

## **SUPPLIER INVOLVEMENT AND CORPORATE VITALITY OF ELECTRICITY DISTRIBUTION COMPANIES IN NIGERIA**

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### **Abstract**

This study investigated the relationship between supplier involvement and corporate vitality of Electricity Distribution companies in Nigeria. The study was conceptualized using supplier involvement as predictor to corporate vitality with measures such as innovativeness, market responsiveness and productivity. The study adopted a survey research design. The study population comprised 11 electricity distribution companies in Nigeria. The study adopted Cluster sampling technique to group electricity distribution companies in line with Nigeria's six geopolitical zones (North-East, North-West, North-Central, South-East, South-West and South-South). The study administered 4 copies of questionnaire to District Directors, Operations Managers, Logistics Managers and Tarrif and Billing Managers of each of companies across the six geopolitical zones using Adamawa (North-East), Kano (North-West), Nasarawa State (North-Central), Anambra State (South-East), Lagos State (South-West) and Rivers State (South-South) to represent each of the geo-political zones. Pearson's Product Correlation was used to test the hypotheses formulated for the study. The test of hypotheses was done with the help of Statistical Packages for Social Sciences (SPSS) version 23.0. The study revealed the existence of significant relationship between supplier involvement and corporate vitality of Electricity Distribution companies in Nigeria. Based on the findings, the study concluded that supplier involvement significantly relates to corporate vitality of Electricity Distribution companies in Nigeria; and recommends that managers of electricity distribution companies in Nigeria should capitalize on the pivot role of supplier involvement to ensure corporate vitality.

**Keywords:** Corporate vitality, innovativeness, market responsiveness, productivity, supplier involvement

### **Introduction**

The contemporary business landscape is characterized by frequent change. Hence, require businesses to work hard to adjust to shifts in order to stay ahead of rivals. Businesses have to establish and maintain connection with suppliers in order to withstand the upheavals brought on by competition (Miao et al., 2018). Supplier management provide access to production materials and enlivens corporate operations. Additionally, Supplier management enable organizations to distribute goods necessary to satisfy consumer demand (Adedokun et al., 2017). This realization has given rise to increased need for objective supplier involvement in the production and distribution processes of many organizations (Kurgat & Aila, 2021).

According to Tanguis et al. (2015), companies must assess a supplier's capacity to meet their long-term expectations and needs, rather than just focus on meeting current material and service requirements. Supplier involvement is essential to an organization's ability to compete, and is therefore, is a strategic instrument firms, especially electricity distributors can use to meet long-term requirements (Kurgat & Aila, 2021; Jaber et al., 2010).

Suppliers become a part of a well-managed supply chain by establishing long-term relationships in the business network (Yegon et al., 2015), which has a substantial impact on corporate vitality (Tangus et al., 2015). Marin-Garcia et al. (2019), anticipates that supplier involvement in the areas of technical assistance, information and knowledge sharing, supplier audit, and supplier certification will strategically affect corporate vitality and overall performance.

Nigeria's electricity distribution companies have persistently experienced supplier disappointment, which typically leads them to switch between suppliers (Ugochukwu et al., 2019). Electricity output is adversely impacted by supplier switching (Yegon & Lagat, 2015). Electricity distributors must therefore be able to include suppliers in accordance with their corporate objectives and standards in order to overcome these obstacles.

According to Kurgat and Aila (2021), it is crucial to conduct preliminary screening of potential suppliers in order to identify those that fulfill minimal set of requirements. Supplier involvement, according to Annala et al. (2013), narrows the pool of possible suppliers to those who can meet the firm's needs. However, it is unclear if Nigeria's electricity distribution companies realize the importance of supplier involvement to competitive advantage. This is literature demonstrates how little is known about the connections between these ideas in the context of Nigeria's electricity-distribution firms.

Besides, studies report conflicting results on the interplay between supplier involvement and indices of business performance. While some studies (Sikuku et al. 2018; Song & Di-Benedetto, 2008) found significant positive link, others (Song et al., 2019; Suurmond et al., 2020) found insignificant positive link; and yet others reported significant negative link (Wang & Yang, 2021) and insignificant negative link (Wang et al., 2022; Yegon et al., 2015). In lieu of these inconsistencies, this study joined the discourse by examining nexus between supplier involvement and corporate vitality of electricity distribution companies in Nigeria. Fig.1 conceptualizes the study.

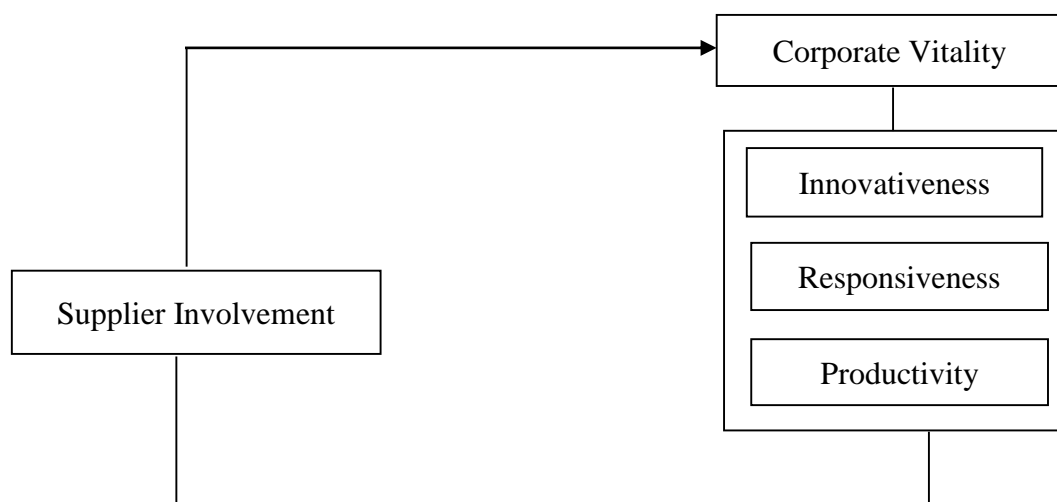


Fig. 1: Conceptual framework of relationship between supplier involvement and corporate vitality of electricity distribution companies in Nigeria.

### Baseline Theory: Network Theory

Network theory was first introduced during the 1970s and the 1980s and developed from the focus on relationships between two entities, or strategic alliances that entail multiple relationships between different counterparts throughout the supply chain. Network theory is

one of the grand theories in purchasing and supply management. Mainly network theory describe relationships in which companies (suppliers and buyer) are engaged. Harland (1996, as cited in Benton et al., 2020) define a network as a specific type of relationship linking a defined set of persons, objects or events.

Network theory helps with the demand planning through the simplification of resource allocation reached through settlement of strategic long-term partnerships. Companies embedded in a network have the ability to choose from a greater set of suppliers and through this, can ensure the supply of critical commodities. Furthermore, relationships among companies are assumed to be trustworthy and therefore, contribute to value addition on both sides and simplify decisions about selection of supply strategy (Benton et al., 2020).

Applying the network theory to the present study context, it can be said that strategic networks such as suppliers are a veritable asset to an organization as they provide access to information, resources, markets and technologies; with advantage from learning, scale and scope economies; and allows firms to achieve strategic objectives, such as sharing risks and outsourcing value-chain stages and organizational functions.

### **Concept of Supplier Involvement**

Organizations are in constant search searching for sources of innovation, value creation and competitive advantage. In the pursuit of these goals, involvement of suppliers is recognized as critical factors (Kurgat & Aila, 2021) as they help in the attainment of improved product quality, access to new technologies and markets, and lower cost of operations (Miao et al., 2018). Because companies must successfully integrate suppliers' technologies and skills in order to reconfigure their own resources to meet their strategic and operational needs, firms typically involve key suppliers in their operational processes (Othman & Kama, 2023).

Supplier involvement refers to the extent to which a supplier directly participates in the focal firm's new product development and operations processes (Kurgat & Aila, 2021). Supplier involvement means that the supplier work closely with the buyer to develop a product or create something new (Miao et al., 2018).

Supplier involvement also refers to resources (capabilities, investments, information, knowledge, ideas) that suppliers provide, tasks they carry out and responsibilities they assume regarding the development of a part, process or service for the benefit of a buyer's current or future project (Kimwaki, 2022). In sum, supplier involvement leverage suppliers' resources and expertise in product design and development in an effort to achieve better designs and obtain higher quality results.

### **Corporate Vitality**

Corporate vitality describes the health of a firm as an outcome of management processes measured against nominated corporate goals or compared to the health of competing firms (Ateke & Kalu, 2016). It measures a company's capacity to achieve set goals by optimizing scarce resources (Daft, 1991, as cited in Ateke & Kalu, 2016).

Corporate vitality refers to the health of a business organization (Bishwas, 2015; Kark & Carmeli, 2009); and is enhanced by possibilities within the operating environment that helps a firm to survive (Akpotu & Konyefa, 2018). Therefore, corporate vitality is corporate energy reflected in resource, competencies and capabilities of a firm, and which to enable it compete favourably, survive and gain competitive advantage (Akpotu & Konyefa, 2018).

Corporate vitality is informed by collective energy relating to a firm's competences, capabilities and systems that guarantee strategic actions targeted at increasing competitive advantage. Vitality in organizations imply the activated pool of energy across functions, strategic business and support systems that enhance the achievement of corporate goals.

Corporate vitality is evidently a multidimensional construct (Ateke & Simeon, 2018) and is akin to business wellness, corporate performance and corporate wellbeing. Thus, corporate vitality can be measured using financial and quantitative or non-financial and qualitative metrics. However, Gunasekaran et al. (2005) argue that obtaining a balance between the two perspectives is the key to greater appreciation of a firm's health. Thus, this current study adopted innovativeness, productivity and responsiveness which represent quantitative and qualitative measures of corporate vitality.

Innovativeness is the process of creating added value and novelty through the development of new markets, procedures, solutions or product (Ateke & Harry, 2021). It is an essential factor in an organization's success and expansion. An organization's overall innovative capability in terms of introducing new products or opening up new markets, through a combination of strategic orientation with innovative behavior and process" is how Wang and Ahmed (2004) describe innovativeness. The ability of a company to generate and foster unique concepts, creativity, experimentation, and inventive processes that could lead to new goods, services, or technological advancements is reflected in its innovativeness.

Responsiveness in service settings is characterized by combined goals of timeliness, quality and flexibility (Nwulu & Ateke, 2018), and is defined as the ability of a firm to respond to customers' need for quality, speed and flexibility (Asree et al., 2010). Responsiveness is also the ability of a company to respond proactively and with awareness to shifts in the forces influencing the market. Responsiveness, according to Acikdilli et al. (2020), denotes how quickly businesses react to signals from the market as well as emerging possibilities and risks.

Productivity is the efficient use of resources (labour, capital, land, materials, energy and information) in the production of goods and services (Hwang et al., 2014). According to Aziz (2019), the term productivity was probably first used by French mathematician in an article in 1766. In 1883, another French man, Littré, defined productivity as the faculty to produce (Anand & Grover, 2015). Productivity can also be defined as the relationship between results and the time it takes to accomplish them (Basu et al., 2017).

### **Supplier Involvement and Corporate Vitality**

Studies exist that attest to a relationship between supplier involvement and corporate vitality in different industries. For instance, Othman and Kama (2023) aver the role of early supplier involvement in design as an approach for enhancing building maintainability.

Kimwaki (2022) established that involving suppliers early in designing products, and sharing the right information with suppliers reduce lead time. This position implies that supplier involvement have positive and significant influence of supply chain performance. Similarly, Khan et al. (2022) analyzed effect of uncertainty, supplier involvement, supplier performance and partnership quality on buyer-supplier relationship. The study found that uncertainty, earlier supplier involvement, supplier performance and partnership quality significantly affect buyers' dependency.

Also, Wang et al. (2022) investigated the performance impact of supplier involvement, based

on knowing processes and contingency of knowledge-based view. The study found that ambidextrous innovations positively mediate the relationship between supplier involvement and financial performance. In Alvenia et al. (2022), it was reported that supplier involvement strongly affect teamwork, new product development, and firm performance.

In addition, supplier involvement has been shown to have significant and positive effect on supply chain performance (Kurgat & Aila, 2021); new product development efficiency and effectiveness (Robert et al., 2020); and new product development and performance (Suurmond et al., 2020). Therefore, the following conjectures are made:

**H01:** There is no significant relationship between supplier involvement and innovativeness of electricity distribution companies in Nigeria.

**H02:** There is no significant relationship between supplier involvement and responsiveness of electricity distribution companies in Nigeria.

**H03:** There is no significant relationship between supplier involvement and productivity of electricity distribution companies in Nigeria.

### Methodology

This study adopted a correlational research design. This population of the study comprised eleven (11) electricity distribution companies in Nigeria as enlisted in Finelib.com, Nigeria's Business Directory and Search Engine (2021). The sample size of the study was the same as the population. The study adopted a cluster sampling technique to group electricity distribution companies into Nigeria's six geopolitical zones (North-East, North-West, North-Central, South-East, South-West and South-South). The study then administered four (4) copies of questionnaire to District Directors, Operations Managers, Logistics Managers and Tarrif and Billing Managers from each of companies across the six geopolitical zones using Adamawa (North-East), Kano (North-West), Nasarawa State (North-Central), Anambra State (South-East), Lagos State (South-West) and Rivers State (South-South) to represent each of the geopolitical zones. The study collected primary data using structured questionnaire. This means that 24 respondents provided data for the study; while Pearson's Product Moment Correlation was used to test the hypotheses formulated for the study. The test was conducted at a 0.01 level of analysis; and with the help of Statistical Packages for Social Sciences (SPSS) version 23.0.

**Table 1: Reliability Test - Cronbach's Alpha Analysis**

S/N	Variables	Number of Items	Cronbach's Alpha Coefficients
1	Supplier Involvement	5	0.738
2	Innovativeness	5	0.850
3	Market Responsiveness	5	0.767
4	Productivity	5	0.755

Source: SPSS Output from Field Data

From results of the Cronbach alpha analysis in Table 1, it was revealed that all the variables in the study produced high Cronbach's Alpha coefficients indicating that, there is inter-item consistency among the variables in the study. This means that, if this study is conducted again in a similar condition the results will be similar to the results of our study.

**Table 2: Descriptive Statistics of Supplier Involvement**

	N	Sum	Mean	Std. Dev.	Variance
To what extent does your organization foster open communication and information sharing with suppliers to promote transparency and collaboration?	21	152	4.22	.898	.806
To what extent does your organization collaborate with suppliers in decision-making processes related to product design and manufacturing?	21	155	4.31	1.305	1.704
To what extent does your organization seek input and feedback from suppliers to enhance product quality and operational efficiency?	21	160	4.44	.939	.883
To what extent does your organization engage suppliers in strategic planning and goal-setting activities?	21	161	4.47	1.028	1.056
Valid N (listwise)	21				

Source: SPSS Data, 2024.

Table 2 depicts high mean scores of the questionnaire items ranging over 3.00; this means that greater number of the respondents agreed and strongly agreed to the research question with respect to supplier involvement. However, it can be seen that question 4 which sought to determine the extent to which electricity distribution companies in Nigeria engage suppliers in strategic planning and goal-setting activities, has the highest mean score of 4.47. This shows that question 4 has the strongest influence on the variables.

**Table 3: Descriptive Statistics of Innovativeness**

	N	Sum	Mean	Std. Dev.	Variance
To what extent have you been able to foster a culture of innovation within your organization, encouraging creativity and new ideas from employees at all levels?	21	133	3.69	1.167	1.211
To what extent have you been able to implement effective processes and frameworks to support the development and implementation of innovative solutions?	21	140	3.89	1.430	2.044
To what extent have you been able to invest in research and development to drive innovation in your products and services?	21	146	4.06	1.413	1.997
To what extent have you been able to leverage external partnerships and collaborations to enhance your organization's innovative capabilities?	21	135	3.75	1.461	2.121
Valid N (listwise)	21				

Source: SPSS Data, 2023.

Table 3 depicts high mean scores of the questionnaire items ranging over 3.00; this means that greater number of the respondents agreed and strongly agreed to the research question with respect to innovativeness. However, it can be seen that question 3 which sought to determine the extent to which electricity distribution companies in Nigeria are able to invest in research and development to drive innovation in products and services, has the highest mean score of 4.06. This shows that question 3 has the strongest influence on the variables.

**Table 4: Descriptive Statistics of Market Responsiveness**

	N	Sum	Mean	Std. Dev.	Variance
To what extent have you been able to monitor and analyze market trends and customer feedback to quickly adapt your products and services?	21	141	3.92	.937	.879
To what extent have you been able to implement flexible processes such as allowing modifications to delivery times and frequencies based on supplier capabilities and changing demand as well as providing suppliers with accurate and timely forecasts of future demand that allow your organization to respond rapidly to changing market conditions?	21	152	4.22	1.290	1.663
To what extent have you been able to align your resources to effectively address shifts in customer demand and market opportunities?	21	159	4.42	1.079	1.164
To what extent have you been able to develop and maintain strong customer relationships such as clear communication channels, fair and transparent practices and supplier development programmes, to better understand and anticipate their needs?	21	156	4.33	1.287	1.657
Valid N (listwise)	21				

Source: SPSS Data, 2023.

Table 4 depicts high mean scores of the questionnaire items ranging over 3.00; this means that greater number of the respondents agreed and strongly agreed to the research question with respect to market responsiveness. However, it can be seen that question 3 which sought to determine the extent to which electricity distribution companies in Nigeria are able to align resources to effectively address shifts in customer demand and market opportunities, has the highest mean score of 4.42. This shows that question 3 has the strongest influence on the variables.

**Table 5: Descriptive Statistics of Productivity**

	N	Sum	Mean	Std. Dev.	Variance
To what extent have you been able to streamline and optimize your operational processes to enhance overall productivity?	21	153	4.25	.906	.821
To what extent have you been able to implement and leverage technology and automation to increase efficiency and reduce manual labor?	21	142	3.94	1.433	2.054
To what extent have you been able to set and achieve productivity targets such as on-time delivery rate, defect rate and cost reduction, across different departments and teams within your organization?	21	134	3.72	1.323	1.749
To what extent have you been able to foster a culture of continuous improvement in payments, communication and feedback to drive productivity enhancements?	21	140	3.89	1.116	1.244
Valid N (listwise)	21				

Source: SPSS Data, 2023.

Table 5 depicts high mean scores of the questionnaire items ranging over 3.00; this means that greater number of the respondents agreed and strongly agreed to the research question with respect to productivity. However, it can be seen that question 1 which sought to determine the extent to which electricity distribution companies in Nigeria are able to streamline and optimize operational processes to enhance overall productivity, has the highest mean score of 4.42. This shows that question 1 has the strongest influence on the variables.

**Table 6: Relationship between Supplier Involvement and Innovativeness**

		Supplier Involvement	Innovativeness
Supplier Involvement	Pearson Correlation	1	.520**
	Sig. (2-tailed)		.001
	N	21	21
Innovativeness	Pearson Correlation	.520**	1
	Sig. (2-tailed)	.001	
	N	21	21

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Data, 2024.

Table 6 reveals a correlation coefficient of 0.520\*\* between supplier involvement and innovativeness, indicating a moderate significant and positive relationship between supplier involvement and innovativeness. The probability value (0.000) is less than the critical value (0.05), meaning that a significant relationship exists between supplier involvement and innovativeness. Based on this, we reject the null hypothesis that supplier involvement does not significantly relate with innovativeness of electricity distribution companies in Nigeria.

**Table 7: Relationship between Supplier Involvement and Responsiveness**

		Supplier Involvement	Responsiveness
Supplier Involvement	Pearson Correlation	1	.758**
	Sig. (2-tailed)		.000
	N	21	21
Responsiveness	Pearson Correlation	.758**	1
	Sig. (2-tailed)	.000	
N		21	21

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Data, 2024.

Table 7 reveals a correlation coefficient of 0.758\*\* between supplier involvement and responsiveness, indicating a strong significant and positive relationship between supplier involvement and market responsiveness. The probability value (0.000) is less than the critical value (0.05), meaning that a significant relationship exists between supplier involvement and responsiveness. Hence, we reject the null hypothesis that supplier involvement does not significantly relate with responsiveness of electricity distribution companies in Nigeria.



**Table 8: Relationship between Supplier Involvement and Productivity**

		Supplier Involvement	Productivity
Supplier Involvement	Pearson Correlation	1	.634**
	Sig. (2-tailed)		.000
	N	21	21
Productivity	Pearson Correlation	.634**	1
	Sig. (2-tailed)	.000	
	N	21	21

\*\*, Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Data, 2024.

Table 8 reveals a correlation coefficient of 0.634\*\* between supplier involvement and productivity, indicating a strong positive relationship between supplier involvement and productivity. The probability value (0.000) is less than the critical value (0.05), this shows that there is a significant relationship between supplier involvement and productivity. Based on this, we reject the null hypothesis that supplier involvement does not significantly relate with productivity of electricity distribution companies in Nigeria.

### Discussion of Findings

The results of data analyses reveal a moderate positive and significant relationship between supplier involvement and innovativeness; a strong positive and significant relationship between supplier involvement and cost reduction; and a strong positive and significant relationship between supplier involvement and productivity. These findings are in line with the findings of other authors in the area of supplier involvement. Othman and Kama (2023) showed that early supplier involvement play significant role in enhancing maintainability of firms in Egypt.

The finding support the report of Kimwaki (2022) that supplier involvement and process automation have a positive and significant influence on supply chain performance of food and beverage processing companies; that of Khan et al. (2022) that uncertainty, earlier supplier involvement, supplier performance, and partnership quality significantly affect buyers' dependency; and that of Wang et al. (2022) that ambidextrous innovations positively mediate the relationship between supplier involvement and financial performance.

The findings also corroborate the reports that supplier involvement affect teamwork, new product development, and firm performance (Alvenia et al., 2022); supply chain performance (Kurgat Aila, 2021); new product development efficiency and effectiveness (Suurmond et al., 2020; Robert et al., 2020); and innovation performance (Song et al., 2019). More so, the reports that supplier involvement mediates the positive effect of IT resources on the focal firm's performance (Miao et al., 2018); supplier performance (Sikuku et al., 2018); and supply chain performance (Kiswili & Ismail, 2016).

### Conclusion and Recommendations

Sequel to the results of this study and to the extent of their consistency with similar studies, this study concludes that supplier involvement has relationship with corporate vitality. Thus, supplier relationship management is a key imperative for growth and improvement in corporate vitality within the Nigerian Electricity Distribution industry. The implication of this is that

firms through supplier involvement can achieve corporate vitality and overall business performance.

Based on the findings of the study and to the extent of its consistency with the result of similar studies we make the following recommendations.

1. Managers of electricity distribution companies in Nigeria should capitalize on the pivotal role of supplier involvement in their operations to ensure corporate vitality.
2. Managers of electricity distribution companies in Nigeria should seek to segment their suppliers in line with companies' specialization and competence, this can help them ensure high corporate vitality.

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