

EFFECTS OF SUPPLY CHAIN ON ORGANIZATIONAL PRODUCTIVITY IN KATSINA STATE

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ABSTRACT: This study investigated the effects of supply chain on organizational productivity in Katsina State. This study is anchored on model of logistics innovation propounded by Wagner (2008). The study adopted descriptive research of correlational type. The study used Supply Chain Management and Organizational Productivity Questionnaire (SCMAOPQ) designed by Tende (2018). Items designed to measure supply chain management practices and organizational productivity. The questionnaire was used to elicit responses from employees in the organizations on strategic supplier partnership, customer relationship, level and quality of information sharing and organizational productivity. The study raised four research hypotheses. The study found that strategic supplier partnership, customer relationship management and information sharing all have a statistically significant effect and relationship on organizational productivity, with information sharing being the highest contributor. This means that the independent variables (strategic supplier partnership, customer relationship management and information sharing) explained 88.4% of variations in the dependent variable (organizational productivity) as shown by the adjusted R-square (.884). Therefore 11% of the variations in the dependent variable were due to other factors not considered by the model. The study concluded that supply chain management had a positive and significant effect on organizational productivity of selected organizations in Katsina State. The study recommended that organizations should emphasize and be consistent with supply chain management practices as they are critical in increasing organizational productivity.

Keywords: Supply Chain Management, Strategic supplier partnership, customer relationship, quality of information sharing and organizational productivity.

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INTRODUCTION

Developing a supply chain practices that is effective is vital in securing greater increase in productivity in an organization (Solomon et al., 2022). Supply chain management begins with the identification of credible suppliers that have the capacity in meeting delivery targets while organizations are making efforts in ensuring that a regular quality control exercise is put in place so as to meet customers' desired standard as well as their expectations. Effective and efficient supply chain management influences organizational productivity (Solomon et al., 2022). Supply Chain refers to tools that can improve firm processes directed for efficient supply chain management through seamless integration with suppliers, manufacturers, distributors and customers (Lin, 2008).

More so, supply chain management is viewed as a method of fulfilling customer expectations with the goal of improving the overall competitiveness of the supply chain by integrating organizational functions along a supply chain to facilitate how materials, information, and funds will be coordinated (Wagner, 2008). Jubin (2024) argued that the successful

implementation of supply chain management (SCM) practices provides opportunities to improve operational performance along the supply chain. Eduardo et al. (2014) argued that supply chain management practices (SMPs) lets companies reduce costs by developing new technologies that mitigate their activities. This is particularly relevant because increasing supply chain practices benefits organizations in other ways: improved efficiency, higher product quality, a lead on competitors and legislation, access to new markets, increased employee motivation and satisfaction, improved public relations, financial aid, and better organizational reputation. Although, many studies have been conducted on the link between supply chain management practices and organization productivity, there is far too little knowledge available on strategic supplier partnership, customer relationship and level and quality of information sharing on organizational Productivity.

Statement of the Problem

This study signifies the relevance of supply chain management practices in organizations. Though considered as an important area, large scale empirical based research is lacking. Most of the studies that being instrumental in investigating logistics innovation in supply chains adopted the conceptual view (Flint et al., 2005; Grawe, 2009). There has been a lack of investigation of supply chain and logistics innovation as a capability along with its antecedents and consequences. In this regard, the current study holds relevance in two important dimensions. Using the resource-based view and dynamic capabilities perspective, it formulates a conceptual model consisting of several capabilities-based antecedents and outcomes.

Objective of the Study

The main objective of this study is to examine the effects of supply chain on organizational productivity. More specifically, the study would examine:

- The effect of strategic supplier partnership on organizational Productivity.
- The effect of customer relationship on organizational Productivity.
- The level and quality of information sharing effect on organizational Productivity.
- The effect of strategic supplier partnership, customer relationship and level and quality of information sharing on organizational Productivity

Research Hypotheses

The following Research Hypothesis shall be examined:

- Strategic supplier partnership has no significant effect on organizational Productivity
- Customer relationship has no significant effect on organizational Productivity performance.
- Level and quality of information sharing has no significant effect on organizational Productivity.
- Strategic supplier partnership, customer relationship, postponement and level and quality of information sharing have no effects on organizational productivity.

LITERATURE REVIEW

Resource-Based View (RBV) and Extensions

One of the relevant theoretical supports for the positive relation between supply chain management and productivity is the resource-based view (RBV) and its extensions, which was brought about by Wernerfelt (1984) and Rumelt (1984), as a basis for the competitive advantage of a firm lies primarily in the application of a bundle of valuable tangible or intangible resources at firm's disposal. The resource-based view (RBV) considers that firms are heterogeneous and achieve competitive advantage due to rare, valuable, inimitable and not substitutable resources and capabilities (Barney, 2001).

The original approach of their source-based view, focused on the internal resources owned by a firm, was broadened to consider the relationship as a source of competitive advantage. Resource-based view believes that a firm's resources and capabilities are its most important assets, so the primary concern of resource-based view is about obtaining access to another firm's core competency to gain competitive advantage. Obtaining access to other firm's resources and capabilities gave rise to the Relational View (RV) (Dyer & Singh, 2008).

The resource-based view considers relationships as potential sources of superior performance. Over the years, resource-based theory has derived several branches with various assumptions and perspectives (Acedo et al., 2006). The "relational view of resources-based theory" extended the core tenets of resource-based theory by integrating the perspective of resource-based theory and relational network theory to explain how inter-firm cooperation can generate sustainable competitive advantage (Arya & Lin, 2007). Relational view of resources-based theory argues that the resources generating competitive advantage can span firm boundaries and embedded in inter-firm relations (Dyer & Singh, 1998).

Therefore, the sources of competitive advantages are not only from the internal resources owned by a firm itself but also from the external resources in the relational networks (Lavie, 2006). The relational networks potentially provide a firm with access to resources, markets, information and technologies; with advantages from scale and scope economies; and allow firms to share risks and outsource value-chain stages (Gulati et al., 2000).

Supply Chain Management

Supply chain describes a network of establishments that include the final consumers of the product as well as the makers, retailers, distributors, and carriers of the goods (Jubin et al., 2024). More so, Supply Chain Management refers to the sequence of value-adding transactions that connect a company's suppliers with its customers (Gunasekaran & Ngai, 2004). Nowadays, supply chains are intricate commercial networks that need worldwide optimization and collaborative management. Supply chain management is a concept of business relationship which extends beyond traditional enterprise boundaries and seeks to organize entire business processes throughout a value chain of multiple companies (Tende, 2018). Supply Chain management is a process in the routine operations of the individual organizations and to get better performance of all the steps involved in an organizational supply chain (Tende, 2018).

Furthermore, the worldwide business scene is dynamic and ever-evolving. The business climate of the twenty-first century is characterized by a number of factors, including uncertainty, more competition, shorter cycle times, more demanding consumers, and pressure to reduce costs. Monitoring, controlling, and measuring supply chain process performance has become essential. The use of procedures, techniques, measurements, and technology to provide a consistent link among supply chain strategy, planning, execution, and controlling is known as performance management (Stefanovic, 2014).

Strategic Supplier Partnership and Organizational Productivity

Strategic supplier partnership is defined by Nyamasege and Biraori (2015) as the organization's long-term connection with its supplier. According to Odiba and Yimi (2022), strategic partnership focuses on long-term relationships between trading partners and encourages collaborative planning and problem-solving efforts. Organizational strategic partnerships create shared advantages and continued collaboration in important strategic areas like as technology, products, and markets (Odiba & Yimi, 2022). Strategic supplier partnership is intended to use the operational and strategic strengths of employee participating firms in order to help them achieve substantial competitive advantages (Govindaraju et al., 2017).

Customer Relationship and Organizational Productivity

According to Kimechwa et al (2015), customer relationship management is a collection of methods used to manage customer complaints, create long-term relationships with consumers, and improve customer satisfaction, and because of their intrinsic hurdles to competition; committed partnerships provide the most durable advantage. The rise of mass customization and customized service is ushering in a new era in which customer relationship management is critical for company survival (Nzeyimana & Njenga, 2022).

Customer relationship comprises the entire array of practices that are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction (Boulding et al., 2005). Customer relationship management is an important component of supply chain management practices (Tan et al., 2002; Payne, A., & Frow, 2005). Committed relationships are the most sustainable advantage because of their inherent barriers to competition (Day, 2000, 2008). The growth of mass customization and personalized service is leading to an era in which relationship management with customers is becoming crucial for corporate survival (Boulding et al., 2005).

Level and quality of information sharing and organizational productivity

Level of information sharing refers to the extent to which critical and proprietary information is communicated to one or more supply chain partner (Gunasekaran & Patel, 2001). Shared information can vary from strategic to tactical in nature and from information about logistics activities to general market and customer information (Mentzer et al., 2000). Many researchers have suggested that the key to the seamless supply chain is making available undistorted and up-to-date marketing data at every node within the supply chain. Information can be used as a source of competitive advantage when the data available are shared with other parties within the supply chain (Jones, 2008). Sharing of information is one of five building blocks that characterize a solid supply chain relationship (Lalonde, 1998).

Supply chain partners who exchange information regularly are able to work as a single entity. Together, they can understand the needs of the end customer better and hence can respond to market change quicker (Stein & Sweat 1998). Moreover, the effective use of relevant and timely information by all functional elements within the supply chain is a key competitive and distinguishing factor (Tompkins & Ang, 1999). The empirical findings of Childhouse and Towill (2003) and Christopher (2005) revealed that simplified material flow include streamlining and making highly visible all information flow throughout the chain and it is regarded as the key to an integrated and effective supply chain.

METHODOLOGY

The study adopted correlational research where multiple independent variables are being used to test on effect of a single dependent variable. Data were collected adopt Supply Chain Management and Organizational Performance Questionnaire (SCMAOPQ) designed by Tende et al. (2018). Approximately 300 copies of questionnaire were distributed among the top, middle and low-level managers in 10 organizations which were expected to have the best knowledge about their supply chain operations and its impact on the overall productivity of the organization. The data were analyzed using regression analysis model.

RESULTS

Hypothesis 1: Strategic supplier partnership has no significant effect on organizational Productivity.

Table1: Regression Results for Hypothesis One

Variable	Coefficient	T	P> t
strategy supply partnership	.6362	5.37	.000

Source: STATA13 output

The regression coefficient for the variables was positive and significant, as $\beta = .6362$, $p = .000$ indicating that strategic supplies partnership has a positive effect on organizational productivity. This finding is significant at 5% as the p-value is .000. Based on this, we do not have sufficient reasons to accept the null hypothesis and thus, we conclude that strategy supply partnership has significant effect on organizational productivity.

Hypothesis 2: Customer relationship has no significant effect on organizational Productivity

Table 2: Regression Results for Hypothesis Two

Variable	Coefficient	T	P> t
Customer Relationship	-.0118	.10	.919

Source: STATA13 output

The regression coefficient for the variables was negative and insignificant, as $\beta = -.0118$, $p = .919$ indicating that customer relationship does have a negative effect on organizational performance. This finding is not significant at 5% as the p-value is .919. Based on this, we can accept the null hypothesis and thus, we concluded that customer relationship does not have significant effect on organizational productivity.

Hypothesis 3: Level and quality of information sharing has no significant effect on organizational Productivity

Table 3: Regression Results for Hypothesis Three

Variable	Coefficient	T	P> t
Level and quality of information sharing	.1797	2.73	.009

Source: STATA13 output

The regression coefficient for the variables was positive and significant, as $\beta = .1797$, $p = .009$ indicating that level and quality of information sharing have a positive effect on organizational productivity. This finding is significant at 5% as the p- value is .000. Based on this, we do not have sufficient reasons to accept the null hypothesis and thus, we concluded that level and quality of information sharing has significant effect on organizational productivity.

Hypothesis 4: Strategic supplier partnership, customer relationship, postponement and level and quality of information sharing have no effects on organizational productivity.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.897 ^a	.894	.884	.10251
a. Predictors: (Constant), SSP, CRM, INS				
b. Dependent Variable: OGP				

Table 4 shows that the independent variables (strategic supplier partnership, customer relationship management and information sharing) explained 88.4% of variations in the dependent variable (organizational productivity) as shown by the adjusted R-square (.884). Therefore 11% of the variations in the dependent variable were due to other factors not considered by the model. The Durbin-Watson statistics should be between 1.5 and 2.5 for independent observations. As indicated in the table, Durbin-Watson result is 1.825, which is between 1.5 and 2.5.

Table 5: ANOVA Result

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	518.916	3	172.972	1645.716	.000 ^b
	Residual	3.111	296	.011		
	Total	522.026	299			
a. Dependent Variable: OGP						
b. Predictors: (Constant), INS, CRM, SSP						

The ANOVA result establishes the significance of the model. Table 5 shows that the variables of regression are statistically significantly different, they therefore measure different attributes. The p value is $p = 0.000$ is less than 0.05. Therefore, the model is significant at 95% confidence level with a F- statistic of 1645.71 which shows the fitness of the model to predict the dependent variable.

Table 6: Coefficients of Supply Chain Management

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.630	.018		1.673	.005
	SSP	.190	.056	.192	3.417	.001
	CRM	.310	.036	.311	8.705	.000
	INS	.500	.055	.497	9.209	.000
a. Dependent Variable: OGP						

Table 6 shows the coefficient with the constant of the model as .630 which was statistically significant ($p\text{-value} = 0.005 < 0.05$). The result also showed that strategic supplier partnership (SSP) has a positive effect on organizational productivity, from the coefficient of .190 which is statistically significant at 5% level of significance ($p\text{-value} = .001 < .05$). This means that organizational productivity increases by .190 for every one (1) unit increase in strategic supplier partnership. This clearly means that organizational productivity level will increase for every level of increase of strategic supplier partnership. The result also showed that there is no issue of multicollinearity with tolerance at 0.29 which is above 0.10 and VIF at 3.39 which is below 10. For these reasons, the null hypothesis, which states that there is no significant effect of strategic supplier partnership on organizational productivity, is rejected.

The results from table 6 further indicated that customer relationship management has a positive effect on organizational productivity, from the coefficient of 0.31 which is statistically significant at 5% level of significance ($p\text{-value} = 0.000 < 0.05$). This implies that organizational productivity increases by 0.31 for every single unit increase of customer relationship management. This clearly implies that organizational productivity level will increase for every level of increase of customer relationship management. The result also showed no issues of multicollinearity with tolerance at 0.335 which is above 0.10 and VIF at 2.98 which is below 10. Based on these, the null hypothesis that states that, there is no significant effect of customer relationship management on organizational productivity is rejected.

Also, the study shows that information sharing has a positive effect on organizational productivity, from the coefficient of 0.503 which is statistically significant at 5% level of significance ($p\text{-value} = 0.000 < 0.05$). This means that organizational productivity increase by 0.50 for every individual unit increase of information sharing. This means that organizational productivity level will increase for every level of increase of information sharing. The result also shows no issues of multicollinearity with tolerance at 0.343 which is above 0.10 and VIF at 2.919 which is below 10. From this result, the null hypothesis that states that, there is no significant effect of information sharing on organizational productivity is rejected. Moreover, the study shows that information sharing is the largest contributor to organizational productivity with an increase in organizational productivity of 0.50, followed by customer relationship management and finally strategic supplier partnership.

CONCLUSION

Based on the findings of the study, it can be concluded that there is a clear link between supply chain management and Organizational productivity, which helps to deeply understand the relationship and interaction between them. Supply chain management positively and significantly affects productivity of an organization where an efficient supply chain management practice helps the organization. Based on the study result, we can conclude that strategic supplier partnership and the organizational productivity of selected organizations are positively related and strategic supplier partnership is statistically significant to influence organizational productivity and organizations can increase their productivity by focusing on only few and very important supplier, where unit increase in strategic supplier partnership definitely leads to increase in organizational.

Based the results of this study, it can be concluded that customer relationship management and organizational productivity of selected organizations are positively related. In addition, customer relationship management has a statistically significant effect on organizational productivity, where productivity can be improved by creating good relationship with customers which then creates a higher level of loyalty, an increased purchase and accepting premium prices that result in higher market share. From the results of this study, it can be concluded that information sharing and organizational productivity of selected organizations are positively related. In addition, information sharing has a statistically positive significant effect on

organizational productivity, where information sharing helps in lowering cost of doing business and increase responsiveness to dynamisms in the market and the general environment.

Recommendations

Based on the findings of the study, the following recommendations are put forward by the researcher, where manufacturers of goods should increase their focus on supply chain management practices as it is a sure way to ensure effective and efficient organizational productivity especially for their the end product that have a short shelf life. Organizations must ensure strong strategies for selecting key supplier which focuses on quality as criteria that must be emphasized. They must manage affairs and interaction with organizations that supply goods and services where benefits include low cost, higher quality product and there will be less tension when both organization and suppliers win.

More so, customer feedback and customer satisfaction evaluation must be emphasized in these organizations as it is important in trying to determine customer expectations and this will ensure better customer service, improved products and increase sales by way of customer loyalty. These FMCGs manufacturers should strive to inform their trading partners of changing needs especially as regards inputs and manage information flow better as information sharing has shown to help in decision making which in turn helps in increasing productivity. Organization must also find means to provide and receive times, accurate, complete, adequate and reliable information from trading partners as these are keys to improved organizational productivity.

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