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Abstract

Growth of a business sometimes complicates the process of moving products from manufacturers to customers. Business organizations must confront the issue of how to effectively optimize distribution logistics to meet customer demands. Most companies are recognizing that distribution strategy must be robust enough to handle current demand, while remaining flexible enough to react to changing market conditions and minimize business risk. The purpose of this study was to determine the influence of the nature of product on performance of soft drinks manufacturing firms in Kenya. The study was informed by Theory of Performance and systems theory. The study adopted descriptive survey design to examine the relationship between the independent and dependent variables. Target population was 2345 people who include distribution department, whole sellers as well as retailers in the company. The study used stratified sampling technique to select groups of its subjects. Simple random sampling method was then used to select a sample size of 341 respondents. A pilot test was conducted to ensure validity and reliability of the data collection instrument. Data analysis was done using descriptive as well as inferential statistics. This was done via Statistical Package for Social Sciences (SPSS). The findings revealed that nature of product had a positive and significant influence on the performance of Nairobi Bottlers in Kenya ($\beta = .382, p = .000 < .05$). The study concluded that nature of product has a significance influence on performance of Nairobi Bottlers Company Limited, evidently implying that taking care of nature of product enhances performance of the company. Considering the fastness the world is moving in terms of production of soft drinks, it is essential that firms embrace the various aspects of nature of product which include form shape perishability as well as range of such products which enhances the ability for firms to perform. The study thus recommended that soft drinks manufacturing firms should always strive and ensure that the products they produce take into

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account the various aspects associated products to enhance their competitiveness and this will in turn assist firms to perform.

Keywords: *Nature of product, Soft drinks manufacturing firms Performance, Nairobi bottlers, Kenya*

1.0 Background to the Study

Businesses across the world today have been faced with the challenges of unpredictable distribution costs which are known to build on distribution logistics vulnerabilities. Lee, Hu, Lee, Feng and Notteboom (2022) argue that the application of logistics enables greater efficiency of movements with an appropriate choice of modes, terminals, routes, and scheduling. The implied purpose of logistics is to make available goods, raw materials, and commodities, fulfilling four major requirements related to order, delivery, quality, and cost fulfillment (Pawar, Kolte, Sangvikar & Jain, 2021). Logistics is thus a multidimensional value-added activity, including production, location, time, and control of elements of the supply chain.

Distribution logistics functions make important paradigm shifts of modern business management where individual businesses no longer compete independently but succeed within other existing distribution strategies (Tien, Anh & Thuc, 2019). Businesses today are operating on a competitive environment where the ultimate success of the business is dependent on management's ability to integrate the company's business network relationships. The competitiveness of distribution logistics is determined by several factors such as nature of product, distribution logistics structure, organizational resources and industry competitiveness (Parvin, Asimiran & Ayub, 2021).

The soft drink industry is one of the very competitive industries in the market (Angira, 2021). Kenya has both local and multinational soft drink companies thus making it one of the very competitive industries. The soft drink industry is classified into; the carbonated soft drinks, the ready to drink juices and the mineral water. In Kenya the soft drink industry consists of Coca cola Kenya which has six strategically located bottling companies in the country (Company's Global Financial Report, 2019). The major brands of coca cola Kenya and to be specific (Nairobi bottlers) are Coke, Fanta, Sprite, Krest, Stoney and Dasani with Coke being their flagship brand. Coca-Cola originated as a soda fountain beverage in 1886 selling for five cents a glass. Early growth was impressive, but it was only when a strong bottling system developed that Nairobi bottlers became the world-famous brand it is today. It was however until 1948 that the Nairobi bottlers Company founded Nairobi Bottlers in Kenya.

The nature of product has the ability to affect performance of distribution logistics within companies (Xiong, 2021). The various aspects of the product may enhance or diminish the ability of distribution logistics to meet customer expectations. These aspects include shape, unitization of product, weight of product as well as product range, product perishability and form of product. Product shape and weight affects vehicle capacity unitization plus equipment required for its handling during distribution process. Light products are easier for human handling during loading and offloading of delivery trucks. According to Senthil and Muthukannan (2021), unitization of products pertains to the batches in which a product is packaged. For units distributed to the customers in homogeneous packages, the time required for the verification of the quantities dispatched or received is much easier. This in turn reduces the delivery time as picking, order

assembly and dispatch time is reduced. This again reduces exposure to destruction of goods in transit (Gupta, 2021).

Product perishability relates to how quick that same product retains or losses its quality (Cao & He, 2021). Easily perishable products require specialized handling during the storage and transportation process which may increase the cost of distribution as well as destruction of the product (Burke, Zhang & Wang, 2021). Product range on the other hand is the number of differentiated products available for distribution to customers. The range of a product may also have an influence on the performance of production companies as it affects time required for material handling which involves receiving, stacking, picking, order assembly and even dispatch (Burke, Zhang & Wang, 2021). Distribution logistics in Nairobi bottlers links the company and its customers/clients. The distribution logistics in the company comprises of activities related to the provision of products and merchandise to clients. Nairobi Bottlers Company can deliver products directly from production process or from trader's stock that is normally located close to the production site or regional distribution warehouses (Coca-Cola Company President Report, 2016). This study therefore aims at finding out the factors affecting the performance of distribution logistics of Nairobi bottlers, Kenya.

1.1 Statement of the Problem

Production firms such as Nairobi bottlers which is an affiliate of Coca Cola East Africa need to be in a position of ensuring that no risk reoccurs in their distribution logistics cycle through establishment of contingent plans that is capable of reducing the any negative impact in case an event of this nature occurs. Nairobi Bottlers Company use indirect distribution system through its depots and sub depots (Coca-Cola, FEMSA, 2020). In spite of the use of depots in the distribution logistics process, there are still instances of product stock outs which according to the company management has been attributed to its dwindling distribution service timelines, product availability and this has significantly affected customer satisfaction and led to the company losing some of its market share.

The company which had early designed a good distribution logistics system has often required periodic modifications to meet the new market trends (Coca-Cola FEMSA, 2019). This is attributed to lack professional who are conversant with this system. This has become a norm and problematic as the company has seen some of her professional either leave as a result seeking for green pastures or moving to private business (Coca-Cola Company President Report, 2016). The company is also facing stiff competition especially from the juice manufacturing companies that have been coming up in the recent past (Angira, 2021). It is also expecting stiff competition from PepsiCo which is building a new plant in Kenya and SABMiller which has taken control of family owned Crown Foods, the bottlers of Keringet brand of drinking water.

Consumers have become more health conscious and are slowly moving away from carbonated soft drink which is the largest percentage of Coca-Cola products. The most difficult decision the company has undergone is a continuous revision of the overall distribution strategy (Coca-Cola Company President Report, 2019). From the above information, it is evident that Nairobi Bottlers Company is undergoing tough times in its distribution strategy so as to retain its market share. This inspired the researcher in the study to find out the influence of the nature of product on performance of soft drinks manufacturing firms in Kenya.

1.2 Research Objective

To establish the influence of the nature of product on performance of soft drinks manufacturing firms in Kenya.

1.3 Research Question

What is the influence of nature of product on performance of manufacturing firms in Kenya?

2.1 Theoretical Framework

The study was informed by Theory of Performance and Systems Theory.

2.1.1 Theory of Performance

The Theory of Performance as postulated by Schechner (1985) is used as a framework that explains performance as well as performance improvements. The theory portends that to perform is to produce important outcomes. It believes that performers are people who engage in a collaborative effort. Developing performance is a journey, and level of performance describes location in the journey. Current level of performance depends holistically on six components which are level of skills, level of knowledge, level of identity, fixed factors, personal factors and context. Three of the components are proposed for an effective performance improvement which enriches the environment, immersion, and engagement in reflective practice (Schechner, 1985). In production business, a well-functioning logistics and this is the necessary precondition of competitiveness (Arvis, 2014). Production businesses depend on transport operations. This dependency affects a wide range of value added activities along distribution logistics, right from suppliers of raw materials to the consumer, who is the end user as well as after sales service.

Human beings are capable of extraordinary accomplishments especially in production firms; where distribution logistics is really an important factor. From the researchers' perspective, worthy accomplishments are produced from high level performances, the theory then becomes fundamental in that it ensures that only good minds are necessary in taking businesses a head of other competitors (Schechner, 1985). It links firm growth positively to performance as it influences the survival probability of a company. In this study the theory is important as it is considered as a measure of a firm's growth among all stakeholders in the distribution logistics cycle. This theory addresses the dependent variable performance of distribution logistics. Any production business demands that their products can reach the end user in good time, form and shape. In the process, it ensures that there is effective and quality distribution firms such as Nairobi bottlers as this is good in gaining that competitive edge.

2.1.2 Systems Theory

Systems Theory was propounded by Katz and Kahn (1966). The theory views organizations as open social systems that have to interact with their environment for them to survive. According to Cutlip and Broom (2006), organizations rely on their environment for various important reasons which include customers who come to buy products or services from suppliers who are in position to provide materials, employees who are capable of providing labour and management, shareholders who invest and the government who provide policies and regulations. It is also important to note that public relations play a fundamental role in helping organizations adapt to organizational changes.

From the above explanations, as a system of components are linked together for the efficient movement of products in soft drinks industry. This theory applies to the dependent variable Performance of Distribution Logistics of Soft Drinks” where four independent variables of nature of product, organizational resources, industry’s competitiveness and distribution structure have been applied for distribution logistics to effectively perform. Using a system approach to describe physical distribution, the components include; customer service, transportation, warehousing, order processing, inventory control, protective packaging and materials handling (Miles, 1965).

This theory addresses variables of nature of product and industry competitiveness. The interrelation of sub components means decisions made in one area affect the relative efficiency of others. For example, a small business that provides customized personal computers may transport finished products by air rather than by truck, as faster delivery times may allow lower inventory costs, which would more than offset the higher cost of air transport. Viewing physical distribution from a system’s perspective can be the key to providing a defined level of customer service at the lowest possible cost in Nairobi Bottlers.

2.2 Conceptual Framework

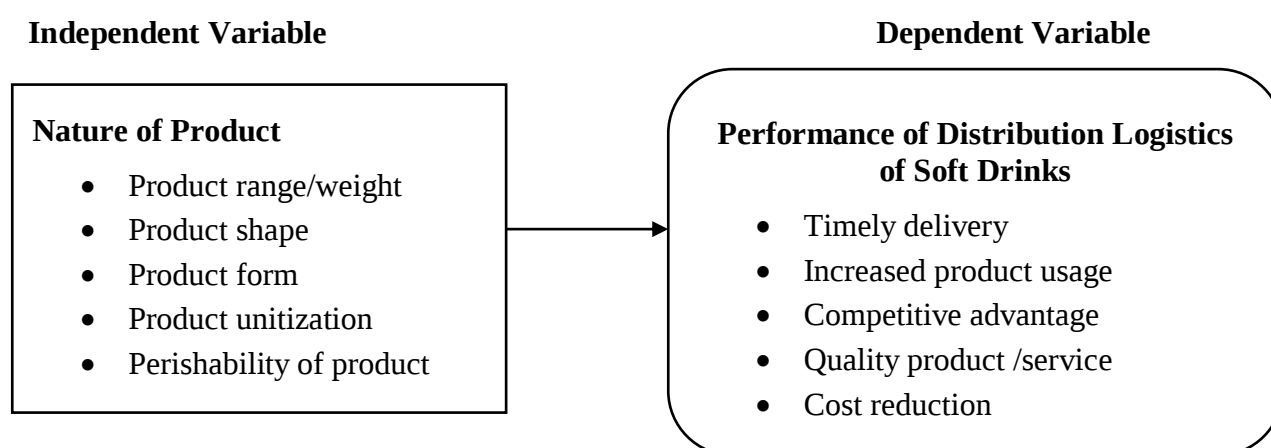


Figure 1: Conceptual Framework

Source: Author (2022)

2.3 Empirical Review

In a marketing perspective, a product is an object that can be availed for consumer use. According to Stark (2015), a product is anything that is offered to a market for satisfaction of consumer desires. In retailing products are normally referred to as merchandise but in manufacturing, they are bought as raw materials. According to Bowers ox and Cooper (2010), the nature of a product may have some effect on the performance of distribution logistics right from the producer to the consumer. These aspects of the product may boost or reduce the ability of performance of distribution logistics of a product so as to meet customer expectations. The aspects may include the weight of the product, shape, unitization of product, product range, perishability, and form of the product. The weight and shape of a product has effect on vehicle capacity utilization as well as the equipment’s required for its handling during the distribution process.

In production business, the nature of a product always has some influence on the performance of distribution logistics of products and services. According to Sinitsyun (2012), there are various

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product aspects under which it enhances or diminish the ability of distribution logistics to effectively meet customer requirements. The aspects include shape through good packaging of the product is an integral part during distribution and sale of goods and services. Product shape in an important tool for product presentation, packaging requires regular attention right from marketers and distributors (Stark, 2015). Units distributed to the customers in homogeneous packages, the time required for the verification of the quantities dispatched or received is much easier. This in turn reduces the delivery time as picking, order assembly and dispatch time is reduced.

Distribution through unitization of products is the aspect where goods are put into batches in which products are packaged. According to Ntim (2012), units of products distributed to customers in homogenous packages, is important as time required for verification of the quantities dispatched is normally easier. This way, delivery time becomes less as order assembly as well as dispatch time also is reduced. Proper unitization may also reduce exposure to destruction or pilferage of goods in transit (Bowersox & Cooper, 2010). Packaging of products by companies such as Nairobi bottlers will reduce breakage of products. Distribution logistics also take into account of product perishability. Perishability of product refers to the whether a product is perishable or not. These items include fresh foods, daily products or pharmaceuticals (Barcik & Jakubiec, 2013). The period of shelf life complicates distribution of the product as they must be processed and moved through the supply chain for sale to customers before they perish and lose either part of their value or the overall value.

In the United States of America (USA), distribution logistics cost constitutes about 30% of the cost of the products sold (Stark, 2015). Within the distribution and logistics system, which is the highest single expense and usually bigger as compared to warehousing cost, inventory, and order processing costs, distribution logistics has captured management's attention due to rapid wage and freight rate inflation, a fundamental swing of distribution logistics (Prabhakareri, 2010). From the study by Parthanadee and Logendran (2006), it implies that distribution logistics is major concern as most of the costs incurred in a production system are majorly in the sector. The present study therefore sought to find out if nature of product is factors that affect performance of distribution logistics in production within organizations.

In Kenya, Nyariaro (2017) conducted a research on green supply chain management practices and performance of soft drinks manufacturing firms in Nairobi, Kenya. The research used three objectives that is to establish the extent of green supply chain management, find out the correlation involving green supply chain management practices and identify challenges faced by soft drinks firms in implementing green supply chain management. The study used descriptive research design approach. The study concluded that green supply chain seeks to maximize the economic benefits by decreasing consumption of resources, energy and emission of pollutants so as to create socially responsible enterprises. Implementation of green supply chain management practices improves both environmental and financial performance of a firm (Nyariaro, 2017). This section was fundamental as it established how nature of product influences performance of Nairobi Bottlers Company Limited. This can happen right from the producer to the consumer, hence an important aspect of the study.

3.0 Research Methodology

The study adopted descriptive survey design to examine the relationship between the independent and dependent variables. The design helped the researcher to obtain information concerning the

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current status of the problem under study and describes it with respect to its variables. This study was conducted within Nairobi Bottlers Company in Nairobi County. This location was chosen as Nairobi County is the capital city of Kenya, meaning the number of people doing living and business is high. It involved distribution and logistics stakeholders of the company. The study population comprised of all stakeholders currently involved in Nairobi bottlers' distribution logistics. These included; company employees, wholesalers and retailers who ensure distribution logistics function was complete. According to information from the company, there are 2345 people behind the success of distribution logistics of the company.

This study applied stratified sampling method to identify the various respondent groups from which data was collected. First the researcher brought together distribution stakeholders with the same characteristics together, in this case employees of Nairobi Bottlers, wholesalers as well as retailers. They were grouped into three strata totaling to 2345 people. This number was then subjected to simple random sampling technique. Population was then subjected to Yamane 1967 formula for calculating the actual respondents from each stratum. This formula was seen as important because of its nature and determination in collecting data capable of producing confidence level. The formula was as follows.

$$n = \frac{N}{(1 + Ne^2)}$$

Where:

n = minimum sample size

N = population

E = precision set at 95 % (5%=0.05)

Hence; $n = 2345/1 + (2345 \times 0.0025)$

$n = 341$

The main instrument for data collection was the questionnaires. The use of questionnaire was to make it easier to approach respondents since they do not have any distribution bias as they do not show any particular preference or dislike for a certain individual. Questionnaires also helped avoid issues arising from any inhibition in answering questions of personal nature, and those that the respondent may hesitate to answer in the presence of the researcher. The method of using questionnaire was also economical and helped reduce bias and errors that might have resulted from personal characteristics of questions. In the study a Likert scale type of questionnaire was prepared with six parts which include general information, nature of product, distribution structure, organizational resources, industry competitiveness and performance of distribution logistics and all this aimed at enhancing data collection. After data collection, the questionnaires were checked for completeness and consistency and data obtained from completed questionnaire was cleaned, coded and entered into the computer software called Statistical Package for Social Sciences (SPSS) version 26.0 which aided the analysis process. Data analysis involved both descriptive statistics and inferential statistics. A linear regression analysis was conducted to determine the relationship between the dependent and independent variable.

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

Where: Y is the rating of performance of distribution logistics;

β_0 is the model's constant while β is the models coefficient

X is the index for nature of product

4.0 Findings and Discussion

In terms of response rate, out of a sample size of 341 respondents who were identified to take part in this study, 301 questionnaires were duly filled and returned for analysis. 40 of the questionnaires were either wrongly filled or not returned at all. The returned questionnaires accounted for 88.3% response rate. The response rate is in line with Mugenda and Mugenda (2008) who posit that a response rate of 60% is good for a study, 88.3% is therefore considered as adequate enough to drive this study to conclusion. The demographic information results revealed that out of 301 respondents who participated in this study, 62.1% of them were male while 37.9% of them were female. Majority of the respondents in Nairobi Bottlers Company's distribution logistics were aged between 26 and 35 years with 44.9%, followed by the age bracket of 36-45 years with 21.6%, then 18-25 years with 18.6%, 46-55 years was next with 11.3% and lastly 56 and above years with 3.6. Further, majority of the respondents had college level of education with 55.4% of the total. Secondary school was second with 28.6%, and then those with university level of education with 14.0% and lastly those with primary level of education had 2.0%. The study found that 168 respondents were lower level managers representing 56%, 84 of them were middle level managers with 27.9% while the remaining 49 respondents representing 15.1% were top level managers.

4.1 Descriptive Results

The study in this section required respondents to determine the influence of nature of product in the performance of distribution logistics of Nairobi Bottlers Company, Nairobi County. Specifically the study focused on how effective distribution logistics of Nairobi Bottlers is in satisfying its customers. The research questions was, what is the influence of nature of product on performance of Nairobi Bottlers Company, Nairobi County? The researcher developed six statements to measure the effect of the nature of product on performance of distribution logistics at the Nairobi Bottlers Company. Responses in this section required respondents to agree with statements rating nature of product and its influence on distribution logistics of Nairobi Bottlers Company on a five point Likert Scale ranging from 1-5 and where 1 = very low agreement; 2= Low Extent; 3 = Moderate extent; 4 = High Extent while 5 shows an agreement to a very high extent. The results in this section were as presented in Table 1.

Table 1: Nature of Product and Performance of Distribution Logistics

Nature of Product and Performance of Distribution Logistics	VH	H	M	L	VL	Mean	SD
Nairobi Bottlers Company handles perishable products	204 (67.8)	82 (27.4)	3 (0.9)	10 (3.3)	2 (0.6)	1.74	1.831
There is high prioritization of product shape	81 (26.9)	117 (39)	102 (33.8)	1 (0.3)	0	1.26	0.437
Nairobi bottlers values product utilization	270 (89.8)	23 (7.6)	0	6 (2)	2 (0.6)	2.73	1.845
Distribution logistics at Nairobi Bottlers Company prioritizes product range	252 (83.8)	38 (12.6)	7 (2.3)	4 (1.3)	0	2.72	1.483
Weight of product is fundamental in Nairobi bottlers	214 (71.1)	64 (21.3)	15 (5)	7 (2.3)	1 (0.3)	1.94	1.831
Product form effected in Nairobi bottlers	74 (24.6)	129 (42.9)	32 (10.6)	59 (19.6)	7 (2.3)	1.71	0.829
Composite Score	60.7	25.1	8.8	4.8	0.6	1.874	1.241

Source: Researcher (2021)

Generally the research findings revealed that majority of the respondents (85.8%) were in agreement with statements on nature of product on performance of soft drinks in Nairobi bottlers while 5.4% disagreed with the statements. 8.8% indicated a moderate effect of the nature of products on performance of distribution logistics of soft drinks at the Nairobi Bottlers company.

Statement (1) Nairobi Bottlers Company handles perishable products, 204(67.8%) out of the 301 respondents who participated in this study indicated very high effect and 82(27.4%) indicated high effect. Only 0.9% of the respondents indicated a moderate effect while 3.3% and 0.6% indicated a low effect and very low effect respectively. This variable had a mean of 1.74 and a standard deviation of 1.831 which is less than the composite mean of 1.874, implying that the statement negatively influences performance of distribution of soft drinks at the Nairobi Bottlers company, even though majority of the respondents believe that the item is highly effective.

Statement (2) there is high prioritization of product shape, 26.9% of the respondents indicated a very high effect while 39% indicated a high effect. 3.8% indicated a moderate effect with 0.3% indicating a low effect. No respondent that indicated a very low effect. The statement had a mean of 1.26 and a standard deviation of 0.437 which is less than the composite mean of 1.874, implying that the statement does not have any effect on the performance of distribution logistics of soft drinks at the Nairobi Bottlers Company.

Statement (3) Nairobi Bottlers values product utilization, 89.8% of the respondents indicated a very high effect while 7.6% indicated a high effect. 2% indicated a low effect with 0.6% indicating

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a very low effect. No respondent that indicated a moderate effect. The item had a mean of 2.73 and a standard deviation of 1.845 which is higher than the composite mean of 1.874, implying that the statement has a positive effect on the performance of distribution logistics of soft drinks at the Nairobi Bottlers Company.

Statement (4) distribution logistics at the Nairobi Bottlers Company prioritizes product range, 83.8% of the respondents indicated a very high effect while 12.6% indicated a high effect. Only 2.3% and 1.3% indicated a moderate effect and a low effect respectively. There was no respondent that indicated a very low effect. The statement had a mean of 2.72 and a standard deviation of 1.483 which is more than the composite mean of 1.874, implying that the statement has positively effects the performance of distribution logistics of soft drinks at the Nairobi Bottlers Company.

Statement (5) weight of product is fundamental in Nairobi Bottlers, 71.1% of the respondents indicated a very high effect while 21.3% indicated a high effect. 5% indicated a moderate effect while 2.3% indicated a low effect. Only 0.3% of the respondents that indicated a very low effect. This variable had a mean of 1.94 and a standard deviation of 1.831 which is higher than the composite mean of 1.874, implying that the statement has a positive effect on the performance of distribution logistics of soft drinks at the Nairobi Bottlers Company.

Statement (6) product form effected in Nairobi Bottlers, 24.6% of the respondents indicated a very high effect while 42.9% indicated a high effect. 10.6% indicated a moderate effect, 19.6% indicated a low effect, while 2.3% indicated a very low effect. The statement had a mean of 1.71 and a standard deviation of 0.829 which is less than the composite mean of 1.874, implying that the statement does not have any effect on the performance of distribution logistics of soft drinks at the Nairobi Bottlers Company. The findings from this study concurs with the views of Sinitsyun (2012) who believes that the various aspects of a product is known to enhance the ability of distribution logistics and this effectively meets customer requirements.

The study also focused on how Nairobi Bottlers Company has put in place strategies which ensure performs in its distribution logistics. Respondents in this section were required to agree with statements rating to performance of Nairobi Bottlers Company on a five point Likert Scale ranging from 1 to 5; Very Low Extent (1), Low Extent (2), Moderate Extent (3), High Extent (4) and Very High Extent (5). The results in this section were as presented in Table 2.

Table 2: Performance of Distribution Logistics

Performance of Distribution Logistics	VH	H	M	L	VL	Mean	SD
Nairobi bottlers offers quality products	271 (90.1)	23 (7.6)	7 (2.3)	0	0	2.12	1.275
There are reduced prices on products in Nairobi bottlers	77 (25.6)	121 (40.2)	83 (27.6)	19 (6.3)	1 (0.3)	1.61	0.767
There is increased product usage in Nairobi Bottlers	101 (33.5)	39 (13)	129 (42.9)	31 (10.3)	1 (0.3)	1.75	0.828
There is timely delivery of goods and services	217 (72.1)	71 (23.6)	11 (3.7)	0	2 (0.6)	2.52	1.985
Nairobi bottlers has products that pose a competitive edge	174 (57.8)	92 (30.6)	33 (11)	1 (0.3)	1 (0.3)	1.84	1.521
Composite Score	55.8	23	17.5	3.4	0.3	1.968	1.275

Source: Researcher (2021)

Results of the study revealed that majority of the respondents (90.1%) agreed to a very high extent that Nairobi Bottlers offers quality products. 7.6% of the respondents agreed with the statement to a high extent, while only 2.3% agreed with it to a moderate extent. No respondents agreed with the statement to a low or to a very low extent. This statement had a mean of 2.12 and standard deviation of 1.275 which was higher than the composite mean of 1.968, indicating that the statement has a positive effect on performance of distribution logistics, and that majority of the respondents agree with the statement.

On the other hand, 25.6% of the respondents agreed with the statement that there are reduced prices on products at the Nairobi Bottlers Company and that to a very high extent, the statement affects distribution logistics. 40.2% agreed with the statement to a high extent, 27.6% to a moderate extent and 6.3% to a low extent. Only 0.3% agreed with the statement to a very low extent. The statement had a mean of 1.61 and standard deviation of 0.767 that was less than the composite mean of 1.968, indicating that the statement has a negative or no effect on performance of distribution logistics.

Additionally, 33.5% of the respondents agreed to a very high extent that there is increased product usage at the Nairobi Bottlers. 13% agreed with the statement to a high extent, 42.9% to a moderate extent and 10.3% to a low extent. Only 0.3% agreed with the statement to a very low extent. The statement had a mean of 1.75 and standard deviation of 0.828 which was less than the composite mean of 1.968, indicating that the statement has a negative or no effect on performance of distribution logistics and that majority of the respondents did not agree with the statement.

Further, results of the study revealed that majority of the respondents (72.1%) agreed to a very high extent that there is timely delivery of goods and services at the Nairobi Bottlers. 23.6% of the respondents agreed with the statement to a high extent, 3.7% agreed with it to a moderate extent while only 0.6% agreed with the statement to a very low extent. No respondent agreed with the statement to a low extent. The item had a mean of 2.52 and standard deviation of 1.985 which was higher than the composite mean of 1.968, indicating that the statement has a positive effect on performance of distribution logistics, and that majority of the respondents agree with the statement.

Lastly, 57.8% agreed that to a very high extent that Nairobi Bottlers has products that pose a competitive edge and that the statement affects distribution logistics. 30.6% of the respondents agreed with the statement to a high extent, while 11% agreed with it to a moderate extent. Only 0.3% agreed with the statement to a low extent as well to a very low extent. This statement had a mean of 1.84 and standard deviation of 1.521 which was slightly lower than the composite mean of 1.968, indicating that the statement has a negative or no effect on performance of distribution logistics, even though majority of the respondents agree with it. Generally the research findings revealed that majority of the respondents (78.8%) were in agreement with the statements on performance of soft drinks, while only 0.6% of the respondents disagreed with the statement. 11% of them were of moderate agreement with the statements.

4.2 Correlation Analysis

Correlation analysis is a statistical method used to evaluate the strength of relationship between two quantitative variables. In order to determine the extent of the relationship between the independent variable and the dependent variable, this study sought to correlate the variable. Correlation analysis was conducted at 5% significance level. Table 3 shows the correction matrix.

Table 3: Correlation Matrix

		Performance	Nature of Product
Performance	Pearson Correlation	1.000	
	Sig. (2-tailed)		
Nature of Product	Pearson Correlation	.777**	1.000
	Sig. (2-tailed)	0.000	

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

Based on the correlation results in Table 3, there was a positive and significant association between nature of product and performance of soft drinks in Nairobi Bottlers Company, Nairobi County ($r=0.777$, $p<0.05$) at 5% level of significance. This is in agreement with the findings of a study by Bowers ox and Cooper (2010) which indicated that the nature of a product may have some effect on the performance of distribution logistics right from the producer to the consumer and that these aspects of the product may boost or reduce the ability of performance of distribution logistics of a product so as to meet customer expectations.

4.3 Regression Analysis

Regression analysis is a set of statistical methods used for the estimation of relationships between a dependent variable and one or more independent variable. For the case of this study regression analysis was conducted to establish the statistical significance and influence of nature of product on performance of soft drink firms with focus on Nairobi Bottlers in Kenya.

The regression model used was as shown below:

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

Where: Y is the rating of performance

β_0 is the model's constant while β is the model coefficient

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X is the index for nature of product

Table 4 shows the model summary.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777 ^a	.604	.601	.51593

a. Predictors: (Constant), Nature of product

As presented in Table 4, the coefficient of determination R Square is 0.604 and R is 0.777 at 0.000 significance level. The model indicates that nature of product explains 60.4% of the variation in performance of soft drink firms with focus on Nairobi Bottlers in Kenya. This means 60.4% of the performance of soft drink firms with focus on Nairobi Bottlers in Kenya is influenced by nature of product. Table 5 shows the ANOVA results.

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.400	1	31.400	117.961	.000 ^b
	Residual	39.662	299	.266		
	Total	71.062	300			

a. Dependent Variable: Performance

The results in Table 5 showed that the model used was statistically significant in explaining the influence of nature of product, on performance of Nairobi Bottlers in Kenya and it is indicated by a p-value of $0.000 < 0.05$. The regression coefficient results are presented in Table 6.

Table 6: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	0.567	0.119		4.761	0.000
	Nature of product	0.382	0.032	0.435	11.906	0.000

a. Dependent Variable: Performance

The regression model therefore became;

$$Y = 0.567 + 0.382X$$

Where:

Y = Performance

X= Nature of Product

Regression coefficients results revealed that nature of product had a positive and significant influence on the performance of Nairobi Bottlers in Kenya ($\beta = .382$, $p = .000 < .05$). This was supported by a calculated t-statistic of 11.906 that was greater than the critical t-statistic of 1.96 further confirming the significance, implying that a unit improvement in nature of product results into an improvement in performance by 0.382 units.

4.4 Hypothesis Testing

The study tested five alternative hypotheses using the multiple linear regression results. Table 7 shows the model summary for the multiple regression.

Table 7: Overall Model Fitness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.660 ^a	.436	.432	.51865

a. Predictors: (Constant), Product range, Product shape, Product form, Product unitization, Perishability of product

The model fitness results in Table 7 show that the components of nature of product (product range, product shape, product form, product unitization and perishability of product) were satisfactory variables in explaining performances of Nairobi Bottlers in Kenya. This is supported by coefficient of determination also known as the R square of 0.436. This implies that product range, product shape, product form, product unitization and perishability of product explain 43.6% of the variations in the dependent variable, which in this case is performances of Nairobi Bottlers in Kenya. Table 8 shows the overall ANOVA results.

Table 8: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.164	4	12.833	269.770	.000 ^b
	Residual	6.898	296	.048		
	Total	71.062	300			

a. Dependent Variable: Performance

b. Predictors: (Constant), Product range, Product shape, Product form, Product unitization, Perishability of product

The results in Table 8 indicate that the overall model was statistically significant. Further, the results imply that the product range, product shape, product form, product unitization and perishability of product are good predictors of performances of Nairobi Bottlers in Kenya. This was supported by an F statistic of 269.770 and the reported p value (0.000) which was less than the conventional probability of 0.05. Table 9 shows the multiple regression coefficient results.

Table 9: Multiple Regression of Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	.420	.187			2.251	.026
Product range	.306	.051	.312		6.033	.000
Product shape	.206	.037	.239		5.581	.000
Product form	.208	.041	.232		5.034	.000
Product unitization	.185	.184	.196		1.009	.125
Perishability of product	.097	.020	.190		4.841	.000

a. Dependent Variable: Performance

H₁ Product range significantly influences performance of distribution logistics of soft drinks firms

The hypothesis was tested by using linear regression and determined using p-value. The acceptance/rejection criteria were that, if the p-value is less than 0.05, we do not reject the H₁ but if it is more than 0.05, then H₁ is rejected. Therefore, the alternative hypothesis was that product range significantly influences performance of distribution logistics of soft drinks firms. The regression results in table 9 revealed that the p-value was 0.000. The alternative hypothesis was therefore not rejected, and the conclusion was that product range significantly influences performance of distribution logistics of soft drinks firms.

H₂: Product shape has significant influence on performance of distribution logistics of soft drinks firms

The hypothesis was tested by using linear regression and determined using p-value. The acceptance/rejection criteria were that, if the p-value is less than 0.05, we do not reject the H₂ but if it is more than 0.05, then H₂ is rejected. Therefore, the alternative hypothesis was that product shape has significant influence on performance of distribution logistics of soft drinks firms. The regression results in table 9 revealed that the p-value was 0.000. The alternative hypothesis was therefore not rejected, and the conclusion was that product shape has significant influence on performance of distribution logistics of soft drinks firms.

H₃: There is a significant relationship between product form and performance of distribution logistics of soft drinks firms.

The hypothesis was tested by using linear regression and determined using p-value. The acceptance/rejection criteria were that, if the p-value is less than 0.05, we do not reject the H₃ but if it is more than 0.05, then H₃ is rejected. Therefore, the alternative hypothesis was that there is a

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significant relationship between product form and performance of distribution logistics of soft drinks firms. The regression results in table 9 revealed that the p-value was 0.000. The alternative hypothesis was therefore not rejected, and the conclusion was that there is a significant relationship between product form and performance of distribution logistics of soft drinks firms.

H₄: There is a significant relationship between product unitization and performance of distribution logistics of soft drinks firms.

The hypothesis was tested by using linear regression and determined using p-value. The acceptance/rejection criteria were that, if the p-value is less than 0.05, we do not reject the H₄ but if it is more than 0.05, then H₄ is rejected. Therefore, the alternative hypothesis was that there is a significant relationship between product unitization and performance of distribution logistics of soft drinks firms. The regression results in table 9 revealed that the p-value was 0.125. The alternative hypothesis was therefore rejected, and the null hypothesis adopted that there is no significant relationship between product unitization and performance of distribution logistics of soft drinks firms.

H₅: Perishability of product has significant effect on performance of distribution logistics of soft drinks firms

The hypothesis was tested by using linear regression and determined using p-value. The acceptance/rejection criteria were that, if the p-value is less than 0.05, we do not reject the H₅ but if it is more than 0.05, then H₅ is rejected. Therefore, the alternative hypothesis was that perishability of product has significant effect on performance of distribution logistics of soft drinks firms. The regression results in table 9 revealed that the p-value was 0.000. The alternative hypothesis was therefore not rejected, and the conclusion was that perishability of product has significant effect on performance of distribution logistics of soft drinks firms.

5.0 Conclusions

From the study findings, it is concluded that nature of product has a significance influence on performance of Nairobi Bottlers Company Limited, This evidently implies that taking care of nature of product enhances performance of the company. Considering the fastness the world is moving in terms of production of soft drinks, it is essential that firms embrace the various aspects of nature of product which include form shape perishability as well as range of such products which enhances the ability for firms to perform.

6.0 Recommendations

The study recommends that firms ensure that the products they produce take into account the various aspects associated products to enhance their competitiveness and this will in turn assist firms to perform. The quality of products that is associated with their various aspects if properly coordinated will ensure prosperity of production firms.

REFERENCES

- Adegoke, I., Mingbao, C., Abredu, P., Ndafira, G. C., Amoateng, P. A., & Owusu-Gyan, L. (2021). The Impact Of Sustainable Supply Chain Management Practices On Organizational Performance In Ghana. *Management Science and Business Decisions*, 1(2), 23-38. <https://doi.org/10.52812/msbd.32>
- Angira, M. O. (2021). *Agility Strategies and Competitive Advantage of Coca-cola Beverages Africa-Kenya* (Doctoral dissertation, University of Nairobi).
- Appiah, B. L. (2021). Logistics Management in the Ghanaian Construction Industry. *World Journal of Engineering and Technology*, 9(3), 423-443. <https://doi.org/10.4236/wjet.2021.93029>
- Arvis, J. (2014). Connecting to Compete 2014: Trade logistics in the global economy: the logistics performance index and its indicators. The World Bank. https://www.itf-oecd.org/sites/default/files/docs/15cpb_logistics-turkey.pdf, <https://doi.org/10.1596/20399>
- Barcik, R. & Jakubiec, M. (2013). *Marketing Logistics*, Kosovo: University of Bielsko-Biala. <https://doi.org/10.25142/aak.2013.058>
- Bobokhodjaev, B. (2021). Place of Products Assortment in the Activities of Business Entities. *Актуальные научные исследования в современном мире*, (8-3), 86-92.
- Bowersox, C., & Cooper (2010). *Supply Chain Logistics Management*. Boston: McGraw-Hill
- Burke, H., Zhang, A., & Wang, J. X. (2021). Integrating product design and supply chain management for a circular economy. *Production Planning & Control*, 1-17. <https://doi.org/10.1080/09537287.2021.1983063>
- Cao, Y., & He, J. (2021). Research on emergency logistics management based on Intelligent Supply Chain. In *E3S Web of Conferences* (Vol. 235). EDP Sciences. <https://doi.org/10.1051/e3sconf/202123503056>
- Choi, T. M., Govindan, K., Li, X., & Li, Y. (2017). Innovative supply chain optimization models with multiple uncertainty factors. *Annals of Operations Research*, 257(1), 1-14. <https://doi.org/10.1007/s10479-022-04536-3>
- Choi, T. Y., Narayanan, S., Novak, D., Olhager, J., Sheu, J. B., & Wiengarten, F. (2021). Managing extended supply chains. *Journal of Business Logistics*, 42(2), 200-206. <https://doi.org/10.1111/jbl.12276>
- Choudhury, A., Behl, A., Sheorey, P. A., & Pal, A. (2021). Digital supply chain to unlock new agility: a TISM approach. *Benchmarking: An International Journal*. <https://doi.org/10.1108/BIJ-08-2020-0461>
- Coca-Cola Company President Report (2016). Refreshing business, https://coca-colahellenic.com/media/2390/coca-cola-hbc_2015-integrated-annual-report.pdf

- Coca-Cola, FEMSA (2016). Accelerating towards excellence by capitalizing with our strategy, <https://www.coca-colafemsa.com/reporte-anual-2016/eng/kof-annual-report-2016.pdf>
- Daily, M., Dalton D., & Canella, A. (2003). Corporate Governance: Decades of Dialogue and Data. *The Academy of Management Review*, 28(3); 371-382. <https://doi.org/10.5465/amr.2003.10196703>
- Gupta, G. (2021). Supply Chain Management in Office Bazar. Com.
- Katz, D., Kahn, R. (1966). *The Social Psychology of Organizations*. New York: Wiley.
- Larson, P. D. (2021). Relationships between logistics performance and aspects of sustainability: A cross-country analysis. *Sustainability*, 13(2), 623. <https://doi.org/10.3390/su13020623>
- Lee, P. T. W., Hu, Z. H., Lee, S., Feng, X., & Notteboom, T. (2022). Strategic locations for logistics distribution centers along the Belt and Road: Explorative analysis and research agenda. *Transport Policy*, 116, 24-47. <https://doi.org/10.1016/j.tranpol.2021.10.008>
- Li, H., & Graves, S. (2012). Pricing Decisions during Inter-Generational Product Transition, *Production and Operations Management* 21(1); 14-28. <https://doi.org/10.1111/j.1937-5956.2010.01216.x>
- Magazzino, C., Alola, A. A., & Schneider, N. (2021). The trilemma of innovation, logistics performance, and environmental quality in 25 topmost logistics countries: A quantile regression evidence. *Journal of Cleaner Production*, 322, 129050. <https://doi.org/10.1016/j.jclepro.2021.129050>
- Masudin, I., Lau, E., Safitri, N. T., Restuputri, D. P., & Handayani, D. I. (2021). The impact of the traceability of the information systems on humanitarian logistics performance: Case study of Indonesian relief logistics services. *Cogent Business & Management*, 8(1), 1906052. <https://doi.org/10.1080/23311975.2021.1906052>
- Miles, M. (1965). Learning Processes and Outcomes in Human Relations Training: A Clinical Experimental Study, in Schein, E, and Bennis W.
- Moons, K., Waeyenbergh, G., & Pintelon, L. (2019). Measuring the logistics performance of internal hospital supply chains—a literature study. *Omega*, 82, 205-217. <https://doi.org/10.1016/j.omega.2018.01.007>
- Mugenda, A., & Mugenda, O. (2008). *Research Methods*. Nairobi: Acts Press.
- Ntim, C., Opong, K., & Danbolt, J. (2012). The Relative Value Relevance of Shareholder Versus Stakeholder Corporate Governance Disclosure Policy Reforms in South Africa. *Corporate Governance: An International Review*, 20, 84–105. <https://doi.org/10.1111/j.1467-8683.2011.00891.x>
- Nyariaro, F. (2017). Green Supply Management Practices and Performance of Soft Drink Manufacturing Firms in Nairobi, Kenya Unpublished Thesis from the University of Nairobi.
- Panya, K. O., & Marendi, P. G. (2021). Effects of reverse logistic practices on the performance of fast moving consumer goods companies in Kenya. *The Strategic Journal of Business & Change Management*, 8(4), 747-762. <https://doi.org/10.53819/81018102t4043>

- Parfenov, A., Shamina, L., Niu, J., & Yadykin, V. (2021). Transformation of distribution logistics management in the digitalization of the economy. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 58. <https://doi.org/10.3390/joitmc7010058>
- Parthanadee, P. & Logendran, R. (2006). Periodic product Distribution from Multi-Depots Under Limited Supplies, *IIE Transactions*, 38(11); 1009-1026. <https://doi.org/10.1080/07408170600575454>
- Parvin, M., Asimiran, S. B., & Ayub, A. F. B. M. (2021). Impact of introducing e-commerce on small and medium enterprises—a case on logistics provider. *Society and Business Review*. <https://doi.org/10.1108/SBR-10-2020-0131>
- Pawar, A., Kolte, A., Sangvikar, B. V., & Jain, S. (2021). Analysis of Reverse Logistics Functions of Small and Medium Enterprises: The Evaluation of Strategic Business Operations. *Global Business Review*, 0972150921996011. <https://doi.org/10.1177/0972150921996011>
- Prabhakareri (2010). A Brief Note on Logistics Industry in India. Retrieved from <http://prabhakareri.wordpress.com>.
- Raihan, A. S., Ali, S. M., Roy, S., Das, M., Kabir, G., & Paul, S. K. (2022). Integrated model for soft drink industry supply chain risk assessment: implications for sustainability in emerging economies. *International Journal of Fuzzy Systems*, 24(2), 1148-1169. <https://doi.org/10.1007/s40815-020-01039-w>
- Saremi, H., & Mosavi, S. (2014). Management of distribution channels, ISSN: 2250-0138(Online).
- Senthil, J., & Muthukannan, M. (2021). Development of lean construction supply chain risk management based on enhanced neural network. *Materials Today: Proceedings*. <https://doi.org/10.1016/j.matpr.2021.10.456>
- Sinititsyun, M. (2012). Coordination of Price Promotion in Complementary Categories, *Management Science*, 58(11); 2076 - 2094. <https://doi.org/10.1287/mnsc.1120.1538>
- Stark, J. (2015). *Product Life Cycle Management Volume 1: 21st Century Paradigm for Product Realization*, London: Springer. https://doi.org/10.1007/978-3-030-28864-8_1
- Tien, N. H., Anh, D. B. H., & Thuc, T. D. (2019). Global supply chain and logistics management. *Dehli: Academic Publications*.
- Xiong, H. (2021). Research on cold chain logistics distribution route based on ant colony optimization algorithm. *Discrete Dynamics in Nature and Society*, 2021. <https://doi.org/10.1155/2021/6623563>
- Zhang, Y., Ding, Q., & Liu, J. B. (2021). Performance evaluation of emergency logistics capability for public health emergencies: perspective of COVID-19. *International Journal of Logistics Research and Applications*, 1-14. <https://doi.org/10.1080/13675567.2021.1914566>.