



Supplier Visibility in Supply Chain Network and Firm Performance: A Study in Kenya's Manufacturing Sector

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ABSTRACT

The aim of this study was to establish the effect of supplier visibility on the performance of manufacturing firms in Kenya. The study was anchored on supply chain planning theory. The study utilized a cross-sectional research design. The target population was 561 respondents drawn from the 187 large manufacturing firms in Kenya. Using a stratified random sampling, a sample of 228 respondents was selected. A questionnaire was used to collect data for the study. The data was analyzed using SPSS version 27. The findings revealed that supplier visibility was not effectively embraced among the manufacturing firms in Kenya. The results further revealed that supplier visibility had a significant relationship with performance of manufacturing firms in Kenya ($\beta=0.769$; $P<0.05$). The study concluded that manufacturing firms were declining in performance as a result of inefficient supply chain process and failure to enhance supplier visibility. The study recommended that there is need for managers in supply chain among the manufacturing firms to enhance supplier visibility by incorporating suppliers in their supply chain network planning for them to meet customer needs and promote their performance.

Keywords: Manufacturing Sector, Organizational Performance, Supplier Visibility, Supply Chain Visibility

I. INTRODUCTION

The supply chain network is essential in determining the flow of goods and services from the source to the final consumer. The seamless flow of processes in the supply chain network is instrumental in driving organizational success as it minimizes the costs while promoting effectiveness in delivery and customer satisfaction (Singagerda et al., 2022). One of the strategies that modern organizations utilize to enhance the effectiveness of the supply chain process is through supplier visibility. As defined by Somapa et al. (2018), supplier visibility is the ability of an organization to track and monitor the activities, performance, and relationships with its suppliers throughout the supply chain process. This is aimed at ensuring that the supplier has the capacity to meet the needs of the customers, and do so consistently while promoting continuous improvement. According to Doetzer (2020), supplier visibility involves gathering real-time data and insights into supplier operations, inventory levels, lead times, quality metrics, and compliance standards. Supplier visibility is crucial for enhancing supply chain efficiency, reducing risks, and fostering collaboration and transparency.

To enhance supplier visibility, Doetzer (2020) alludes that it is essential for organizations to uphold effective communication and transparent dealings through which the organization understands the potential of the supplier. Through enhanced supplier visibility, transparency in the supply chain process is enhanced by providing stakeholders with clear insights into supplier activities, capabilities, and performance metrics. Improved communication channels enable better collaboration and alignment of goals between the organization and its suppliers, thus enhancing the ability to meet customer needs and preferences (Cao et al., 2020). Bowen and Siegler (2024) while focusing on the essence of supply chain visibility contends that supplier visibility is one of the aspects of supply chain visibility that strongly contributes to the collaboration between suppliers and the organization as communication and information sharing is enhanced in the process.

According to Ghasemy and Goh (2021), supplier visibility enhances real-time visibility into supplier inventory levels which allows companies to optimize their own inventory levels, reduce stock-outs, and minimize excess inventory. Through enhanced understanding of the suppliers, manufacturing companies can effectively forecast demand and plan for their production processes, thus ensuring that products are available when and where they are needed. While analyzing the essence of supplier visibility in the manufacturing sectors, Urbaniak et al. (2023) indicated that manufacturing firms especially in the developing countries face challenges with quality control and this is mainly as a result of poor visibility of their suppliers. Inefficiencies in suppliers may disallow the manufacturing firm to monitor its quality and ensure compliance with customer expectations. According to Swift et al. (2019), supplier visibility is about



monitoring suppliers' performance and quality standards, and this eventually helps manufacturers to ensure that their products and materials meet specified requirements and regulatory standards. Visibility into supplier processes and certifications facilitates compliance with industry regulations and customer expectations.

In the Sub-Saharan Africa, manufacturing sectors has been facing its share of challenges, and despite the promising future in the sector, there is still more things to be done, particularly streamlining the sector's supply chain (Orji et al., 2022). According to Kimwaki (2023), African countries have limited infrastructure, human resources and technological advancements which has advance effects on the seamless flow of supply chain network, thus negatively affecting other sectors like the manufacturing sector. Supplier visibility is one of the contextual aspects of supply chain management that the manufacturing sector has slowly embraced over the years. According to Olorunniwo et al. (2015), while it is recognizable that supplier visibility is essential for enabling early detection of potential risks and disruptions in the supply chain, such as supplier financial instability, geopolitical issues, natural disasters, or labor disputes, proactive risk management has not been adequately upheld among manufacturing sectors in Africa and this has greatly affected their effectiveness and potential growth.

Access to supplier performance data allows companies to evaluate supplier performance objectively, identify areas for improvement, and establish performance benchmarks (Asamoah et al., 2023). This facilitates supplier development initiatives and strengthens supplier relationships over time, but remains minimally focused on in developing countries' manufacturing sectors (Dubey et al., 2020). Further, Islami (2023) addresses the essence of supplier visibility in promoting supply chain resilience, but underscores the unpreparedness nature that African companies find themselves during supply chain disruptions. This, the author attributes to inefficient visibility into supplier networks and dependencies, thus the companies being unable to quickly identify alternative suppliers or logistics routes in case of disruptions. According to Nzewi (2023), through supplier visibility, firms can be resilient and optimize their processes whereby they identify opportunities for cost savings and process efficiencies including renegotiating contracts, consolidating orders, or optimizing transportation routes based on real-time data.

The manufacturing sector in Kenya has been applauded as a one of the major economic backbones, playing a fundamental role in supporting other sectors such as the agricultural sector, real estate sector, infrastructure development, as well as the overall job creation in the country (Muthoni & Mose, 2020). One of the sub-sectors of the manufacturing sector in Kenya is the food and beverage manufacturing firms. The food and beverage manufacturing firms in Kenya make majority of the manufacturing sector, with over 40% of the firms listed under the Kenya Association of Manufacturers being from this sub-sector. Kenya association of manufacturers (KAM) describes this category of manufacturing sector as the most vulnerable while at the same time most critical, owing to the customers' ability to change tastes and preferences frequently, entry of international players into the market, and increased dynamism in the entire manufacturing sector, which exposes the firms to a major threat of losing markets. The food and beverage manufacturing firms are the firms that deal with processing, value addition, packaging and distribution of food related products such as cooking oil, maize and wheat flour among others and packaged beverages such as carbonated drinks, fresh juices among others (Muteshi et al., 2018). Most of these firms rely on varied and extensive supply chain processes, whereby they incorporate both push and pull processes, thus supply chain visibility is major requirement for the continued performance.

1.1 Statement of the Problem

In the past decade since, Kenya's economy has remained largely agriculture based and manufacturing being part of industrialization is a key factor in the country's development plans. According to KAM (2019), the manufacturing industry in Kenya has been tremendously declining in terms of its contribution to the country's GDP and overall productivity. More than 10 key manufacturing companies have failed in the past 10 years, and this means loss of thousands of jobs, and further decline in the economic growth of the country.

With growing imports of even locally manufactured goods including the fast-moving consumer goods, it raises the question on the preparedness of Kenya's manufacturing sector to sail-through the technology-based fourth industrial revolution (industry 4.0). The declining manufacturing sector in Kenya has been attributed to quality, reliability, and pricing (Kimwaki, 2023), all of which point to one factor, that is, supply chain network. According to Dehkhoda et al. (2023), the effectiveness of the supply chain network determines the cost of goods, the quality and time taken to get to the final consumer (reliability).

Empirical literature shows that supplier visibility is integral in enhancing the seamless flow of goods upstream and downstream as it determines the quality, cost and time taken to deliver raw materials, as well as the time, quality and cost incurred in delivering the final product to the end-user. While a number of studies have been carried out in regard to supplier visibility (Nguyen et al., 2017; Agrawal et al., 2024; Nzewi, 2023), these studies have focused on varied contexts and concepts, thus the underlying issue of embrace of supplier visibility in the manufacturing sector in Kenya still remains. It is on this background that the study sought to assess the role played by supplier visibility in the supply chain network in enhancing performance of manufacturing sector in Kenya.



1.2 Research Questions

The study sought to answer the following research questions:

1. To what extent have manufacturing firms enhanced visibility of their suppliers?
2. How does supplier visibility contribute to performance of manufacturing firms?

II. LITERATURE REVIEW

2.1 Theoretical Background

2.1.1 Supply Chain Planning Theory

The paper was anchored on supply chain planning theory. The Theory has its roots in Porter (1985) value chain and competitive advantage write-up, which sets the processes a firm uses to create value for its customers. Although originally described as a chain, supply chain can nowadays be defined as the network of organizations that are involved through upstream and downstream linkages in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer (Chen & Paulraj, 2004). The chain involves two or more legally separated organizations that are linked together by material, information or financial flows and includes the ultimate customer. The objectives of the supply chain are to provide service to customers, achieve low operating costs and minimize the assets in the chain (Leu et al., 2018). Many companies are now looking at securing cost, quality, technology and other competitive advantages as strategies to pursue in a globally competitive environment and to achieve this many manufacturers are focusing on their supply chain planning process.

Supply chain planning is an important multi-disciplinary topic in modern business management and research. It enhances organizational productivity and profitability through a revolutionary philosophy to managing the business with sustained competitiveness (Kansson & Persson, 2004). Supply chain planning emphasizes the overall and long-time benefit of all parties in the supply chain through co-operation and information sharing (Skjoett-Larsen, 1999). Jonsson and Holmström (2016), define Supply chain planning as a set of approaches used to efficiently integrate suppliers, manufacturers, warehouses and stores so that products are produced and distributed at the right quantities, to the right locations, and at the right time in order to minimize system-wide costs while satisfying service-level requirements. Supply chain management aims at linking each element of the manufacturing and supply processes from raw materials acquisition, processing of goods and up to the final end users of the product. It focuses on how firms utilize their suppliers processes, technology and capability to enhance competitive advantage.

Supply Chain planning has the objective of governing all parts of the supply chain as a unit, instead of single organizational elements, in order to achieve increased competitiveness (Jonsson & Holmström, 2016). Since satisfying customer needs is the central purpose of any business, this framework reflects the notion that customer focus in terms of satisfying needs and providing timely service is a key driving force of effective supply chain planning. It seeks improve performance through better use of internal and external capabilities in order to create a seamlessly coordinated supply chain, thus elevating inter-company competition to inter-supply chain competition (Leu et al., 2018). Therefore, integrating proper plans in the supply chain framework of the manufacturer ensures that there is a set mode of operation in the supply chain processes through an integrated plan. The supply chain planning theory expounds on the need for aligning the supply chain with a set plan, where key objectives of the company are aligned to the supply chain processes for effectiveness and efficiency (Brun et al., 2020). The theory was therefore adopted in this study to expound on the role of supply chain planning visibility in supply chain visibility on the performance of large food and beverage processing companies in Kenya.

2.2 Empirical Review

Supplier visibility is a key variable in supply chain visibility. Information flow along the supply chain begins at the supplier level, then to other levels up to the final recipient. Supply visibility can be defined as the extent to which a company has information about its supply chain (Singh, 2015). This information may relate to the actors involved in the supply chain and the relationships between them. Knowledge about the service supply chain is crucial for decision-making to improve companies efficiency. Supplier visibility is known to be a critical factor for process effectiveness and efficiency (Ralston et al., 2015). High visibility regarding inbound supplier structure and buyer– supplier relationships is necessary for mapping and disclosing supply chain information in subsequent steps. To increase the visibility of and visualize these service networks, purchasers can use a service network mapping approach, which traces back to the concept of supply chain mapping, later adapted to the network level by the concept of supply network mapping (Xiaokun et al., 2019).

Supplier visibility also involves practices amongst suppliers and their customers that enables the efficient transfer of knowledge and resources, required for generating mutual benefits. This enables suppliers to achieve economies of scale and consequently a reduction in material and product costs (Wang et al., 2015). Furthermore Wang *et al.* (2015) suggested that by creating trust and collaboration with suppliers, the focal company would be motivated to invest more

in fixed assets to enhance the suppliers and their own product and process quality and reduce cost. Supplier visibility also enables companies to decrease their inventory and increase delivery speed, quality, and customer service (McIntire, 2016).

Collaboration and coordination in supply chains has been deemed to be very important to the improvement of supply chain performance such as the improvement of visibility and delivery performance. Barrat and Oke (2017) discussed the impact of coordination along the supply chain, and the fact that coordination provides the missing link to information sharing which leads to visibility. The authors posited that a high level of visibility that is characterized by the quality of useful information within a supply chain linkage is what makes the visibility distinctive. They further contend that it is this visibility that leads to competitive advantage through collaboration and coordination, which leads to improve performance in delivery and other supply chain metrics (Ghasemy & Goh, 2021).

In today's globally competitive supply chain, companies are constantly strategizing how to achieve the optimal performance from their supply chain. Managers constantly try to re-engineer the business and its processes to achieve this optimum, they try to achieve this through increased information sharing, supply chain planning tools, collaborative forecasting and replenishment, as well as third-party logistics solutions (Cho et al., 2017). However, before we can decide how to operate efficiently and measure performance, one has to look at the design of the supply chain as to whether or not it facilitates these performance measures and operational techniques.

Yu and Goh (2014) cite a model by Hayes and Wheelwright (1984), who developed a product-process matrix, indicating that there is a best fit for the type of products developed and sold within the supply chain planning and processes needed to ensure these products flow efficiently upstream and downstream of the supply chain. The model is one of the most recognized and tested concepts as it relates to supply chain management and strategy. Supplier visibility whether it be a partnership type can impact delivery performance in a supply chain. Wang et al. (2019) emphasized the importance of a spirit of co-operation between suppliers and customers, which is essential for successful implementation of on time delivery along the supply chain. Traditionally the focus of supply chain partnership or relationships has been on delivering products in an environment of uncertainty such as demand, quantities and price, this resulted in high levels of finished goods inventory (Holcomb et al., 2011). However, with supplier visibility, these uncertainties are eradicated as the company is already aware on whether the supply can deliver or not.

Supplier visibility is intended in enhancing the ability of the firm to be aware of the capabilities of its suppliers and whether they are in a good position to meet the customer needs. This planning involves aligning all the requirements that bring the suppliers on board and stimulate their contribution to the organizations success (Jermittiparsert & Srisawat, 2019). While addressing the need for supply chain visibility in modern organizations, Biswas et al. (2017) argue that supplier visibility is one of the elements of supply chain visibility that play an integral role in enhancing firm performance. The author argues that supplier visibility enables the organization to align its suppliers with its goals and objectives, thus stimulating performance. According to Cole et al. (2019), supplier visibility is a process whose main aim is to have a properly aligned way of coordinating with suppliers to meet the organizational goals through enhancing customer satisfaction. The process of engaging suppliers and making them directly aware of what the organization and the customer needs is one of the best ways to enhance supplier visibility. According to Karatzas et al. (2017), it is essential for modern organizations to embrace more elaborate and significant frameworks for engaging suppliers and enhancing their visibility through information sharing and continuous communication. Through efficient supplier visibility, a more sustainable performance is achieved thus enhancing the competitiveness of organizations.

In the 21st century, manufacturing environment is becoming competitive day by day as the rapid globalization and technology continue to force organizations to constantly seek ongoing improvement in all areas in terms of their knowledge, flexibility and performance (Karatzas et al., 2019). Supply chain visibility is one of the fields that is receiving growing attention as a result of these rapid changes, owing to its ability to enhance efficiency and productivity towards improving customer service and to lower costs (Hackius & Petersen, 2017).

Visibility has continually enabled supply chains to respond on real time and accurate data thus meeting and understanding the changing customer needs (Kharlamov & Parry, 2018). The flow of accurate and real time information in the supply chain is considered very important to the flow of materials. Information sharing has been a key to success of supply chain performance. According to Kwon and Kim (2018), sharing of information on transfer; exchange of information indicating the level and position of inventory; sales data and information on the forecasting; information about the status of orders, production schedules and delivery capacity, and firm performance measures had become essential to all firms (Eckstein *et al.*, 2015).

Manufacturing sector has been integral to the economic growth and development in both the developed and the developing countries. Among the major sub-sectors in the manufacturing sector is the food and beverage processing firms. These are the companies dealing with production, value addition and supply of food products including beverages. According to Durach *et al.* (2015), the food and beverage processing industries controls over 48% of the global manufacturing industry owing to the ever-increasing demand of food products. In Kenya, the food and beverage processing firms are the majority in the manufacturing industry. This shows that focusing on these companies would be

a major milestone towards answering to the concerns in the manufacturing sector. The entire supply chain visibility in these firms has not been adequately documented, particularly in a local context.

To ensure that food and beverage manufacturing firms achieve their goals in terms of performance, it is integral for the management of these firms to have more efficient mode of operating that upholds their ability to meet customer needs. This is why supply chain visibility would be an integral prospect in the success of these companies. According to Muteshi et al. (2018), food and beverage manufacturing firms ought to be at the forefront of delivering quality products and do so timely and seamlessly. This can be enhanced by integrating supply chain visibility where the companies through their management can easily understand their customer needs and the ability of the suppliers to meet such needs (Hobbs, 2020). The performance of manufacturing firms is also determined by how effective they embrace information technology in running their daily supply chain operations (Wanja & Achuora, 2020). Technology ensures that the companies supply chain processes are well-monitored and effective towards meeting their performance goals and objectives.

Purwanto and Juliana (2022) indicate that one of the key aspects that tell whether a manufacturing firm is performing or not is the level of profitability. A company that makes high profits is able to expand its operations and reinvest in diversification, thus being more sustainable and competitive (Bako et al., 2019). The food and beverage manufacturing firms that record high profits are more significant in delivering their mandate, and they are capable of expanding their operations. The profitability is obtained through enhanced sales and reduced costs of operation. This is what supply chain visibility seeks to achieve, where the costs are saved through a well-monitored supply chain network, and sales revenue increased through customer satisfaction and increase production.

Achieving customer satisfaction is another aspect of performance that food and beverage manufacturing firms seeks to achieve. This is the ability of the firms to meet the needs of their customers and ensure that they are able to do so at a consistent manner (Kharlamov & Parry, 2018). Through continuous satisfaction of customers, the firms obtain loyal customers, and these loyal customers do the referrals thus enabling firms to make more sales and outshine their competitors. Striving to achieve customer satisfaction through efficient supply chain processes orchestrated by supply chain visibility is therefore an essential way of enhancing firm performance. Another parameter that tells whether a firm is performing or not is the number of product lines as well as revenue flows. The number of product lines that a company has is based on the increased demand, thus providing the company with more confidence and revenue to bring-in new products to an already stable market (Kim et al., 2021). Food and beverage manufacturing companies often choose to increase their product lines when their existing brand is already doing well. An example is The Coca-Cola which over the years has introduced different brands and product lines under its known and well-performing brand. This implies that the company is doing well in the market thus being ready to try other products on an already established brand.

Recent studies have shown that higher supply chain planning improves delivery performance. Most studies agree that higher supplier visibility improved delivery time, transaction costs, and inventory turnover. Secondly, it is suggested to take a contingency view, when examining supplier visibility and its impact on operational performance. It is argued that contextual elements could play a major role in the implementation of supplier visibility. For example, Wibowo et al. (2017) found a positive relationship amongst strategic long-term supplier visibility and delivery, flexibility and, cost performance. Furthermore studies have also found that more effective supplier visibility improves buyer performance, such as efficiency and flexibility schedule attainment and new product performance (Ellram & Tate, 2015).

2.3 Conceptual Framework

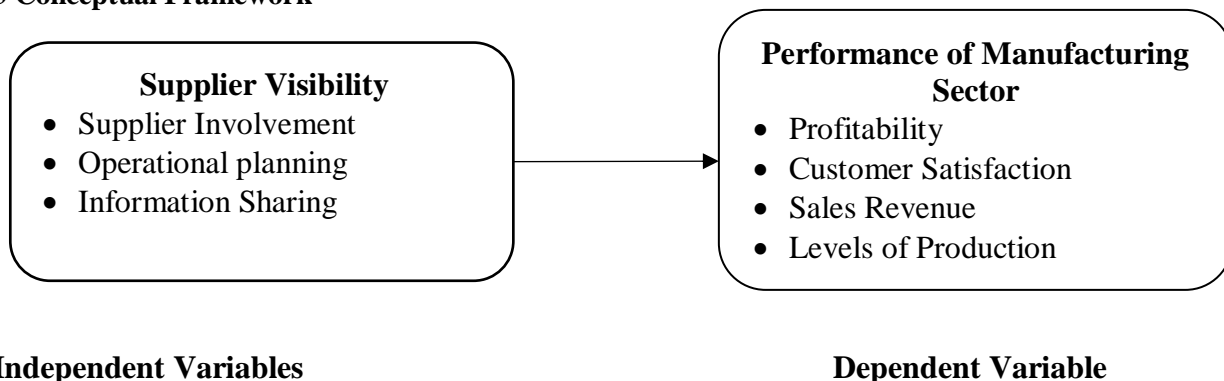


Figure 1

Conceptual Framework



III. METHODOLOGY

3.1 Research Design

This study used a cross-sectional research design. A cross-sectional research design seeks to establish the relationship between two or more variables. Cross-sectional research design answers the what, when, how and why questions, thus giving the study a deeper meaning. The cross-sectional research design was also deemed appropriate in this study since it make it possible to employ the regression model and correlation analysis, thus enabling the testing of the hypotheses of the study.

3.2 Target Population

The target population for this study was 561 respondents drawn from the large food and beverage manufacturing firms in Kenya. According to the Kenya Association of Manufacturers, there are 187 large food and beverage manufacturing firms in Kenya. These are firms that deal with processing, value addition, packaging and distribution of food products and carbonated drinks and other ready-to-drink drinks (KAM, 2020). The unit of analysis was the 187 firms, while the units of observation were the 561 employees drawn from these firms.

3.3 Sampling and Sampling Technique

The study used a stratified random sampling technique where the respondents were categorized into strata comprising of procurement department, finance department and the production/operations department. Respondents were picked randomly from each stratum. The study utilized a sampling formula by Kothari (2017) to establish the appropriate sample size. The formula has been applauded by Taherdoost (2016); Berndt (2020); and Etikan and Bala (2017). The formula is as follows:

$$n = \frac{z^2 \cdot p \cdot q \cdot N}{e^2(N - 1) + z^2 \cdot p \cdot q}$$

$$n = \frac{(1.96 \times 1.96) \times (0.5 \times 0.5) \times 561}{(0.05 \times 0.05) \times 561 + (1.96 \times 1.96 \times 0.5 \times 0.5)}$$

$$n = 228$$

The sample size therefore comprised of 228 respondents. Through stratified random sampling technique, the respondents were randomly picked from each stratum. This ensured equal representation of the population, where every respondent had an equal chance to be selected in the study (Taherdoost, 2016).

3.4 Data Collection Procedure

The study utilized a questionnaire to collect primary data. The questionnaire was deemed appropriate for this study since it was free from bias and it allowed the respondents adequate time to handle and respond to the questions. The questionnaires were administered by the researcher, with the help of four competent research assistants to collect data.

3.5 Data Analysis

The study used both descriptive and inferential statistics to analyze the quantitative data through the help of Statistical Package for Social Sciences (SPSS) version 27. Linear and multiple regression analyses were conducted to test the hypotheses. In adopting the 95% confidence interval, the hypotheses were considered significant if the p-value is below 0.05.

This chapter describes the methodology that was used in the study. It gives a detailed description of the methodological approach and explains the philosophical thrust of the framework influencing the procedures in the research. The chapter describes the research design, study population, sampling technique and sample characteristics, data collection procedures as well as data analysis and presentation.

IV. FINDINGS & DISCUSSION

4.1 Response Rate

The study sampled 228 respondents drawn from the large food and beverage manufacturing firms in Kenya, where 205 questionnaires were issued. One hundred and eighty three (183) questionnaires were dully filled returned back for analysis. This represented a response rate of 80.3% and a non-response rate of 19.7%. The study's response rate was considered adequate for analysis.



4.2 Embrace of Supplier Visibility in Manufacturing Sector

The study sought to assess the embrace of supplier visibility in the manufacturing sector. The respondents were asked to indicate their agreement or disagreement level with key statements regarding embrace of supplier visibility through Likert's scale. The findings are as summarized in Table 1. As the results portray, majority of the respondents disagreed that their respective organizations had more defined procedures through supply chain planning thus minimizing the operational costs as evidenced by a mean of 2.51 and a standard deviation of 0.848. The results concurs with outcome of Purwanto and Juliana (2022), who observed that through visibility of the suppliers by planning the internal processes while engaging suppliers, organizations strengthen their production efficiency and this could significantly enhance their performance. As elaborated by Baah et al. (2021), demand planning ensures that the firm knows what is required in terms of customer demands, thus engaging their suppliers on that basis to ensure they are capable of meeting such demands.

Table 1

Descriptive Results on Supply Chain Planning Visibility

Statements	Mean	Std. Dev.
Our company often plans its procurement processes and operations to reduce on costs and time	2.39	1.185
Our organization has more defined procedures through supply chain planning thus minimizing the operational costs	2.51	0.848
Operational planning has been embraced in our organization to enhance effectiveness of the supply chain process	2.66	0.959
The process of supply chain in our organizational has been streamlined to the planned timelines	2.67	0.783
Suppliers in our organization are informed on the decisions made by the management in regard to the supply chain processes	2.98	0.822
Demand planning has been embraced in our organization to enable the organization plan ahead	2.54	0.712
There is a framework for informing the suppliers of the impending demand early enough to enable them plan as well	2.49	0.801
The suppliers views are sought when making key decisions in the operations that encompass on the suppliers such as expansion into new markets	2.04	0.975
The supply chain planning has contributed significantly to a stronger working relationship with the suppliers	2.86	0.852

4.3 Performance of Food and Beverage Manufacturing Firms

The study sought to assess the performance of food and beverage manufacturing firms in Kenya. The findings as shown in Table 2 revealed that majority of the respondents disagreed that their respective food and beverage manufacturing firms had recorded profits for the past five years (Mean = 2.67; Std. Dev. = 0.740). The respondents further disagreed that their respective firms had recorded an increase in the number of customers for the past five years (Mean = 2.69; Standard Deviation = 1.150); and that the companies had been recording an increase in the number of customer complaints for the past three years (Mean = 2.66; Std. Dev. = 0.777). The results concur with the findings of Baah et al. (2021), who established that the level of customer satisfaction was an integral aspect that determined organizational performance, since customers are the key target for every organizational process.

Table 2

Descriptive Statistics on Firm Performance

Statements	Mean	Std. Dev.
Our company has recorded profits for the past five years	2.67	0.741
The company has seen its profitability decline in the past two years	2.52	0.727
The company has recorded an increase in the number of customers for the past five years	2.69	0.850
The company has been recording an increase in the number of customer complaints for the past three years	2.66	0.877
The company's sales revenues have been on an increasing trajectory for the past five years	2.71	0.725
Most of the company's assets have been positively generating significant revenue for the company in the past three years	2.59	0.749
The company has introduced a new product line to its existing markets in the past five years	2.63	0.797
The company has introduced its existing products into new markets in the past five years	2.56	0.857



4.4 Correlation Results on Supply Chain Planning Visibility and Firm Performance

The study carried out a correlation analysis to establish the relationship between supplier visibility and performance of manufacturing sector. The results revealed that a Pearson Correlation coefficient (R) was 0.685. This is evidence that supplier visibility has a strong correlation with performance of manufacturing sector in Kenya. The P-value for the correlation was $0.000 < 0.05$ which is an indication that the correlation between supplier visibility and performance of manufacturing sector.

Table 3

Correlation Analysis for Supplier Visibility

Variables		Performance of Manufacturing Sector	Supplier Visibility
Performance of manufacturing sector	Pearson Correlation	1	.685
	Sig. (2-tailed)		.000
	N	183	183
Supplier Visibility	Pearson Correlation	.685	1
	Sig. (2-tailed)	.000	
	N	183	183

4.5 Hypotheses Testing

The hypothesis of the study were tested using regression model. The hypothesis was tested using a univariate regression model as shown below:

H₀: *Supply chain planning visibility has no significant influence on Performance of Large food and beverage manufacturing firms in Kenya.*

$$Y = \beta_0 + \beta X + e$$

The linear regression model shows $R^2=0.469$ which means that about 46.9 percent of the total variance in the performance of manufacturing firms in Kenya can be explained by supplier visibility. Further test on the ANOVA shows that the significance of the F-statistic is less than 0.05 ($F=160.105$, $p<0.05$) as indicated in Table 4. This is an implication that supply chain planning visibility has a significant influence on performance of large food and beverage manufacturing firms.

Table 4

Regression Results of Supplier Visibility

Model	R	R Square	F	Sig.	Regression Coefficient	t	P-value
1	.685 ^a	.469	160.105	.000 ^b	.769	12.653	0.000

a. Dependent Variable: Performance of Manufacturing Firms

From the results, the null hypothesis that supplier visibility does not significantly influence the performance of manufacturing firms in Kenya, is rejected. The results revealed that supplier visibility contributes positively towards performance of manufacturing firms in Kenya.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The study concluded that supplier visibility is an integral aspect of supply chain visibility that strongly contributes to the performance of manufacturing sector. As the supply chain network continues to be dynamic and disruptions in the supply chain happening every now and then, it raises the urge for more visible suppliers in terms of their dependability, and ability to collaborate with the manufacturing entities to meet customer needs. The manufacturing sector in developing countries is facing increased disruptions from global supply chain, and this has increasingly exposed the firms to inefficiencies and failure to meet the needs of the customers. Moreover, it is concluded that the supply chain network in most of the manufacturing sectors in the developing countries is not effectively aligned to ensure the suppliers are visible in the sense that they understand the needs of the end-user thus work closely with the manufacturer to meet such needs.

5.2 Recommendations

The findings from the study revealed that supplier visibility was integral in enhancing performance of the manufacturing sectors. It is therefore recommended that there is need for the senior management team at the manufacturing firms to focus on steering the inclusion and visibility of suppliers in supply chain network as a way of



enhancing the success of the companies. The management particularly the supply chain managers have the obligation of ensuring that the suppliers understand the needs of the customers and by doing so, they are capable of collaborating to meet such needs. This can therefore be achieved by strengthening supplier visibility through enhanced and effective information sharing as well as deliberate efforts to stimulate continuous strategic collaboration. The manufacturing sector is on the verge of falling as customers continue to deviate to other markets that are more affordable and capable of meeting their needs in terms of quality and reliability. To mitigate this, the manufacturers have a duty to strengthen collaboration with their suppliers through implementation of supplier visibility so as to come up with measures of reducing costs, while upholding quality and strengthening reliability. Through this, the industry will be competitive while retaining its customer-base for continued performance.

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