

Competitive Capabilities And Performance Of Small And Medium Manufacturing Enterprises: Empirical Evidence From Southwestern Nigeria

By

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ABSTRACT

The study examined the effect of competitive capabilities on performance of the selected Small and Medium Manufacturing Enterprises (SMMEs) in Southwestern Nigeria. A survey research design was used for the study. Primary data were collected through the administration of structured questionnaire. The population comprised of the 1,983 registered SMMEs as contained in the directories of Small and Medium Enterprises (SMEs) associations across the six states of Southwestern Nigeria. The study sample of 333 SMMEs in Southwestern Nigeria was determined using Taro Yamane (1967) sampling formula. A multi-stage sampling technique was used for the distribution of the sample size among respondents. In the first stage, a stratified sampling technique was used in which each state in the Southwestern Nigeria represented a stratum. At the second stage, Probability Proportional to Size was used to distribute the sample size among the states. A random sampling was later used at the third stage to select the sample from each state in the region. Data collected were analysed using multiple regression. The result revealed that competitive capabilities including cost, quality, delivery and flexibility had significant effect on performance while the effect of innovation was insignificant. The study therefore concludes that competitive capabilities constructs enhanced the performance of SMMEs in Southwestern Nigeria.

Keywords: Quality, Cost, Flexibility, Delivery, Innovation, Manufacturing, Performance

1. Introduction

Sustainable development of developing countries like Nigeria depends largely on the performance of their indigenous micro, small and medium scale enterprises (Suleiman, Aliyu & Bello, 2021). These enterprises are generally considered as the engine of economic growth as a result of their immense contribution towards employment generation, poverty reduction, export earnings and gross domestic product (Suleiman, Aliyu & Bello, 2021). Small and Medium Scale Enterprises (SMEs) play a significant role in the development of economy of a nation. SMEs have been acknowledged as the most important contributors

to Gross Domestic Product (GDP), wealth creation and employment generation across firms, sectors and countries (OECD, 2023). The distinct role of SMEs in the economic growth of developing countries has been globally recognized. In recognition of the vital role of SMEs, governments at all levels have developed several initiatives and guidelines to enhance SMEs' growth and development (Danjuma & Peter, 2020). Despite the importance of these economic units, they are being constantly dragged to the point of collapse due to several challenges confronting them which make them incapable of developing competencies and capabilities to sustain themselves (Vinayachandran, 2024).

In Nigeria, micro, small and medium enterprises constitute more than 96% of the whole businesses in the economy, contribute more than 46% of GDP, provide above 87% of jobs and are the key drivers of the manufacturing sector and economic growth (KPMG, 2023). The sector's performance and growth in manufacturing, agriculture, services; and so on, has been considered a major economic driver which has contributed immensely to the country's economy (Eniola & Ektebang, 2014). Sustainable performance and competitiveness of SMEs will pave ways for numerous investments and job opportunities in the economy. Even though SMEs have been recognized as vital for the Nigerian economy, they are also confronted with challenges that limit their growth in the economy. SMEs contribution to GDP in Nigeria is much lower when compared with their contribution in countries at the same development level with Nigeria (Abada & Albert, 2016). Evidently, this low performance can be seen in the fact that most SMMEs in Nigeria are operating below capacity with many of them collapsing (Ikon & Chuckwu, 2018).

In order to improve their performance in the marketplace nowadays, firms pay major attention to giving value to the customer which requires most of them to direct their efforts towards offering products and services of better value than those of competitors (Kadiane et al., 2023). As the business environment keeps changing and becoming more complex, organizations continue searching and adopting new ways to stay competitive and current in the market (Makena, 2014; Maina et al., 2020). Furthermore, the effects of globalization and the entry of multinational firms require the micro, small, and medium enterprises operating in the

manufacturing sector to develop more unique products with added value to be competitive enough (Vinayachandran, 2024). As evidenced by past studies (Koufteros et al., 2002; Zulkiffli & Perera, 2012; Schoenherr et al. 2012; Ho et al., 2016; Kyengo & Kilika, 2017; Peng et al., 2019; Ali et al., 2021; Vinayachandran, 2024), development of competitive capabilities by firms impacts positively on their business performance. Competitive capabilities from the view of manufacturing businesses include quality, price, delivery dependability, product innovation and flexibility. Capabilities in the terms of lower cost, improvement in quality, products and processes innovations, improved productivity and quick delivery are all what these enterprises needed to achieve success in this challenging market environment. Consequently, the major issue that worries managers of manufacturing organisations today is providing the best performance in the market and this forces them to adopt a variety of strategies for better performance (Saber et al., 2014).

The top position being maintained by the developed economies in the manufacturing operations has been achieved through installation of competitive manufacturing capabilities, which has been aided by formulation of pro-manufacturing policies (Mkala et al., 2018). However, studies on the impact of competitive capabilities especially in the context of SMEs are scarce in Nigeria. Most studies conducted on the topic such as Koufteros et al., (2002), Zulkiffli and Perera (2011), Schoenherr et al. (2012), Ho et al. (2016) Ali et al. (2021) and Vinayachandran (2024) are from foreign countries., hence the need for this study to examine the effect

of competitive capabilities on performance of SMMEs in southwestern Nigeria.

2. Literature Review

This section reviews the related concepts of competitive capability, quality, cost, flexibility, delivery innovation and performance. It also includes theoretical review and empirical review.

2.1 Conceptual Review

2.1.1 Competitive capability

According to Thurer et al., (2014), competitive capabilities of firms refer to the strengths possess by them in meeting customer's desire compared to competitors' ability to act in similar manner. Similarly, Competitive capabilities are seen as the ability to engage in competition based on various competitive dimensions by a manufacturer and gain more attention than competitors (Latuconsina, 2021). These capabilities are apparent in terms of pricing, cost, efficiency in operations, products offerings and other similar factors (Maina et al., 2020).

For a firm to generate useful strategy and create core competency, corporate competitive capabilities are essential tools. Putting in place a market responsive and effective competitive strategy that would be responsive to customer value, increased returns, revenue growth has been considered as a major way to achieve this. To win orders, Teece et al. (1997) as cited in Koufteros et al. (2002) argued that a firm should be in possession of competitive capabilities which are customer oriented and can withstand relatively the competitors' strengths. Business strategy serves as the main driver for firm in setting competitive priorities and developing plan of activities.

In previous studies, measurement of competitive capability has been done by means of different indicators but no agreement exists in these studies for determining competitive capability as every study has its own measures of the concept (Hosseini & Sheikhi, 2012). Koufteros et al. (1997) as cited in Sukati et al. (2011) highlight the five properties of competitive capability which include price competitiveness, customer value addition, premium pricing, delivery dependability, and innovation in product. Schoenherr et al. (2012) regard competitive capabilities as a plant's actual performance as compared to those of its rivals with most regularly examined capabilities being cost, flexibility, quality and delivery. This is similar to the view of Karimi and Rafiee (2014) who assert that possessing a competitive edge usually indicates that the strength of a firm in certain capabilities relative to its rivals. These include reduced prices, improved quality, more dependability, and reduced time of delivery which lead to the enhancement of the organization's overall performance. These were corroborated by Zulkiffli and Perera, (2012) by listing four determinants of organisational competitive capabilities comprising differentiation, cost leadership, marketing innovation and service to customer service. Berglund and Stohm (2015) posit that quality, flexibility, cost, innovation and delivery are the major priorities that a company desires in the future. (Vinayachandran, 2024). Although, almost all studies on the topic acknowledge series of competitive attributes, Ali et al. (2021) posit that firms maintaining competitive capabilities such as quality, cost, innovation, flexibility, and efficiency can offer distinctive value

to customer and perform better than their competitors.

2.1.2 Quality Capability and Performance

According to Koufteros *et al.*, (2002), quality represents the level of the capacity of a producer in providing item with value that which would meets the consumers' needs. Similarly, quality is defined as delivering products that meet pre-set specifications of a product (Drohomeretski *et al.*, 2014). Quality is a tool for competition in the market. It brings about competition success by offering items which fulfill or surpass customers' requirements (Abddalfattah, 2013). Many companies pay much attention to quality, being a strategy to remain inclined to compete in the market for a lengthy period of time. Undoubtedly, Quality is a very vital in today's globalised competitive environment (Alsmadi *et al.*, 2011). In view of Wahjudi *et al.* (2015), competitive advantage is obtained from superior product quality hence many firms aim to better their products and services quality in order to gain competitive advantage and to improve their organizational performance. Moreover, quality has been linked by many scholars to competitive strategy. It is without doubt that quality represents the main business to the majority of organisations as it is the sole determinant of performance for which a separate department is usually dedicated by a firm to manage (Shafiq, 2019). Being regarded as the most essential issue in determining market share, knowing the relevance of quality is needed for successful competition in today's marketplace (Jong *et al.*, 2019).

2.1.3 Cost Capability and Performance

The opportunity to take the advantage available to cost leader to build volume by means of lower

prices is the attribute of cost leadership strategy (Barbole *et al.*, 2013). By paying more attention to cost leadership in manufacturing operations some manufacturers are able to respond more to price thus gain the advantage of higher profit than competitors (Ali-Momoh *et al.*, 2022). In addition, Shah and Pradhan (2014) opine that when the total costs incurred in the productive operations of firms are below those of rivals, it result in competitive advantage. Engaging in competition on the basis of cost is considered as a firm's capability to make and offer for sale, similar commodities or services at a lesser cost when compared with the competitors (Drohomeretski *et al.*, 2014).

2.1.4 Flexibility and Performance

Flexibility is the ability to act in accordance to dynamic environments or wholly new conditions or situations (Ofori-Amanfo, 2014). Different opinions have been offered by different authors on definition of flexibility (Berglund & Stohm, 2015). This term flexibility according to Muntaka *et al.* (2017) denotes the ability to put resources into use in according to variations in demands which are originally made by customers. It has many peculiarities, such as design/planning adjustment, changes in volume and variation in product. In order to respond to demands in the market, supply chain management needs to be flexible in the production system. The system must possess the ability to meet frequent modifications in demands (Gunasekaran *et al.*, 2017). In addition to being enterprise ability to respond to either rises or reductions in customers' demand, flexibility is a vital property for competition intention through fast response to the needs of customer (Muntaka *et al.*, 2017). As viewed by Umar and Sommanawat (2019), firm

competing on the basis flexibility possess the strength to act quicker to new developments than rivals in emerging markets. The continuous improvement of flexibility as argued by (Sansone et al., 2017) is essential for competition when concern with an increasing dynamism of market changes and changing customer expectations. Flexibility of a firm is an important factor for achieving better supply chain performance (Kozlowski et al., 2016).

2.1.5 Delivery Capability and Performance

According to Bostrom and Krol (2018), delivery include both delivery dependability and delivery speed. Delivery dependability is considered as the ability to deliver to time while delivery speed is the ability to make available within a short time. In a competitive business environment, delivery speed is of high importance for manufacturing firms and can assist them in winning orders since delivery dependability is not always enough (Alsmadi et al., 2011). Delivery shows the firm's ability to get products to customers and is therefore an important aspect of customer service (Sansone et al., 2017). Delivery represents a competitive priority due to the fact that customers are concerned with the satisfaction of their desires in the correct quantity and at the accurate time (Awwad et al., 2013). One of the key success factors on which supply chains rely is to provide customers with place and time utility through delivery of products at the right time to the right place (Thomas et al., 2011). Peng and Lu (2017) argues that delivering -products to time is a critical requirement for competition.

2.1.6 Innovation Capability and Performance

The fast and continuous changes in consumer preference and taste, technologies, consumers' taste

and general condition in the market in the recent time implies that the success and survival of organization depend on innovative capability (Iddris, 2016). An uninterrupted innovation in supply chain is critical for sustenance of competitiveness of corporations. Due to the globalization of markets and intensity in competition, companies are pressurised to innovate in order to turn more competitive, and embark on wholistic and completely integrated approach in the patterns of their supply chain (Narasalagi & Shivashankar, 2015). In an increasingly dynamic business environment, innovation capability is recognised to be a crucial means of competitive edge (YuSheng & Ibrahim, 2020). Bostrom and Krol (2018) identified four dimensions of innovation as innovation in product, innovation in technology, innovation in service and innovation in market. Innovation in product is the firm's skill to add new products. Innovation in technology involves the competence to bring about improved technologies. Innovation in service is concerned with capacity to create and add more services. Innovation in market has to do with the ability to locate and utilise new opportunities in markets.

2.1.7 Performance

Firm's performance has been measured by number of past studies with the usage of both market and financial standards, including market share, return on investment (ROI), profit percentage on turnover, growth in sales, Return on Assets (ROA) measured by income to total assets, ROI growth, growth in share of the market, and entire competitive position (Bello & Umar, 2019; Quang et al., 2016). Different scholars have measured organizational performance from different views. Vickery et al. (1991 as cited

in Wijetunge, 2017) considers organizational performance as how satisfactorily an entity is able to meet its marketing goals and in addition, its monetary goals. The study considers performance measurement items as assets returns, market share and rate of growth. Truong et al. (2017) evaluates organizational performance using items which include market share, sales growth as well the margin of profit on turnover. In the view of Horngren et al. (2012), with financial performance measurements by means of vital information such as sales, profit and cash flow, the decision makers are able assess the economic state of a firm. Ahmad et al. (2011) identify nonfinancial measurement as customer retention, image of the business customer satisfaction, and employees relationships. However, Ho, et al. (2016) combined both accounting based metrics and nonfinancial metrics to measure SMEs' business performance. Accounting based metrics used include sales profit, return on investment, cash flow while nonfinancial metrics comprise satisfaction of consumer, image of the business, customer retention, employee satisfaction, suppliers' relationship and employees relationship.

2.2 Theoretical Review

2.2.1 Resource-based View (RBV)

The RBV as developed by Barney (1991) aims to bring about operations capabilities towards a sustainable competitive advantage. The study considered firm resources as anything that enables firms to initiate and implement strategies that lead to improvement in its efficiency and effectiveness. The argument of the theory is that the possession of valuable, rare, in-imitable and non-substitutable (VRIN) resource by a firm creates a competitive

advantage for the firm (Bohnenkamp 2013). This seeks to explain the way the internal resources of an enterprise helps in its competitive advantage sustenance (Uchegbulam et al., 2015). The advocates of RBV argue that sustenance of competitive success resulting from the possession of irreplaceable, uncommon, and valuable resources can lead to higher performance (Jackline & Shitseswa, 2017).

2.3 Empirical Review

Oghojafor et al. (2014) studied the impact of competitive strategies and capabilities in technology on performance of firms manufacturing industry in Nigeria. The study made use of a cross sectional survey design. Data were collected with the usage of a well- structured questionnaire administered on respondents. A descriptive and a simple regression analyses were used for data analysis. Differentiation type of competitive strategy has no significant effect on performance of an organization. The effect of cost leadership on performance of organization is strongly significant. It however revealed that capabilities in technology have a great influence the performance of organizations.

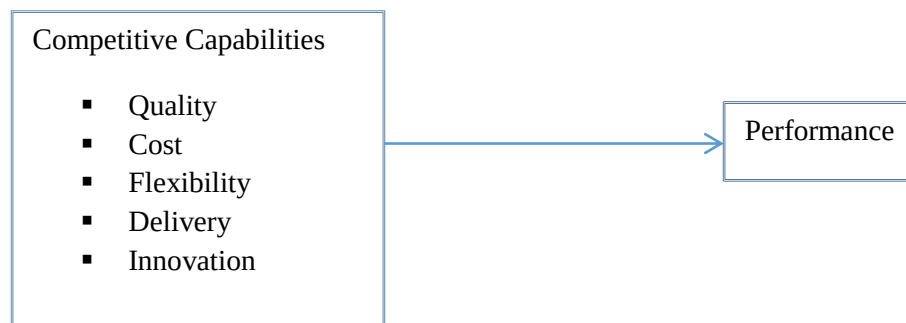
Ho et al. (2016) examines the effect of competitive capabilities in manufacturing on financial as well as non-financial performance of Malaysian SMEs in the manufacturing sector. The sample consists of 145 SMEs in manufacturing industry were used for the study. The study adopted partial least squares method of analysis. The findings show that competitive capabilities have satisfactory effect on financial performance of SMEs. It was also found that manufacturing competitive capabilities, comprising dependability in delivery and product

quality have satisfactory impact on nonfinancial performance.

Ali et al. (2021) conducted a study on sustainable manufacturing practices (SMPs) and sustainable performance of SMEs by examining the mediating effect of competitive capabilities and the moderating effect of environmental regulation. Using structured questionnaires, data were collected from 288 manufacturing SMEs in China. Structural equation modeling with partial least squares (PLS-SEM) was used for data analysis. The findings showed that adoption of SMPs helps SMEs to achieve competitive capabilities and impact positively on their sustainable performance. In addition, a positive mediating effect was revealed on the relationship between SMPs and SMEs' sustainable performance. Further, the relationship between SMPs and environmental regulation enhances sustainable performance of SMEs.

2.4 Conceptual Framework

Figure 1



2.5 Hypotheses of the Study

Based on the model proposed for the study, the hypothesis developed to examine the effect of predictors (quality, cost, flexibility delivery and innovation) on dependent variable (performance) is given as:

Vinayachandran (2024) studied competitive capabilities and firm performance among small rural firms India. A regression analysis was performed among 90 manufacturing Micro Small Medium Enterprises (MSMEs) in the district of Ernakulam, Kerala, India, to examine the relationship between competitive capabilities (innovation, human resource practices, information and communication technology, and intellectual property rights) and firm performance. The capabilities that contribute positively and significantly to firm performance were discovered to be competitive, and vice versa.

H1_a: Quality capability has significant effect on performance of SMMEs in Southwestern Nigeria

H1_b: Cost capability has significant effect on performance of SMMEs in Southwestern Nigeria

H1c: Flexibility has significant effect on performance of SMMEs in Southwestern Nigeria

H1d: Delivery capability has significant effect on performance of SMMEs in Southwestern Nigeria

H1e: Innovation capability has significant effect on performance of SMMEs in Southwestern Nigeria

3. Methodology

$$n = \frac{N}{(1 + N e^2)}$$

Where: n = sample

N= population

e = confidence level of 95% (0.05)

$$\text{Therefore } n = \frac{1,983}{1 + (1,983)(0.05)^2} = 333$$

A multi-stage sampling technique was used for the study. In the first stage, a stratified sampling technique was used in which each state in the Southwestern Nigeria represented a stratum. At the second stage, Probability Proportional to Size was used to distribute the sample size among the

4. Results and Discussion

This chapter presents the analysis of data and discussion of the result of the study. It presents results of correlation and multiple regression analysis.

Table 1 shows the correlation coefficients in-between each pair of the variables used for competitive capability- delivery, flexibility, quality, cost and innovation. The first column shows the correlation among performance and delivery, flexibility, quality, cost and innovation.

The study used a survey research design. Primary data were collected through the administration of structured questionnaire. The population comprised of the 1,983 registered SMMEs as contained in the directories of SMEs associations across the six states of Southwestern Nigeria. The study sample of 333 SMMEs in Southwestern Nigeria was determined using Taro Yamane (1967) sampling formula as follows:

states. A random sampling was later used at the third stage to select the sample from each state in the region. Data collected were analysed using correlation and multiple regression analysis techniques.

The first pair had the correlation coefficient of 0.419, the second pair had 0.314, the third pair is 0.256, the fourth pair had 0.498 and the fifth pair had 0.146. In the first column, performance moves in the same direction with delivery, flexibility, quality, cost and innovation. The second column shows the correlation among delivery, flexibility, quality, cost and innovation with the following coefficients value of 0.247, -0.035, 0.479 and 0.166 respectively. It implies that delivery has a linear correlation with

flexibility, cost and innovation but flexibility is inversely correlated with quality. The third column shows correlation among flexibility, quality, cost and innovation with a correlation coefficient of -0.065, 0.217 and 0.291 respectively. It signifies that flexibility moves in the same direction with cost and innovation but it inversely moves with quality. The fourth column shows the correlation coefficients among quality, cost and innovation with the following coefficient values of: 0.160, and -0.068 and this indicates that

quality is linearly correlated with cost but it inversely correlated with innovation. The fifth column of the correlation matrix shows absence of correlation between cost and innovation. Thus, there was evidence of low correlation coefficients which invariably suggested that each pair of the variables was not perfectly correlated, and, as such, the assumption of multicollinearity or perfect collinearity was refuted. By implication, it means that there is absence of multicollinearity problem in our model.

Table 1: Correlation Analysis

	PERF	DLV	FLX	QLT	CST	INV
PERF	1.000					
DLV	0.419	1.000				
FLX	0.314	0.247	1.000			
QLT	0.256	-0.035	-0.065	1.000		
CST	0.498	0.479	0.217	0.160	1.000	
INV	0.146	0.166	0.000	-0.068	0.000	1.000

Source: Author's Computation, 2024

The result on table 4 shows the model summary validation of regression model. Table 4 shows that the model was significant with the coefficient of determination (R^2) indicating that the independent variable can explain 37.7% variation in the performance of SMMEs while the remaining 62.3% variation in performance SMMEs could be explained by other factors which are not included in the model. The evidence from the results on table 2 shows the absence of multicollinearity among the independent variables. This is because none of the variable has variance inflation factor of less than 1 and greater than 10. Also, table 3 reveals the result of the inferential statistics (multiple

regression analysis) used for testing hypotheses for the study. The indicators of competitive capability examined were quality, cost, flexibility, delivery and innovation. It is explicit from the regression coefficient that the predictor variable (quality, cost, flexibility, delivery and innovation) have positive effect on performance of SMMEs. However, four of the predictor variables (quality, cost, flexibility and delivery) have positive and significant effect on performance of SMMEs. This is significant because the associated probability value of the coefficient for each of the predictors is lesser than 0.05. Only one of the predictors (innovation) has insignificant effect performance of SMMEs. The

t and p values of the four statistically significant independent variables were as shown in parenthesis: quality ($t = 2.757$; $\text{sig} = 0.007$, $p < 0.05$); cost ($t = 3.295$; $\text{sig} = 0.001$, $p < 0.05$); flexibility ($t = 2.100$; $\text{sig} = 0.038$, $p < 0.05$); delivery ($t = 2.278$; $\text{sig} = 0.025$, $p < 0.05$). In contrary to this, innovation ($t = 0.824$; $\text{sig} = 0.412$, $p < 0.05$) was statistically insignificant. Furthermore, there was variation in the contribution of each indicator of competitive capability to the performance of SMMEs in Southwestern Nigeria. From table 4 it is explicit the quality capability has positive and significant effect on performance of SMMEs in Southwestern Nigeria. This implies that a unit change in the quality capability will significantly improve the performance of SMMEs by 17.4%. In addition, cost capability has positive and significant effect on performance of SMMEs. This means that a unit change in cost capability will significantly improve the performance of SMMEs by 31%. More so, the flexibility capability has positive and significant effect on

performance of SMMEs. This means that a unit change in flexibility capability will significantly increase the performance of SMMEs by 17%. Furthermore, delivery capability has positive and significant effect on performance of SMMEs. This implies that a unit change in the delivery capability will significantly improve the performance of SMMEs by 25.1%. However, it was revealed that innovation has positive but insignificant effect on performance of SMMEs. This indicates that a change in innovation will increase the performance of SMMEs 5.8%. Based on the result above, hypothesis H1_a, H1_b, H1_c, H1_d, are confirmed while H1_e is rejected. The result therefore underpin the argument of Resource-based View (RBV) theory as proposed by Barney (1991) that possession of valuable resources and operational capabilities can lead to competitive advantage and higher performance. Thus the result of this study could serve to encourage managers of SMMEs to develop competitive capabilities to sustain and grow their firms.

Table 2: Multicollinearity Test

	Variance Inflation Factor (VIF)
QLT	1.051
CST	1.395
FLX	1.174
DLV	1.381
INV	1.122

Source: Author's Computation, 2024

Table 3 Regression Coefficient

	Unstandardized Coefficients	Standardized Coefficients	SE	T value	P value
QLT	0.174	0.230	0.063	2.757	0.007
CST	0.310	0.317	0.094	3.295	0.001
FLX	0.170	0.185	0.081	2.100	0.038
DLV	0.251	0.218	0.110	2.278	0.025
INV	0.058	0.071	0.070	0.824	0.412
Intercept	-3.142	0.000	3.295	0.953	0.343

Source: Author's Computation, 2024

Table 4: Model Summary

R-square	R-square adjusted	Durbin-Watson test
0.377	0.344	2.234

Source: Author's Computation, 2024

5. Conclusion and Recommendations

The study examined the effect of competitive capabilities on performance of the selected Small and Medium Manufacturing Enterprises (SMMEs) in Southwestern Nigeria. The result revealed that competitive capabilities including cost, quality, delivery and flexibility had significant effect on performance while the effect of innovation was insignificant. The study therefore concludes that competitive capabilities

constructs enhanced the performance of SMMEs in Southwestern Nigeria. The study hence recommends that managers of Nigerian SMMEs should prioritise the adoption of manufacturing competitive capabilities as relate to high quality, lower cost, flexibility, dependable delivery and; product and process innovation as these will positively affect their performance.

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