus, more productive. The findings also collaborates other prior studies like the one by Tajeddini, Altinay and Ratten, (2017), Martinez, Serna and Montoya, (2020) and Bature, Sallehuddin and Hin (2018) that observed that learning orientation points out how SMEs can create and use skills, knowledge and technical knowledge to extend strong capabilities that result in superior performance.

CONCLUSION AND RECOMMENDATION

Based on the findings of this study, the study concludes that complexity is beneficial for SMEs though smaller firms may find it hard to operate task differentiation, studies review that the more task are assigned based on training and skill the better the outcome. The study also concludes learning orientation is necessary for SMEs as learning will ensure that that employees are better equipped for their assignments. Learning will help sharpen the skills of employees and the more open an organization is open to learning, the more it is able to overcome the rigidity and bureaucracies/red-tapes of structure. The study therefore recommends that operators of SMEs in Nigeria should ensure that tasks are assigned based on competence, skill and training. Because SMEs are mostly family businesses, owner/managers may be tempted to assign positions based on relationship, this is however conversely related to performance. Also, SME operators should ensure that the skills of their employees are continuously improved upon and this can be done by ensuring regular trainings, attendance of skill acquisition and development programs. The organization as whole should have learning orientation; learning orientation entails that knowledge is shared throughout the organization, that way, employees are better equipped to carry out their responsibilities and consequently, improve the productivity and performance of the their organization. The study also recommends that future studies should consider separating small businesses from medium enterprise to study either of the class of SMEs. Alternatively, future research can focus on comparing the outcomes from both classes to determine which class is most affect by which variable. Further studies should consider other aspects of structure such as decentralization, formalization, hierarchy of authority and so on to further give insights to the effect of structure on performance of SMEs.

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