

Effects of Logistics Strategies on Supply Chain Performance of Beverage Manufacturing Companies: A Case of Coca Cola East Africa, Nairobi

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Abstract: Logistics in procurement has recently gained a lot of dominance due to its significance that has not only made management of organizations easier but also more efficient in a competitive global village. With massive changes occurring in the operation models and marketing strategies of public sector organizations, procurement certainly plays a key role and influences how an organization achieves its objectives. Logistics strategies is an umbrella term that incorporates the entire array of activities that in one way or another are involved in obtaining resources and managing their inflow into an organization towards the end user. The purpose of the study was to examine the effects of logistics strategies on supply chain performance of beverage manufacturing companies: A case of coca cola East Africa, Nairobi. The specific goal was to find out how inventory management strategies affect supply chain performance. The study was guided by four theories that included; Inventory control theory, social exchange theory, lean theory, and Just-In-Time. The study had a focus on all staffs at procurement and supplies department of the company. Out of a target population of 260 employees, a stratified sampling technique was employed in sampling 78 employees that participated in the research. Descriptive survey research design was used by the researcher since it included all measurement techniques that entail asking respondents questions. Data was gathered using questionnaires. Of the 78 questionnaires, fully answered questionnaires that were received back were 68 and which were used in data analysis. Descriptive statistics was analyzed using the Statistical Package for Social Sciences (SPSS) version 24.0 and the findings were presented in form of frequencies and percentages through tables. Both correlation coefficient and regressions were carried out. From the findings, the result indicated a positive statistical relationship between logistic strategies and supply chain performance. It was concluded from the findings that that inventory management strategies were significant in explaining supply chain performance among beverage manufacturing companies.

Keywords: Logistics Strategies, Inventory Management Strategies, Supply Chain Performance, Beverage Manufacturing Companies.

I. Introduction

Supply chain management (SCM) is a broad term that integrates business operations only within an enterprise; logistics management, on the other hand, refers to the integration of all business processes along the entire supply chain (Kain&Verma, 2018). Applications for the concept were found in the military. The process where goods and products are shipped from the supplier to a warehouse or to a sale location is referred to as transportation (Kenyon &Meixell, 2011). Transportation Management Systems imply the use of technology to achieve the objective of transportation such as low costs, delivery on time, and increase in velocity of transportation and at the same time optimizing the use of resources of the organization (Stock & Lambert, 2010). With time and several eras of change, the appeal of logistics made its way into the mainstream of business. The supply chain of today is extremely complex. Organizations need complete visibility into supply chain performance in order to optimize competitive advantage. Supply chain performance is the assessment of supply chain management and comprises both concrete (like cost) and intangible (like capacity utilization) aspects (Croom& Johnston, 2003).Transportation acts as a very crucial link between a company in SC and it needs proper management in order to meet the needs of clients in time and their requirements of shipping at affordable prices

(Wisner et al, 2012). Transportation in logistics is what provides flow of materials, products and persons between facilities of production, warehouses, centers of distribution, terminals, and clients (Kasilingam, 2010). In transportation management, the value chain comprises the shippers, suppliers, and logistics service providers (Sandberg & Abrahamsson, 2011). Most humanitarian organizations succeed in logistics management because they incorporate supply chain in their logistics management to effective collaboration with their clients, suppliers and providers of transportation increasing efficiency, accuracy and timely delivery (Kiraga, 2014)

Organizations want more information than just inventory positions, delivery schedules, and fill rates in order to proactively manage the overall operation of their supply chains. For improved business outcomes, they need to maximize supply chain effectiveness and comprehend how adjustments in the supply chain affect overall costs or cash flow. This necessitates having complete insight into the performance-influencing elements of the supply chain, such as perfect order fulfillment, cash-to-cash cycle time, and overall cost (Oloruntoba & Gray, 2006). In order to attain operational excellence and provide a superior customer experience, it is necessary to measure the efficacy and efficiency of a given action. In developed democracies like Canada, public participation is a prominent feature of political life and government agendas. Public policy in Canada, both in the 1970s and today, has been characterized by active public involvement. There are numerous examples of public participation, such as the establishment of the Canadian Centre for Foreign Policy and Development in 1996 to shape Canadian foreign policy. In 1997, the Canadian government engaged civil society in conferences in Ottawa and Geneva to secure a global ban on landmines, and a poverty eradication program was adopted as a means to strengthen the relationship between civil society and the state (Aminuzzaman, 2018).

More precise than supply chain management (SCM), the term logistics management integrates all business processes along the entire supply chain, not simply within a single organization (Aćimović et al., 2022). Information about the connection between logistics management (LM) and supply chain management (SCM) is also available from the Council of Supply Chain Management Professionals (CSCMP). Logistics management is based on the distribution of products and raw materials as well as the control of information flows inside the organization (Barczak et al., 2019). In order to meet consumer needs, logistics is an integrated supply chain component that is in charge of planning, directing, and controlling the movement and storage of items, according to Sweeney et al. (2018). It also keeps track of relevant data.

The CSCMP defines logistics management as the part of supply chain management that plans, executes, and supervises the efficient transportation and storage of goods, services, and related information between the place of origin and the site of consumption in order to meet the needs of customers. The attractiveness of logistics entered the corporate mainstream throughout time and through several eras of change. The process of strategically managing the acquisition, delivery, and storage of components, finished goods, and resources (as well as the associated information flows) through the business and its marketing channels in a way that links to previous and upcoming actions is known as logistics. This is accomplished through order fulfillment that is both efficient and cost-effective (Frazelle, 2002). Timna, (2017) investigated the efficiency of logistics and transportation practices in Kenyan cooperative creameries. The study's objective was to determine how logistics and transportation impacted the operational efficacy of Kenyan cooperative creameries. To examine the data, both inferential and descriptive statistics were applied. The performance of KCC and logistics and transportation were found to be significantly positively correlated by the study.

A distribution channel is the only means by which any company can sell its goods. A series of middlemen may often be involved, each of whom moves the product up the chain to the subsequent company before it eventually reaches the end user or customer. Along with the needs of the crucial end-user, the producer must consider the unique requirements of each component in these chains. As a result, when goods are transferred from the producer to the consumer, we refer to this as distribution. A wholesaler is always the person in charge of product distribution for a business or organization. Olsen, (2004) defines a wholesaler as a distributor or middleman who primarily sells to institutions and retailers as opposed to individual customers. A distributor, commonly known as a wholesaler, is a crucial link in the supply chain that connects producers with customers. According to Tretyak & Sheresheva, (2003), wholesaler receives items from a producer, typically in extremely big quantities, and resells them to retail outlets at a premium.

The most well-known soft drink brand in the world is Coke. The Coca-Cola Company owns Sprite, Diet Coke, Fanta, and Coca-Cola, four of the top five soft drink brands. Among its other brands are Barq's, Minute Maid, PowerAde, Novida, and Dasani water. In North America, it distributes Evian from Groupe Danone. It additionally sells Dr Pepper Snapple Group brands, like Schweppes, Dr Pepper, and Crush, outside of Australia, Europe, and North America. The company manufactures or licenses more than 500 beverage products in more than 200 countries. Although it does not bottle its own product, Coca-Cola owns 35% of Coca-Cola Enterprises, the sole company that bottles Coke worldwide,

32% of Coca-Cola FEMSA in Mexico, and 23% of Coca-Cola Hellenic Bottling in Europe. It is Kenya's leading producer of soft drinks. Its headquarters are on Nairobi's upper highlands.

There has been continuous growth in logistic management in Kenya with companies dealing with FMCG opting to this form of delivery for their products countrywide and beyond but it isn't the case in the manufacturing industry (Njambi&Katuse, 2013). Most of those companies embraced 3PL for their operations and didn't care much on improving their management of inter logistics. Njambi and Katuse (2013) indicated that in this era that the life cycle of production is shrinking, there is shift in chain of distribution, proliferation of product line, fast change in technology, logistics has become important for any organization that wants to attain competitive advantage.

1.1 Statement of the Problem

Coke is the most well-known soft drink brand worldwide. The Coca-Cola Company owns Sprite, Diet Coke, Fanta, and Coca-Cola, four of the top five soft drink brands. Among its other brands are Barq's, Minute Maid, PowerAde, Novida, and Dasani water. In North America, it distributes Evian from Groupe Danone. It additionally sells Dr Pepper Snapple Group brands, like Schweppes, Dr Pepper, and Crush, outside of Australia, Europe, and North America. It is Kenya's leading producer of soft drinks.

In order to achieve operational excellence and deliver a better customer experience, the company has recently developed a number of strategic logistic measures in its purchasing and distribution departments to be certain that their marketing channels and the acquisition, transportation, and storage of components, supplies, and completed inventory are all managed strategically. One of the supply-side industries where improvements made possible by information systems are expected to have a major positive impact on businesses is logistics.

According to Brook, (2002) the development of information technology and information systems has resulted in a significant shift in the function of logistics. Rajkumar, (2012) conducted the study and found that an appropriately designed logistics strategy system may manage all contacts between suppliers and businesses, allowing businesses and their business processes to be connected directly. According to a study by Reardon & Hopkins, (2006), large-scale manufacturing companies in Nairobi employ logistics techniques to some extent. According to the report, the majority of large-scale manufacturing companies have a well-defined system of logistics strategies that facilitates information sharing between departments. Even though the above studies were carried out in the manufacturing set up, there were limited information on the studies carried out in Beverages Manufacturing companies and the variables that were being investigated were not similar and hence this study aims at filling that gap.

1.2 Research Questions

To what extent does inventory management strategies affect supply chain performance of beverage manufacturing companies?

II. Literature Review

This section is about theories as well as empirical findings that is connected to the study.

2.1 Theoretical Review

This section presents the theories that were used in guiding the study.

2.1.1 Inventory Control Theory

Inventory control theory was created in 1962 by Starr and Miller. Inventory control includes the actual management of inventories, which might comprise finished commodities, work-in-progress, and raw material stocks. No matter what kind of inventory is involved, storage is always necessary, and it is always expensive. As a result, inventory control theory covers every aspect of goods storage, including both advantages and disadvantages. One of the most popular applications of inventory control theory is determining the optimal amount of inventory to hold. This continuous time approach was quickly extended into discrete time by Vassian (1955) with the newly discovered z-transform. Vassian (1955) showed that if WorkIn-Progress (WIP) information were to be incorporated into a discrete version of Simon's inventory replenishment policy, then this would minimize the inventory costs for any forecasting method. Early text books documenting the z-transform approach include Magee (1958), in a production and inventory management context, and Brown (1963), in a forecasting context. The approach became more popular in the 1960s

Inventory control can benefit from the application of a number of mathematical models. The cost of shortages is also taken into account in an effort to balance order costs and storage expenses. Despite its propensity to be somewhat naive when it comes to the non-financial costs of storage and its assumptions about future demand and delivery, inventory control theory is a useful tool for cost reduction and is acknowledged as a component of best practices in manufacturing settings (Liu et al., 2013). Lead-time can benefit from the application of inventory control principles, which ensure that stock levels are appropriately controlled to meet market demands.

In order to minimize inventory costs in a single level of a supply chain, it has long been recognized that accurate forecasts of the demand over the lead time and review period are required. This is because the variance of the forecast error of the demand over the lead time and review period is equal to the inventory variance, for certain inventory control policies. Thus, in a single echelon of a supply chain, optimal forecasts that minimize the mean squared error over the lead time and review period are required. However, if our objective is to minimize inventory costs in a multiechelon supply chain, then the situation is much more complex, as non-optimal forecasts at the first echelon of the supply chain can have a smoothing effect on the demand placed on the supplier. This smoothing effect may mean that it is easier for the supplier to predict his future demand and may even be able to reduce his inventory costs more than the corresponding increase at the first echelon. Thus, the interaction between forecasting and inventory is complex in multi-echelon supply chains. There are many issues that need to be taken into account, including altruistic behaviour, trust and game-playing (Hosoda& Disney, 2006).

2.1.2 Social Exchange Theory

The social exchange hypothesis was created in 1958 by George Homans. Continual stability and a robust exchange relationship provide consistent supply. Achieving preferred buyer status rather than just regular or even exit buyer status is the main goal of supplier relationships. This leads to better treatment and guaranteed supply while reducing risks that may be involved in the supply chain (López-Navarro, 2013).

Social Exchange theory provides an analytic approach to social interactions resulting in the exchange of resources or services and behaviors of mutual value. It also addresses how these micro-level processes form the basis for the social structures they entail and the pressures they create for social change that often result from power inequalities. Understanding how such interactions emerge, change and alter the groups and networks in which they are embedded is an important undertaking. Social Change is the significant alteration of social structure and cultural patterns through time (Leicht, 2018). Culture here refers to the way individuals or groups do their things –shared ways of living among people.

Social exchange theory (SET) assumes that encouragement activities undertaken between an organization and its employees generates the organizational commitment (Aldhuwaihi, 2013). Grounded on the assumption of SET, the employees with the expectation that organization provide the better working environment and culture, he/she join an organization and utilize their skills and knowledge to achieve their goals. Hence, favorable exchange relationship between employees and an organization are resulted in increased organizational commitment. Based on the SET, a causal model is formulated which postulates the exchange relationship between strategic orientation, organizational culture, and organizational commitment which ultimately affects the organizational performance. The SET deals with three principles (i) rationality (ii) reciprocity and (iii) specificity principle to explain the relationships between employee and employer (Foa&Foa, 2012). The first rationality principle reasons that employees will have association with that organization which can provide desirable rewards and satisfy its employees needs and wants. The second reciprocity principle theorize that social relationship is always reciprocal between employee and employer. The third specificity principle postulates that only reciprocity type can endure an exchange relationship between the employees and an organization (Foa&Foa, 2012). For the employees, strategic orientation and good organizational culture would be a strategic focus organizational fair activities which increases employee's commitment towards their employer. While, in exchange of this, the employee's commitment may be a desirable feeling of employees to continue their loyalty with the organization and significantly affects organizational outcomes including performance (Pinho et al., 2014; Aldhuwaihi, 2013; Kidombo et al., 2012; Kidombo, 2007; Cheung, 2000).

Transactions are reciprocal, meaning that in a given situation, one thing must be given in exchange for another, according to the Social Exchange Theory (Cropanzano et al., 2002). Moreover, people only participate in a trade when they think the advantages will exceed the disadvantages, according to the Social Trade Theory. It represents an equitable resource and profit-sharing cooperation between buyers and suppliers.

2.2 Empirical Literature

Studies that have been done on inventory management strategies with different scholars in both developed and undeveloped countries could defer with regards to the nature of industries. This section gives a relationship of other studies pertinent to study objectives.

2.2.1 Inventory Management Strategies and Supply Chain Performance of Beverage Manufacturing Companies

Musau et al. (2017) investigated the effect of inventory management on organizational performance in Kenyan textile manufacturing enterprises. The study's objective was to investigate the effects of inventory management on the cost, profitability, responsiveness, flexibility, and responsiveness of supply chains for Kenyan textile manufacturing enterprises. A convergent parallel mixed methods strategy was used in the investigation. Stratified selection and basic random sample methods were employed in the study to select workers from each textile company's procurement departments. Both qualitative and quantitative data were used in the study. Correlation analysis and hierarchical multiple regression were the inferential statistics employed to examine the relationship between the variable and the hypothesis. The study claims that Kenyan textile manufacturing companies utilize inventory management, and this has an effect on the overall performance of the supply chain. The study concludes that inventory control can raise the productivity of textile companies.

Using a case study of the Gianchore tea factory, Musau et al. (2017) assessed the effect of inventory control systems on operational performance in the tea industry. Data for the study were gathered using a standardized questionnaire and regression analysis. It was discovered that the use of vendor controlled inventory, material need planning, and distribution planning improved the efficiency of operations and, consequently, the performance of the organization.

Ouma & Mwangangi (Ph.D.), (2018) evaluated the effects of material requirement planning, just-in-time delivery, vendor-managed inventory, and bar coding on the performance of soft drink manufacturing companies in Kenya in order to investigate the relationship between inventory management systems and business performance. Descriptive research design was used in this study. Data analysis techniques that were both quantitative and qualitative were used. The performance of the company is found to be enhanced by most inventory management system KPIs. To show how big of an impact the four determinants had on the success of the firms, regression analysis was employed.

Musau et al. (2017) investigated the effect of inventory control management systems on organizational performance in Tanzania's manufacturing sector using a case study of a food and beverage manufacturing company in Mwanza City. The qualitative approach method was applied. The content analysis of the data was assisted by the use of software designed for qualitative research. The results of the study showed that, in order to save expenses and boost production efficiency, the food and beverage manufacturing company maintained a variety of inventories, including raw materials, work-in-progress, and finished goods, all of which were managed using the FIFO method. It was also clear that the business used a perpetual inventory system to carry out periodic inventory control. By linking their inventory system to an electronic database that contains the quantities of inventory at different locations, stores and warehouses can employ barcode scanners to update inventory in real time. Furthermore, the adoption of Economic Order Quantity (EOQ) principles in inventory control management systems was found to have an impact on the profitability, adaptability, and cost reduction of the company.

The effectiveness of cleaning services in Nairobi City, Kenya, as well as their methods for inventory management, were investigated by Wambui & Miriam in 2024. The study's objective was to find out how Nairobi County, Kenya's commercial cleaning firms fared in comparison to inventory control techniques. One of the specific objectives was to look at how lead times and supplier relationships affected the performance of commercial cleaning companies in Nairobi County, Kenya. The study used a descriptive design of inquiry. Descriptive statistics such as mean, percentage, and frequency were employed in the study. Inferential statistics included correlation and regression. The results indicate that while supplier connections and firm performance have a slightly significant association, lead times and company performance have a highly substantial relationship.

2.3 The Conceptual Framework

This section presents conceptual framework that shows the relationship between variables under study.

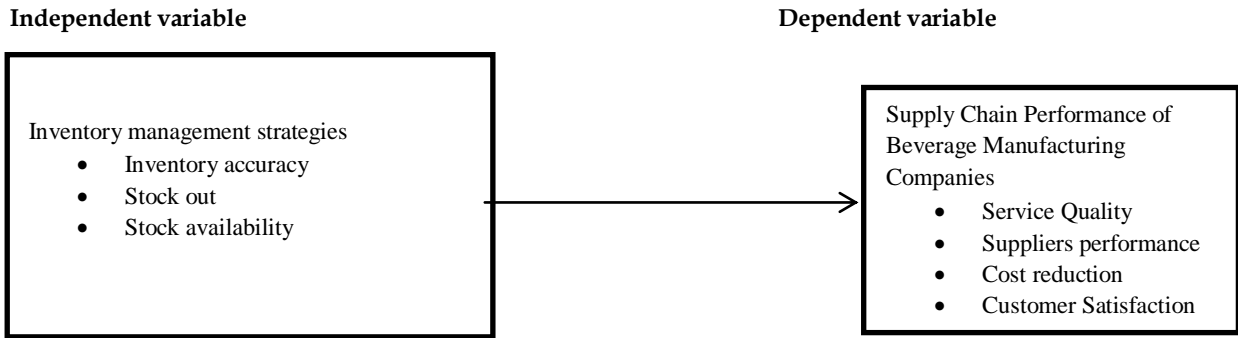


Figure 1: Conceptual Framework
 Source: Researcher (2024)

III. Research Methodology

3.1 Research Design.

Research design, as defined by Bryman and Cramer (2012), is the deliberate combination of different study components in a logical and cogent way to solve the research problem. A study design, according to Kothari (2017), is a blueprint outlining the procedures for gathering, measuring, and analyzing data. A descriptive research design was the one that was used for this investigation. Saunders et al. (2009), opines that this approach makes it possible to collect and analyze quantitative data using both descriptive and inferential statistics. According to Creswell (2014), a descriptive study design is one that guarantees the collection of data to characterize individuals, groups, environments, and phenomena. Kothari (2017), asserts that descriptive research design is crucial since it addresses bias protection and maximizes dependability.

3.2 Location of the Study

Only the Coca-Cola headquarters in Nairobi was the site of the investigation. Nairobi is situated in the highlands in the south-central part of the nation at an elevation of around 5,500 feet (1,680 meters). The distance between the city and Mombasa is 480 km, or 300 miles.

3.3 Target Population

According to Agyei&Kilika, (2013), the target population is the larger group from which a sample is drawn. Wang & Fang, (2021) opines that a population consists of all the individuals or objects that the researcher plans to study. It includes everything that has specific qualities, including topics and objects. This study was conducted at Coca-cola headquarter in Nairobi County, targeting all the staffs of the procurement and supplies department. The department has 260 staffs in which 25 are at administrative level, 85 at executive level and 150 at supervisory level (Chinenye Gbemisola Okatta et al., 2024). This is distributed as shown

Table 1: Target Population

Category	Population
Administrative position	25
Executive position	85
Supervisory position	150
Total	260

Source, (HR department, 2024)

3.4 Sampling Procedure and Sample Size

Both stratified and purposive sampling techniques were used in the investigation. According to Kothari (2017), stratified sampling is employed when the study population does not consist of a homogeneous group from which the sample will

be taken. The entire population was examined in proportional sampling, with each stratum's size being proportionate to the strata's population size. This implies that the sampling fraction was the same for every stratum. At some point, a random sample was used for selection at every managerial position level (stratum). According to Mweshi&Sakyi (2020), simple random sampling ensures that each employee in the population has an equal probability of being selected for the sample. According to Agyei&Kilika, (2013) a sample size of 10% to 30% of the population is appropriate for generalization. This argument suggests that 78 employees were considered as being able to provide the appropriate sample size for this investigation. Their distribution is as shown in table 2.

Table 2: Sample Size

Sub-Location	Population	Sample
Administrative position	25	8
Executive position	85	25
Supervisory position	150	45
Total	260	78

Source, (HR department, 2024)

3.5 Pilot Study

In a pilot study, a small sample of respondents complete the questionnaire to identify and address possible problems (Montejo et al., 2011). The pilot study aims to improve the questionnaire's phrasing and substance and make sure that respondents comprehend it. Usually, 10% of the sample size should be used for a pilot test (Aborisade, 2013). Eight respondents were to be used in completing a pilot version of the questionnaires, and the findings were to be tested for internal consistency using the Cronbach alpha reliability method. In order to prevent responder assessment bias, participants in the pilot study were not to be included in the study population.

3.6 Data Collection Methods and Instruments

Questionnaires were used in the collection of primary data. Utilizing questionnaires has benefits including cost-effectiveness, expediency in reaching a large number of respondents, and standardization (Agyei&Kilika, 2013). This is due to the fact that data was gathered by the researcher specifically for this investigation. The surveys were designed to be self-administered in order to minimize interviewer bias, and they were distributed using the drop and pick approach. The researcher collected secondary data directly from sources such as questionnaires, focus groups, experiments, observations, and interviews. Furthermore, published materials including theses, dissertations, textbooks, and ministry-specific annual government reports were used to capture the secondary data. Aborisade, (2013) defines secondary data as information gathered by a party other than the researcher.

3.7 Validity and Reliability of the Research Instrument

3.7.1 Validity of the Research Instrument

According to, Rasmussen & Madsen, (2002), validity refers to whether the instruments measure what they are intended to measure. According to Barasa (2017), a research tool's validity is determined by how well it assesses the intended variables. To determine whether the instruments provided answers to the study questions, the researcher employed content validity. The instrument's content validity was evaluated based on how effectively its items represented a representative sample and captured the relevant notion. The researcher used the expert to determine the content validity. Face validity, which is the perceived relevance and appropriateness of the instrument, was ensured by aligning the research instruments with the study objectives (Apopa, 2018). According to Gaber & Gaber, (2010) face validity, sometimes referred to as logical validity, is the degree to which an assessment is perceived as evaluating the idea that it purports to evaluate.

3.7.2 Reliability of the Research Instrument

Reliability is the degree to which a research tool consistently produces the same outcomes over time. The stability and consistency of measurements generated by an instrument are referred to as reliability (Barasa, 2017). To validate it, several measurements are taken on the same subjects. At start, the researcher ensured that appropriate data sources were chosen. The study focused on Coca-Cola's logistics tactics, thus employees in the departments of supplies and procurement were the main target population. By doing this, it ensured that appropriate data was gathered from appropriate sources. The internal consistency of the research instrument was measured using a Cronbach coefficient

alpha of 0.7. According to Sekaran&Bougie, (2013) Cronbach's alpha has a range of 0 to 1, with larger values (above 0.7) indicating more dependability.

3.8 Data Collection Procedure

In order to obtain authorization to carry out the study, the researcher made an application to Mount Kenya University for an ethical clearance certificate. The researcher then met with respondents after permission had been obtained, explaining the goal of the study, and requested for their approval to participate. The Ethical Review Certificate was meant to assist the researcher to obtain a permit for gathering data from NACOSTI. The researcher then gave the respondents the questionnaires with the assistance of two research assistants who had been trained on all the aspects around gathering data while in the field.

3.9 Data Analysis and Presentation

The information gathered from the surveys was edited and cleaned up first, then coded and sent for additional examination. In order to score on a 1-5 Point Scale according to the degree of the construct being measured, the Likert scales in the closed-ended questionnaire items were translated to numerical codes. After that, they were input into the computer application known as the Statistical Package for Social Sciences (SPSS), version 24.0. Frequencies and percentages were used in descriptive statistical analysis to characterize the fundamental features of the data. Pearson's Product-Moment Correlation Coefficient was then used for inferential data analysis. The link between the variables were measured using correlation analyses. This was significant since it allows the analysis's findings to be applied to a wider demographic. When estimating model parameters and figuring out how several independent variables affect a dependent variable, multivariate statistical techniques like multiple linear regression analysis are employed. For Multiple Regression Analysis, Dependent variable Supply Chain Performance of Beverage Manufacturing Companies were regressed against four variables of transportation strategies; inventory management strategies; order fulfillment strategies and warehousing management strategies. The regression equation was expressed as follows:

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where:

Y = Supply Chain Performance

β_0 = Constant (coefficient of intercept)

X1 = Inventory management strategies

ϵ = Error term

B1 = regression coefficient of the variable.

IV. Findings and Discussion

4.1 Descriptive statistics on inventory management strategies and supply chain performance

The objective of the study was to establish the effect of Inventory Management Strategies on Supply Chain Performance of Beverage Manufacturing Companies. The responses were ranked from 1 to 5. The mean and standard deviation of descriptive statistics were used to summarize the response. Findings are presented in table 3.

Table 3: Responses to inventory management strategies

Opinion	SD	D	N	A	SA	M	S Dev.
	%	%	%	%	%		
Organization has proper structure of managing inventory	3.8	3.5	4.7	54.5	32.5	3.21	1.13
The organization has skilled labor force to ensure a faster production time	4.9	5.6	4.1	46.4	39.0	3.19	1.17
Organization has a daily schedule commitment for ensuring a faster production time	4.4	5.1	4.2	39.5	46.8	3.11	1.15

The organization has always ensured efficient customer response in preventing inventory build up	5.7	6.5	3.2	39.7	44.9	3.15	1.14
The company only places orders with suppliers for supplies when there is a need from clients.	38.2	45.4	4.1	7.8	4.5	3.06	1.04
The organization has ensured a good relationship with trusted suppliers to facilitate quality supply of materials.	5.8	6.7	3.5	41.2	42.8	3.09	1.09

Source: Researcher (2024)

Key: n = 68, SD= strongly disagree, D =disagree, N = neutral, A = agree, SA = strongly agree, M = mean, Std. Dev = standard deviation.

Table 7 shows that all the four items under consideration had standard deviations that were more than 1.0, informing that the items had accurate measures without extremes. The statement “Organization has proper structure of managing inventory” had a variability of 1.13 which shows no extremes. The number shows that very few respondents strongly disagreed at 3.8% or disagreed at 3.5%, but a big number of the respondents either agreed at 54.5% or strongly agreed at 32.5%. The item " The organization has skilled labor force to ensure a faster production time" had a standard deviation of 1.17. This tells that most of the respondents had similar opinions (strongly agree and agree) about the statement as being good measures. Results show that 46.4% and 39.0% either agreed or strongly agreed that “the organization has skilled labor force to ensure a faster production time” respectively, with only 4.9% and 5.6% strongly disagreeing or disagreeing respectively with the same statement. Though a few of the respondents showed indecisiveness at 4.1%. In addition, the statement " Organization has a daily schedule commitment for ensuring a faster production time" provided a standard deviation of 1.15. A big number of the respondents were in support of this statement with 39.5% and 46.8% either agreeing or strongly agreeing while 5.1% and 4.4% disagreeing or strongly disagreeing respectively. On whether the organization has always ensured efficient customer response in preventing inventory buildup, 39.7% and 44.9% of the respondents agreed or strongly agreed to the statement while 6.5% and 5.7% disagreed or strongly disagreed to the statement. With regards to the statement “The company only places orders with suppliers for supplies when there is a need from clients”, a big number of respondents did not support it in that 45.4% and 38.4% disagreed and strongly disagreed respectively. On a small number of the respondents supported the statement at 7.8% and 4.5% showing agreement and strong agreement. Lastly on the statement “The organization has ensured a good relationship with trusted suppliers to facilitate quality supply of materials”, 41.2% and 42.8% showed their support with the statement by agreeing and strongly agreeing respectively. Only 6.7% and 5.8% of the respondents expressed lack of support by either disagreeing or strongly disagreeing respectively. The mean was 3.21 at its highest and 3.06 at its lowest. The findings showed that respondents took a more positive stance of more than 3.0. This indicates that the majority of respondents to the survey agreed with the statements. The majority of employees of Coca-Cola east Africa concurred that having inventory management strategies was essential to supply chain performance of beverage manufacturing companies.

4.2 Correlation Analysis between inventory management strategies and supply chain performance.

In addition, the study sought to establish correlation between inventory management strategies and supply chain performance in the beverage manufacturing companies. The findings of the study are as shown in Table 4.

Table 4: Correlation on inventory management strategies and supply chain performance.

	Supply Chain Performance(SCP)
Inventory Management Strategies(IMS) Pearson Correlation	.395*
Sig. (2-tailed)	.001
N	68

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Researcher (2024)

Results in Table 12 also show that inventory management strategies are strongly linked with supply chain performance, with a positive correlation of r (IMS, SCP) = 0.395, p 0.001. This informs that any positive adjustment in inventory management strategies will result in positive supply chain performance among beverage manufacturing industries.

4.3 Regression analysis between inventory management strategies and supply chain performance.

The study ascertained the effect inventory management strategies on supply chain performance in beverage manufacturing companies.

Table 5: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error
1	.641	.573	.367	.341

a. Predictors: (Constant), Inventory Management Strategies

Source: Researcher (2024)

From the multiple regression results, as shown in Table 5, the R-square of 0.573 informs that the effect of inventory management strategies contributed to an extent of (57.3%) for the dependent variable (supply chain performance) of beverage manufacturing companies. The remaining proportion (42.7%) being related to the error as well as other extraneous variables. Besides, the value for $R = 0.641$ was highly sufficient to indicate that the model adjusted with more variables being incorporated in trying to determine the effect of the independent variable on the dependent variable among beverage manufacturing companies.

Table 6: ANOVA Results

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	15.792	3	5.264	16.606	.043
Residual	20.288	153	.317		
Total	36.080	156			

a. Dependent Variable: Supply Chain Performance

b. Predictors: (Constant), Inventory Management Strategies

Source: Researcher (2024)

The results of the ANOVA inform that the mean square (0.317) of the residuals was a bit small compared to the mean square (5.264) of the regression. Further, the results indicate that the $F(3, 64) = 16.606$ was statistically significant ($p < 0.05$). This indicates that in overall, model was a good fit and the coefficients are not equal to zero. Thus the model significantly predicts change in the dependent variable as a result of predictor variables.

Table 7: Regression Coefficients

Regression Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	Beta	Std. Error	Beta		
(Constant)	2.241	.127		8.529	.000
Inventory Management Strategies	0.211	.042	.220		.000

1

a) Dependent Variable: Supply Chain Performance

Source: Survey Data (2023)

The study also conducted a regression analysis to establish the regression coefficients connecting the independent and dependent variable as illustrated by the equation illustrated below:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

According to the equation by taking all other factors constant at zero supply chain performance will increase by 2.241 units.

It was also established that the relationship between inventory management strategies and supply chain performance is positive and statistically significant ($\beta = 0.211$, $P < 0.05$), and that when inventory management strategies increases by an additional unit, supply chain performance increases by 0.211. From the regression results, the following regression model was derived;

$$Y = 2.241 + 0.211 X_2$$

V. Summary

According to the objective, the study's intention was to establish the effect of Inventory Management Strategies on Supply Chain Performance of Beverage Manufacturing Companies. The leading question was "To what extent does inventory management strategies affect supply chain performance of beverage manufacturing companies?". The outcome confirmed that there was a correlation that was positive between inventory management strategies and supply chain performance among beverage manufacturing companies. The findings consequently established that inventory management strategies are a factor in supply chain performance among beverage manufacturing companies.

VI. Conclusion

Results indicate that inventory management strategies have a positive, significant impact on supply chain performance among beverage manufacturing firms. Findings show that there is a positive, significant effect of inventory management strategies on supply chain performance among beverage manufacturing companies. From the result the researcher was able to conclude that inventory management strategies were significant in explaining supply chain performance among beverage manufacturing companies.

VII. Recommendation of The Study

The study confirmed that inventory management strategies have effect on supply chain performance among beverage manufacturing companies. It is revealed that there exists a relation that is positive, and significant concerning inventory management strategies towards supply chain performance among beverage manufacturing companies. The study consequentially makes a recommendation that beverage manufacturing firms should put in place proactive structure of managing and maintaining proper inventory in supporting of supply chain in order to ensure improved firm performance.

VIII. Suggestion for Further Studies

The purpose of the study was to assess the Effects of logistics Strategies on Supply Chain Performance of Beverage Manufacturing Companies: A case of coca cola East Africa, Nairobi. Specifically, it was to find out how inventory management strategies affect supply chain performance. The study suggests that a further study on some other factors that are likely to affect supply chain performance that were not covered in the study to be considered.

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