



IMPACT OF OPERATIONS MANAGEMENT STRATEGY ON ORGANIZATIONAL PERFORMANCE OF NIGERIAN MANUFACTURING INDUSTRY: MEDIATING EFFECT OF ORGANIZATIONAL COMPETENCE

ABSTRACT

The Nigerian manufacturing sector has been plagued by a series of issues that have continued to impact productivity and profitability due to the unfavorable macroeconomic conditions coupled with the outbreak of the COVID-19 pandemic, which has become a global concern. This current study, therefore, examines the mediating effect of organizational competence on the relationship between management strategy and organizational performance in the manufacturing industry. A judgmental sampling approach was used to

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Introduction

The important role of manufacturing in a country's economic development in terms of creating jobs, alleviating poverty, and contributing to the Gross Domestic Product (GDP) has been recognized by researchers, economists, academics, and practitioners around the world. According to Sajuyigbe, Ayeni, and Inegbedion (2021), the sector employs over 3.7 million people worldwide and the sector is also a strong economic pillar for both developed nations and emerging economies. The United Nations (2020) confirms that the sector has turned many developed countries such as the US, UK, Japan, Germany, and France into wealthy nations and now China into the world's growing economy. In Nigeria, the sector is recognized as a major employer of the labor force and contributes significantly to the gross domestic product (GDP) (Adenikinju, & Ayorinde, 2011). Paradoxically, the Nigerian manufacturing sector has been hit by a series of problems that have continually impacted productivity and profitability due to the adverse macroeconomic conditions coupled with the outbreak of the COVID-19 pandemic, which has become a global concern. Apparently, Sajuyigbe et al. (2021) say that the unfavorable macroeconomic conditions and the COVID-19 surge have killed many manufacturing firms and some are struggling to survive. The National Science and Technology Infrastructure Agency also



select the Procter & Gamble Company, but using a simple random sampling technique to select 252 respondents from a total population of 2,878 employees. Data were collected from respondents using a structured questionnaire. Data analysis was performed using structural equation modeling. The results show that supply chain strategy is positively and significantly associated with organizational competence, value proposition strategy, procurement strategy, facility management strategy, and organizational performance, whereas procurement strategy is associated with organizational performance but found not to be significantly related. Although the study also confirms that organizational competence does not mediate between supply chain strategy, procurement strategy, and organizational performance. Organizational competence is partly mediates between value proposition strategy and organizational performance, and perfectly mediates between value facility management strategy and organizational performance. Therefore, manufacturing sector should focus on making their procurement strategies more strategic so that the sector can control costs through careful forecasting, planning, budgeting, reporting, and monitoring.

Keywords: Competence, Value Proposition, Supply chain, Facility management, Procurement

recognizes that advanced manufacturing technologies, manufacturing processes, equipment, and systems around the world are rapidly changing to meet new customer needs, competitive challenges, and new technologies. For this reason, only finished products are imported into the country.

This unpleasant scenario has forced manufacturers to adopt operations management strategies (OMS) that ensure superior performance. Ngina (2019) argues that OMS creates the highest possible level of efficiency within an organization. According to Bosire and Owour (2018), an OMS takes over the entire production process and ensures that each step is carried out efficiently to ensure maximum productivity. The result is a quality product/service that meets consumer needs. Tanui (2015) also confirms that the OMS creates competencies that companies can use as weapons to gain a competitive advantage. Similarly, Dao, Walker, and Strickler (2020) confirm that the implementation of OMS helps improve the competitiveness of companies, impacting corporate performance not only in high-end manufacturing companies but also in SMEs.

After OMS, organizational competence was recognized as a powerful factor influencing company performance. Organizational competencies have been viewed as simple employee skills required to achieve organizational goals that drive the implementation and alignment of integrated business strategies (Grant & Jordan, 2015). An organization's capabilities describe what it does best. These competencies and skills represent how your organization expects you to achieve what you need to achieve. Such competencies may include decision-making, risk-taking, problem-solving skills, attention to detail, innovation, customer service, strategic perspective, teamwork, and strategic leadership (Nowak, 2012). Previous studies have attempted to examine the impact of operational management strategies on organizational performance in manufacturing and service



industries in both developed and emerging economies (Ngina, 2019; Bosire & Owour, 2018; Tanui, 2015; Dao, Walker, & Strickler, 2020).

However, none of these studies conceptualized operations management strategy as this study intends to measure the construct. In addition, none of the available empirical studies has established the mediating effect of organizational competence on the relationship between operations management strategy and organizational performance in the manufacturing sector. This study adopts operations management strategy measurement to be supply chain Strategy, value proposition strategy, facility strategy, and procurement strategy. This serves as a conceptual model gap that the study intends to establish in the strategic management literature.

Review of Related Literature and Hypotheses Development

Operations Management Strategy

Different authors give different insights into operations management. According to Pooja and Pallawi (2019), operations management is the management of all processes involving the transformation of resources to provide optimal value to customers. Operational management, as defined by Gowen, and Tallon (2012), involves planning, organizing, and managing all of an organization's workforce and product resources. This includes oversight of workers and various assets involved in product development. Anil and Suresh (2017) see it as a method and process for achieving the recorded goals of a working framework. Organizations have put a lot of effort into maintaining a high level of efficiency. These efforts typically include any process to reduce administrative and commodity costs (Rehema, Stephen & Gituro, 2020). Werunga (2016) clarifies that organizations typically focus on operational management to meet market demand and stay on top while working with limited resources. The development and application of good functional practices are entirely dependent on effective operational management practices. However, for an organization to be efficient enough to achieve overall cost reductions through operational management, it needs supply chain management, value proposition management, facility management, procurement management, and organizational ability to meet objectives. Due attention should be paid to the area of business management. Azmi and Ika (2020) describe the supply chain strategy as a roadmap that helps companies get their products to their customers as smoothly as possible. This plan optimizes all stages of the supply chain, including material sourcing, manufacturing, delivery, and logistics. Qiao, Zhang, and Cheng (2016) use value proposition strategies to introduce a company's brand to consumers by telling them what the company stands for, how it operates, and why it is worthy of doing business. A facility management strategy is therefore a link between facility management and facility planning, with a focus on long-term outcomes and involving facility management in business initiatives (Chotipanich & Lertariyanun, 2011). According to Akubuko, Obodo, Musa, and Jimoh (2019), procurement strategy is a source of sustainable value for companies. Ensuring the overall performance of the company by setting purchase and spending targets for the company's goods and services.

Resource-based view theory reiterates that management practices are internal factors that contribute to competence development. As such, they can provide a competitive advantage to firms (Ngina, 2019). The operationalization of RBV theory is fundamental as it guides managers in executing resource-based strategies (Ngina, 2019; Kipngetch, 2016). This theory argues that



operations management strategies such as supply chain strategy, value proposition strategy, facility strategy, and procurement strategy can be used as weapons by organizations to gain a competitive advantage. A study of manufacturing companies in Turkey by Akgul, Gozlu, and Tatoglu (2015) found that operational strategy was significantly correlated with organizational performance. In a similar study, Elisa, Andrea, and Massimiliano (2013) also confirmed that production and supply chain activities influence firm performance. Another study conducted in Kenya by Kipnetich (2016) reaffirms the significant impact of operational strategy execution on performance in terms of superior customer responsiveness and innovation.

Similarly, Chotipanich and Lertariyanun (2011) investigated the impact of facility management strategies on organizational performance in Thailand. They found that facility management strategy was positively correlated with business performance. Additionally, Mohammad and Elham (2014) conducted a study on supply chain strategy and organizational performance in Kuwait. Evidence shows that supply chain strategy is a strong predictor of business performance. A study by Pooja and Palawi (2019) argues that operational management activities influence job quality in service firms. Based on theoretical and empirical evidence, the following hypotheses are formulated:

H₁: Supply chain Strategy has a significant influence on organizational performance.

H₂: Value proposition strategy has a significant influence on organizational performance

H₃: Facility strategy has a significant influence on organizational performance

H₄: Procurement strategy has a significant influence on organizational performance

Organizational Competence

The concept of organizational competency has traditionally been narrowed to employee skills necessary to achieve organizational goals that drive the implementation and alignment of integrated business strategies (Grant & Jordan 2015). In this 21st century, organizational competencies go beyond employee skills to develop the necessary skills, the necessary information, and the right organizational culture necessary for an organization to fulfill its mission. Organizational competencies represent what an organization does best. These competencies and skills represent how your organization expects you to achieve what you need to achieve. These competencies may include decision-making, risk-taking, problem-solving skills, attention to detail, innovation, customer service, strategic perspective, teamwork, and strategic leadership (Nowak, 2012). Previous research has linked organizational competence to management practices and organizational performance (Pooja & Palawi, 2019; Rehema, Stephen & Gituro, 2020). According to Dragomirescu (2004), increasing the level of competence of an organization is primarily a matter of implementing operational management strategies and the need to pay due attention to supply chain management, value proposition management, facilities management, and procurement management. Nowak (2012) reiterates that organizational competencies have a lot to do with supply chain strategy; the ability to operate facilities efficiently, and organizational performance. Shi et al (2014) also advocate that organizational competencies representing various skills in the supply chain, value proposition, facilities management, and procurement validate organizational performance. This led to the following hypotheses:



- H₅: organizational competence mediates between supply chain strategy and organizational performance.
- H₆: organizational competence mediates between value proposition strategy and organizational performance
- H₇: organizational competence mediates between facility management strategy and organizational performance
- H₈: organizational competence mediates between procurement strategy and organizational performance

CONCEPTUAL FRAME WORK

After the careful study of literature review, the following conceptual model is formulated to illustrate the mediating effect of organizational competence on the relationship between operations management strategy and organizational performance. Figure 1 below shows the hypothesized model with the dimensions of the independent variables separately linked to the mediator and dependent variable.

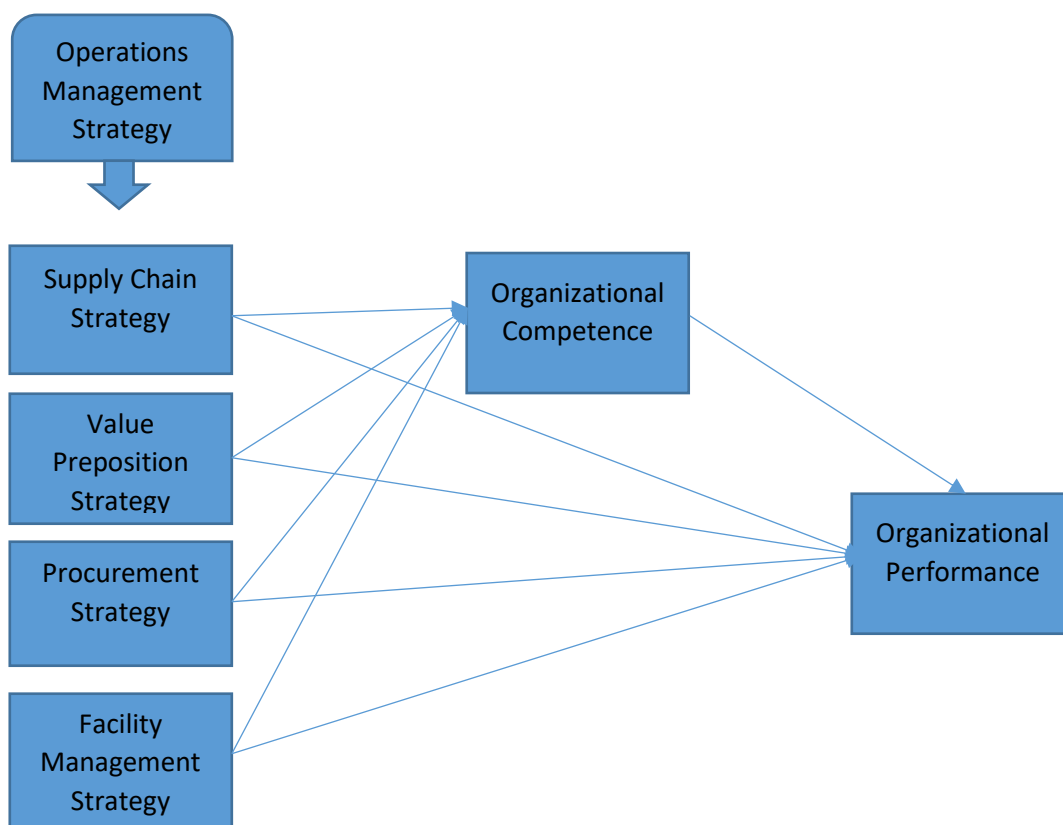


Figure 1: Conceptual Model

Methodology

This study used a survey study because it provides hard numbers on people's opinions and behaviors that can be used to make important decisions. Procter and Gamble Plc., was selected



using a judgmental sampling procedure while simple random sampling techniques was used to select two hundred and fifty two (252) respondents from a total population of 2,878 staff members. The sample size is determined by the formula suggested by Mugenda and Mugenda (2003). The choice of Procter and Gamble Plc was based on the fact that the company is an American Multinational corporation that deals with consumer goods and operates in both developed and developing nations. Therefore, it is expected that the company has an effective operations management strategy for Achieving Competitive Advantage. A structured questionnaire was employed to collect data from the respondents. Structural Equation Modelling was used to perform Data analysis with the aid of STATA version 15.

Survey Instrument

The instruments used for the study consists of supply chain strategy scale, value proposition strategy scale, facility management strategy scale, procurement strategy scale, organizational competence scale, and organizational performance scale.

Supply Chain Strategy Scale: This scale was derived from the study of Azmi and Ika (2020)

The survey comprises 6 items. The scale was anchored on a five-point Likert scale (ranging from one = strongly disagree to five = strongly agree) for all the study instruments. The scale's internal consistency factor α was 0.82

Value Proposition Strategy Scale: The scale was developed and validated by Qiao, Zhang, and Cheng (2016). The survey comprises 5 items. The scale was anchored on a five-point Likert scale (ranging from one = strongly disagree to five = strongly agree) for all the study instruments. The scale's internal consistency factor α was 0.79.

Facility Management Strategy Scale: This scale was derived from the work of Ngina, (2019). The survey comprises 5 items. The scale was anchored on a five-point Likert scale (ranging from one = strongly disagree to five = strongly agree) for all the study instruments. The scale's internal consistency factor α was 0.88.

Procurement Strategy Scale: This scale was derived from the work of Pooja and Pallawi (2019). The survey comprises 4 items. The scale was anchored on a five-point Likert scale (ranging from one = strongly disagree to five = strongly agree) for all the study instruments. The scale's internal consistency factor α was 0.88.

Organizational Competence Scale: This scale was derived from the work of Ngina (2019). The survey comprises 4 items. The scale was anchored on a five-point Likert scale (ranging from one = strongly disagree to five = strongly agree) for all the study instruments. The scale's internal consistency factor α was 0.88.

Organizational Performance Scale: This scale was derived from the work of Akgul, Gozlu, and Tatoglu (2015). The survey comprises 4 items. The scale was anchored on a five-point Likert scale (ranging from one = strongly disagree to five = strongly agree) for all the study instruments. The scale's internal consistency factor α was 0.88.

Table 1: Summary of Results of the Measurement Instruments Validation

variable		Cronbach's alpha
Supply Chain Strategy Scale- – Cronbach Alpha –(FCS = 0.851)		
FCS1	We consider quality as our number one criterion in selection of Suppliers	0.795
FCS2	We frequently interact with customers to set reliability,	0.748



	responsiveness, and other standards for us	
FCS3	Information exchange between our supply chain partners and us is timely	0.822
FCS4	Information exchanged between us and our supply chain partners is reliable.	0.764
FCS5	We facilitate customers' ability to seek assistance from us	0.798
FCS6	Development and access to new knowledge and resources of new products.	0.761
Value Proposition Strategy Scale - Cronbach Alpha – (VPS = 0.872)		
VPS1	We always delivers value to our customers through provision of quality services	0.789
VPS2	We make it our duty to ensure that the services offered to our customers are dependable	0.855
VPS3	Our firm always aims to differentiate its services from those of competitors to maximise value to our customers	0.797
VPS4	We increase the value delivered to our customers by offering extra benefits which are not available from our competitors	0.872
VPS5	Our firm seeks to determine the key benefits in services and provide them to customers as a key strategy in delivering value to our customers	0.696
Procurement Strategy Scale- Cronbach Alpha – (PS = 0.879)		
PS1	There is effective suppliers supervision	0.821
PS2	By keeping records, the organization avert the stress of duplicating recording efforts	0.766
PS3	Organization controls the cost through carefully forecasting, planning, budget preparation, reporting and monitoring.	0.817
PS4	Organization manages the cost to avoid unnecessary spending.	0.748
Facility Management Scale - Cronbach Alpha – (FM = 0.832)		
FM1	This firm critically evaluates several sites in search for the most appropriate location to set up the business.	0.789
FM2	In our firm, our processes are adequately considered in line with structures, customer involvement and resource flexibility	0.798
FM3	We adopt the office layout design that promotes transparency among our staff members.	0.818
FM4	The office layout arrangement enhances smooth flow of processes	0.809
FM5	Our firm seeks to adopt the most appropriate layout strategy in order to maximise resource utility.	0.787
Organizational Competence Scale- Cronbach Alpha – (OC = 0.885)		



OC1	The staff demonstrate excellence in the speed of service delivery to customers.	0.812
OC2	The staff demonstrate high capability of constantly designing new products to our customers.	0.803
OC3	The staff of this firm demonstrate high responsiveness to customer needs.	0.791
OC4	The staff demonstrate unique capabilities that are unmatched in the industry	0.788
OC5	In this firm, the staff members have acquired a vast wealth of theoretical and practical knowledge in the production processes	0.733
Organizational Performance – Cronbach Alpha – (OP = 0.841)		
OP1	We offer products/services that are highly reliable with reasonable price	0.760
OP2	We offer products that are very durable at low price	0.809
OP3	Managerial restructuring of production based on the introduction of foreign advanced technology and equipment.	0.799
OP4	There is high response and speed during production processes.	0.764
OP5	There is organizational high products reliability that meet up the standard.	0.785
OP6	The organization experiences wide range of production capacity.	0.805

Table 1 above shows that the factor weights for all indicators are greater than 0.5, indicating that the question explains the variability of those variables. This makes the measurement model suitable for analysis.

Results of Data Analysis

Distribution of Respondents

The study reveals that 36% of the respondents are male while 64% of them are female. This implies that organization has more females and males, that the job is flexible, not labour-intensive and can be handled by females. In relation to the qualification, 18.5% of the respondents had SSCE, 26% of the majority respondents had NCE and ND, 53%, of the respondents had HND/BSc, and 2.5% of others had other qualifications. This implies that the majority of the employees have B.Sc. The result also shows that 61% representing the majority of the respondent are of lower level management, 35.5% are of middle level management and 3.5% are of top management. This result suggests that the majority of the staff are in lower management level, communication flows from top to middle to lower level management, also orders and specifications are done according to dictates of the management. It was also revealed that 16.0% of the respondents have 0-2 years of experience in the establishment, 13.5% had 3-5 years of experience, 4.5% of the respondents have



6-9 years of experience, and 66% representing majority of the respondents have 10years and above years of experience. This implies that the establishment has high employee retention which leads to expertise and performance.

Table 1: Correlation Analysis using Standardized Coefficient

Relationship between variables	R-value	P-value	95% Conf. Interval	
cov(SCS,VPS)|	.671**	0.000	.5851227	.7575255
cov(SCS,PS)|	.430**	0.000	.3026139	.5583052
cov(SCS,FMS)|	.519**	0.000	.4048105	.6339881
cov(VPS,PS)|	.320**	0.000	.1795223	.4611612
cov(VPS,FMS)|	.451**	0.000	.3266144	.5764698
cov(PS,FMS)	.759**	0.000	.6930363	.8258663

Table 1 shows the link between the variables (supply chain strategy, value proposition strategy, facility management strategy, procurement strategy). The results show that supply chain strategy also has a significant relationship with supply chain strategy, procurement strategy, and facility management strategy with the r-values of 0.671**, 430**, and .519** respectively. Evidence shows that value proposition strategy has a significant association with procurement strategy and facility management strategy with the r-values of .320** and .451** respectively. It was also discovered that procurement strategy has a direct link with facility management strategy ($r = .759^{**}$). This means that the operational management dimension has a lot to do with customer satisfaction and loyalty.

Table 2: Path Analysis (Direct Estimation)

Relationship between variables	Estimates	S.E	t-value	p-value
SCS → OC	.169	.763	2.21	0.027
SCS → VPS	.321	.064	4.96	0.000
SCS → PS	.194	.085	2.35	0.019
SCS → FMS	.592	0.854	6.93	0.000
OC → OP	.236	.073	3.22	0.001
SCS → OP	.192	.071	2.71	0.007
VPS → OP	.198	.064	3.09	0.002
PS → OP	.098	.077	1.27	0.203
FMS → OP	.212	.089	2.37	0.018

Table 2 shows path coefficient results. The result presented that supply chain strategy has a positive association with organizational competence ($\beta = 0.169$, $t = 2.21$), value proposition strategy ($\beta = 0.321$, $t = 4.96$), procurement strategy ($\beta = 0.194$, $t = 2.35$), facility management strategy ($\beta = 0.592$, $t = 6.93$), and organizational performance ($\beta = 0.192$, $t = 2.71$). The p-value of 0.000 further



proves that the associated is highly significant. This study is consistent with previous studies that supply chain strategy, value proposition strategy, and facility management strategy are key determinants of firm performance (Pooja & Pallawa, 2019; Qiao, Zhang & Cheng, 2016; Ngina, 2019; Azmi & Ika, 2020). A t-value of 0.088 and a p-value of 0.203 prove that procurement strategy is not significantly associated with organizational performance. This result contrasts with previous studies that found procurement strategy to be an absolute condition for firm performance (Azmi & Ika, 2020; Pooja & Pallawi, 2019; Ngina, 2019). So H_1 , H_2 , and H_3 are confirmed, but H_4 is not supported. The implication of this insight is that operations management strategy places the manufacturing sector in the spotlight on global relevance by implementing supply chain strategy, value proposition strategy and facilities management strategy to gain competitive advantage. Ngina (2019) also sees the operations management strategy as the cornerstone of a company's competitiveness.

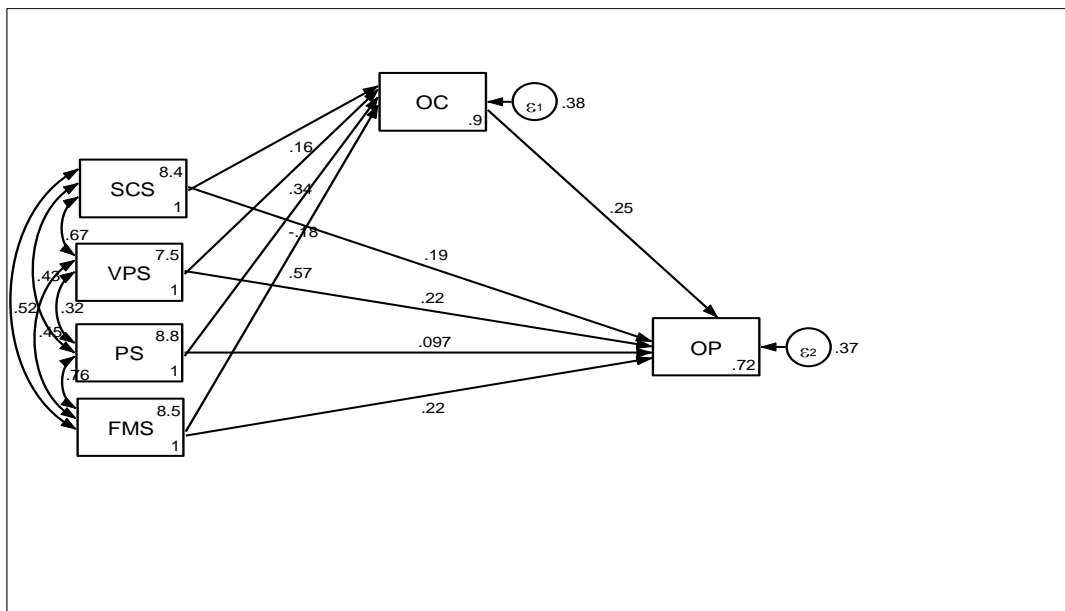


Figure: 2 Structural Equation Modeling

Table 3: Structure Equation Modelling with mediator (Indirect effects)

Relationship between variables	Estimates	S.E	t-value	p-value	95% Conf. Interval	
$SCS \rightarrow OC \rightarrow OP$	.0400	.021	1.82	0.068	-.0029639	.0830626
$VPS \rightarrow OC \rightarrow OP$	.076	.0628	2.70	0.007	.0209484	.1313879
$PS \rightarrow OC \rightarrow OP$	.046	.024	1.90	0.058	-.0936922	.0014943
$FM \rightarrow OC \rightarrow OP$	.140	0.480	2.92	0.003	.0462935	.2345599

Table 3 shows the mediating effect of organizational competence on the relationship between supply chain strategy, value proposition, facility management strategy, and procurement strategy.



Using standardized coefficients, an indirect beta value of 0.0400 and a p-value of 0.068 indicate that organizational competence does not mediate between supply chain strategy and organizational performance. The p-value of 0.058 also indicates that organizational capabilities do not mediate procurement strategy and organizational performance. According to Kenny and Baron (2003), a p-value of $>5\%$ for a mediating variable implies no mediation. A p-value of 0.007 indicates that organizational competence partially mediates value proposition strategy and organizational performance. An indirect beta value of 0.14 and a p-value of 0.003 suggest that organizational competence perfectly mediates value facility management strategy and organizational performance (see figure 2). This is proposed by Kenny and Barron (2003), when the independent variable and the mediator are both predictors of the dependent variable, partial mediation occurs, and when the independent variable is not a predictor but mediator is a predictor of dependent variable perfect mediation occurs. So H_5 and H_7 are unconfirmed, H_6 is partially confirmed, but H_8 is supported.

Conclusion

This current study establishes that supply chain strategy has a positive and significant association with organizational competence, value proposition strategy, procurement strategy, facility management strategy, and organizational performance. Furthermore, procurement strategy was found not be significantly associated with organizational performance. The implication of this insight is that operations management strategy places the manufacturing sector in the spotlight on global relevance by implementing supply chain strategy, value proposition strategy and facilities management strategy to gain competitive advantage. The study also confirms that organizational competence does not mediate between supply chain strategy, procurement strategy and organizational performance. Evidence also reveals that organizational competence partially mediates between value proposition strategy and organizational performance, while organizational competence perfectly mediates between value facility management strategy and organizational performance.

Recommendations

The following recommendations are made:

- i. That manufacturing sector must focus on making procurement strategies more strategic so that the organization can control costs through careful forecasting, planning, budgeting, reporting, and monitoring.
- ii. That manufacturing sector must ensure that its employees are highly responsive to customer needs and continue to be highly competent in continuously developing new products for their customers.
- iii. That manufacturing sector must continue to add value to its customers by offering additional benefits that its competitors do not offer.
- iv. That manufacturing sector must also implement effective and better strategies that enable the acquisition, dissemination and application of knowledge to improve the performance of the company.



- v. That manufacturing sector must focus on building skills such as assigned, managerial, transactional and technical skills to ensure sustained performance

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