INFLUENCE OF LOGISTICS MANAGEMENT PRACTICES ON PERFORMANCE OF FOOD AND BEVERAGE MANUFACTURING FIRMS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

The goal of this study was to evaluate what logistics approaches influenced the performance of food and beverage manufacturing enterprises in Nairobi, Kenya. The goal of this research was to see how asset management, transportation management, information management, and contracting affected foodservice performance in Nairobi City County, Kenya. Only food and beverage manufacturing enterprises in Nairobi City County were included in the study. Independent manufacturing enterprises, research analysts, stakeholders, and authorities and regulators all recognized the report's significance. Theories guiding the study included Resource based View theory, Unified theory of Logistics, Game Theory and Agency Theory. The study employed a cross-sectional survey design with a target sample of 23,570 employees from Nairobi City County's registered 119 food and beverage production enterprises. From a sample frame of 119, a sample size of 107 was collected. The research questionnaire was self-administered and mailed. A pilot test was utilized to determine the accuracy and suitability of the research design and apparatus, while content analysis was employed to determine validity. The data was analyzed using SPSS version 25 and descriptive statistics were created. The connections between variables were compared using multiple linear regression analysis. A pilot test was undertaken involving 9 respondents to test for the instrument reliability where all variables were qualified. The study found that the study's independent factors had a significant impact on the performance of food and beverage manufacturing companies. Other elements, such as technology and automation, as well as order management, should be examined in future investigations, according to the study.

Keywords: *Information Management, Inventory Management, Logistics Outsourcing, Transport Management, and Performance of food and beverage manufacturing firms.*

1.0 INTRODUCTION

In order to carry out its mission and goals, any organization must purchase goods and services (Ellram, 2016). Today's businesses are constantly looking for innovative methods to stay competitive in an increasingly complex business climate. By increasing product performance and service while lowering costs, logistics management can assist create a long-term competitive edge (Davis, 2017). Logistics decisions also impact a significant portion of a company's overall costs, not just in terms of direct procurement costs, but also in terms of indirect costs such as inventory control, quality assurance, administration, and payment, among other things (Johnston & Ozment, 2019).
Continuous process adjustment and improvement is a critical mechanism for a company's modern-day operation and a substantial competitive advantage. Logistics management methods have an impact on an organization's overall performance as well as its competitive advantage (Karimi & Rafiee, 2014). Proper logistics management is a cost-cutting and competitiveness-enhancing activity (Kumar et al., 2006). Consequently, logistics must recognize and improve acquisition, warehousing, distribution, and informational planning, operation, and process. Every corporation should develop a proper objective and vision before implementing its corporate logistics. The goal of business logistics is to make sure that the correct commodity is up to the required quantity, at the perfect time, and to the end customer at the appropriate cost. Enterprise logistics aims to assure protracted growth by planning logistics related operations and processes to obtain better potential outcomes with the least of synchronization, optimum convergence, and minimum cost while conforming to all environmental and consumer regulations. Logistics efficacy, as per Mentzer and Konrad (1991), is described as the amount to which the logistic parameter goals are realized.

Today, Kenya's manufacturing sector is the third largest, accounting for over 10% of the country's Gross Domestic Product and so having a direct impact on economic growth. There are over 950 production enterprises in Kenya, with the majority of them being independently or kinship. Food and Beverage is the largest industry, with over 200 members, accounting for 24% of the Kenya Association of Manufacturers affiliation.

Manufacturing, on the other hand, has been on the downward slide for some time, and its input to the country's GDP has remained relatively static at around 10% since independence. Additionally, the Manufacturing sector slowed from 3.4 percent growth in 2017 to 3.1 percent growth in 2018, according to the Kenya Economic Survey (2019).

Kenya's government is yet to strengthen the industrialization in order to boost the country's economy. Manufacturing is an important part of Kenya's Vision 2030 economic development strategy, which intends to make the country middle-income by 2030. The establishment of a standard gauge railway and the renovation of the Nairobi-Nanyuki railway line are examples of how the goal is presently being pursued through transportation improvements. According to the government's objective, manufacturing should account for 20% of GDP by 2030.

1.1 Statement of the Problem

Kenya's food-processing industry, which includes food, drinks, and tobacco, remains the most important component of the manufacturing industry in terms of structure, economic contributions, and effectiveness, with 1,200 businesses ranging from small family businesses to heavy manufacturing corporations (KAM, 2020). The sector contributed to 33.4% of the total manufacturing production in Kenya in 2018 where the Kenya’s total exports were valued at Ksh 482,944 million (KAM, 2020). Nonetheless, Nairobi City County's food and beverage production enterprises fail miserably and face fierce competition from imported foods from other countries (Pullman & Wu, 2021). The food and beverage business must use expenditure management strategies throughout the supply chain. The impact of logistics management on firm performance and, more specifically, on final product qualities such as cost, design, processability, and perfection, demonstrates its importance (Muazu, 2019). Chirchir (2018), performed a research in Kenya on logistics management techniques and organizational performance of dairy enterprises, which found that sharing of information, storage, shipping, and inventory management all had an impact on dairy performance of firms. Likewise, Bwari et al., (2016) investigated the performance of the EABL supply chain. The study discovered that supply chain performance is influenced by distribution management, inventory control, and transportation management. Mugo (2013) looked into the logistics and transportation in Kenya's telecommunications sector. According to the findings, logistics improves business operations efficiency by boosting business activities, lowering costs, and reducing vulnerabilities, resulting in a strategic edge. The studies mentioned herein focused on the production of certain goods in the selected manufacturing industry. The purpose of this research was to examine the influence of logistics management practices on the food and beverage manufacturing sector as a whole in order to develop insights that could be applicable to a number of industries within the food and beverage manufacturing industry.

1.2 Objectives of the Study

1.2.1 General Objectives of the Study

To determine the influence of logistics management practices on performance of food and beverage manufacturing firms in Nairobi City County, Kenya

1.2.2 Specific Objectives of the Study

1. To determine the influence of inventory management on performance of food and beverage manufacturing firms in Nairobi City County, Kenya
2. To analyze the influence of transport management on performance of food and beverage manufacturing firms in Nairobi City County, Kenya
3. To evaluate the influence of information management on performance of food and beverage manufacturing firms in Nairobi City County, Kenya
4. To establish the influence of outsourcing on performance of food and beverage in Nairobi City County, Kenya

1.3 Significance of the Study

1.3.1 Food and beverage Manufacturing Firms

Procurement and supply chain managers in food and beverage manufacturing companies can benefit greatly from this research in order to better control the flow of items and information across their supply networks. This research will lay out a roadmap for how to best manage crucial logistical elements such order processing, communication, transportation, and outsourcing. The findings of this study will be used by the management to make critical logistics decisions in order to minimize costs and remain competitive in the changing food market.

1.3.2 Academicians and Researchers

The study adds knowledge in the logistics management practices literature with regard to organizational issues; this study will contribute to the ongoing research on logistics optimization. The study will also provide a point of reference to the local scholars who would like pursue in the area of logistics management.

1.3.3 Government and Policy Makers

This research will provide a detailed look at how the relationship between food and beverage manufacturing companies and government organizations occurs, with the goal of making logistics requirements easier to follow and increasing chances for manufacturers to enhance their quality standards. This would enable the government to save on logistics related costs in the ministries and state corporations as well as reap more GDP from manufacturing firms to help realize the Kenya Vision 2030.

1.3.4 Shareholders

The shareholders would find the study findings useful in evaluating the managerial strategies and the extent to logistics management practices can be enhanced in food and beverage manufacturing firms to minimize costs while maximizing their profit margins.

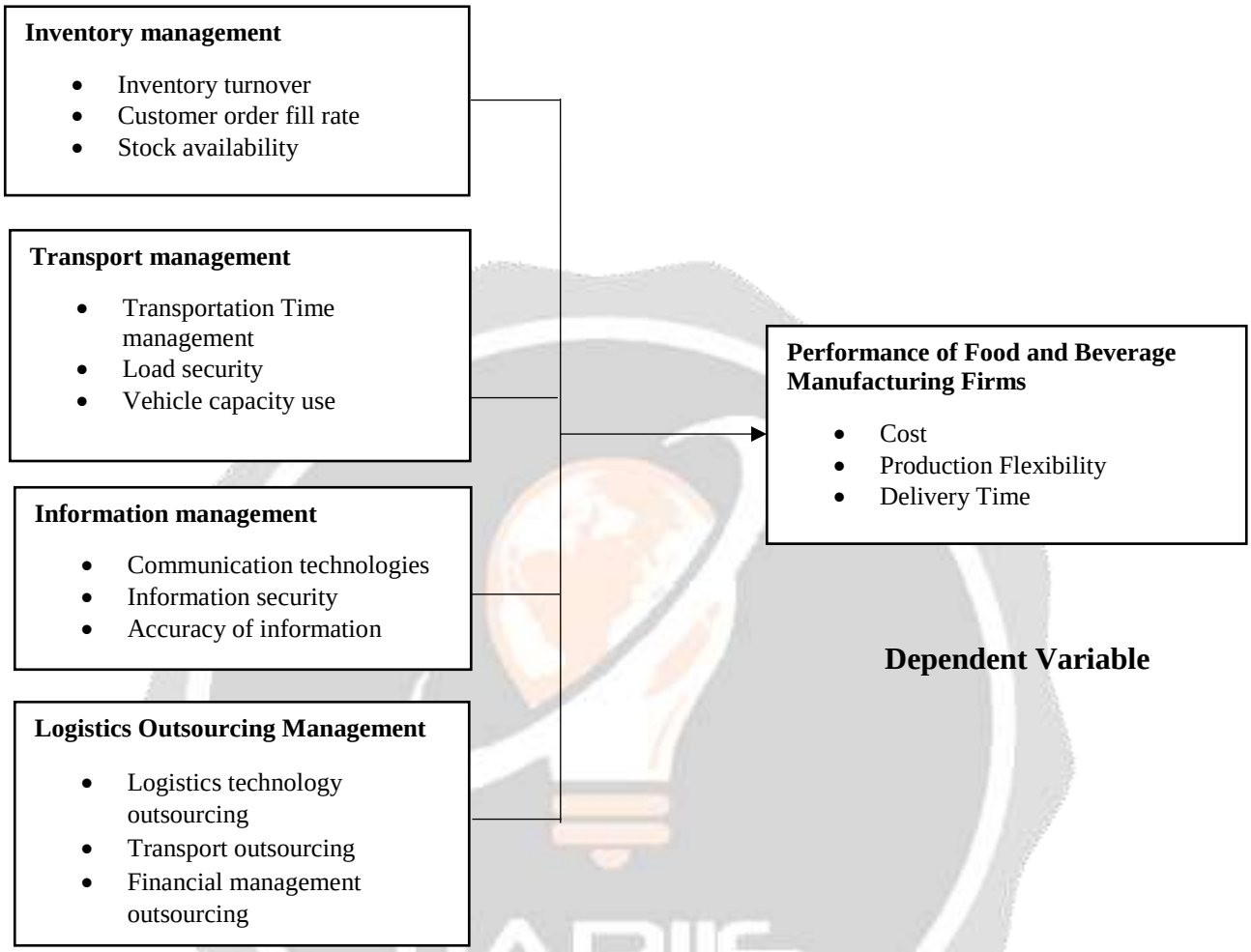

Figure 1 1 Conceptual Framework

2.0 DATA AND METHODOLOGY

2.1 Research Design

Cross-sectional survey design was utilized. With numerical (emphasis on the measurement of weights of participants' opinions) as well as the descriptive (information centered on respondents' opinions) techniques.

2.2 Target Population

This encompass the population whose information is sought. However, it might not necessarily constitute the sampled population (Claggett & Wei, 2013). The target population was a total 23,570 employees from the registered 119 food and beverage manufacturing firms in Nairobi City County (KAM, 2020).

2.3 Sampling Frame

According to Ishak, Bakar and Yazid (2014), a sample frame is the group from which a sampled section is extracted. It gives a way of picking a particular participant from the targeted to be included in the research undertaking. The sampling frame for this study was the 119 food and beverage manufacturing firms in Nairobi City County.

2.5 Sample and Sampling Technique

According to Etikan and Bala (2017), a sample is a portion or part of the population of interest. In the current research undertaking, the sample picked entailed the informant respondents. The sample size of the study was derived using the formula by Gagano & Gauvreau, (2000)

$$n = \frac{Z^2pqN}{e^2(N-1) + Z^2pq}$$

$$n = \frac{1.96^2*0.5*0.5*119}{0.05^2(119-1) + 1.96^2*0.5*0.5}$$

$$n = \frac{114.2876}{1.2554} = 91.04$$

Sample size (n) = 91

Table 2. 1 Sample Size

Department	No. of Firms	No. of Respondents	Total Respondents
Logistics	91	1	91
Total			**91**

The heads of logistics from each of the sampled food and beverage firms Nairobi City County were involved.

2.6 Research Instruments

A research instrument is a gadget that was utilized to gather data for the study. In this study, self-administered research questionnaires and mailed questionnaires were employed as devices for collecting data. Primary sourced data was acquired directly from respondents from Nairobi City County's Food and Beverage Manufacturing Firms. Quantitative raw information was gathered by the help of a self-administered research questionnaire. Furthermore, because of Covid-19 criteria, mailed questionnaires were employed for organizations that could not accept hand delivered questionnaires.

3.7 Data Collection Procedure

According to Bryman and Harley (2018), collecting data denotes getting as well as subjecting to scale the information describing a directed variables and is conducted in a prior established procedural manner, this enables one to obtain meaningful answers to questions. The researcher visited the identified representative firms, distributed the questionnaires the collected them back after two weeks. The researcher informed the respondents on the reason for undertaking the research and its importance so win respondents' acceptance; this was backed up with the data collection introduction letter from the University. The researcher also gave the meaning of items that challenge the respondents as to enable them understand.

3.8 Pilot Test

In accordance with Saunders and Lewis (2018), pilot testing is utilized when trying to achieve the exactness as well as fitness for purpose of the research design and the data gathering instrument. The study used 10 logistics managers from Food and Beverage firms in Nairobi City County to be involved in the pilot testing. This is supported by Mugenda and Mugenda (2003) whose findings posited that for realization of success in pilot testing, 10% of the actual respondents need to participate. With an intention of getting rid of biasness, those who were involved in pilot testing were excused from involvement in the final study. Respondents' selection process involved the use of simple

random sampling. The technique ensures equality of chances in picking of units and that there is utmost representation thus minimizing the bias (Orodho, 2003)

3.8.1 Validity of the research instruments

The level to which an instrument is able to perform its supposed function is referred to as validity. It denotes how proximate the realized deviation with a tool matches those realized among the tested people. Content and construct validity are the primary types of validity, content validity denotes the capacity to anticipate an occurrence or estimate the prevalence of an existing situations, and the later, refers to the possibility of predicting an outcome or predict the existence of an existing situation (Kothari, 2004). Content analysis was conducted using data from the pilot research, and validity was determined to see if the variables met the criteria.

3.8.2 Reliability of the research instruments

When repeated measurements are taken under identical conditions, a measure's dependability refers to its ability to yield similar results. The more fluctuation you see, the less dependable the measurement becomes (Kenneth & Bordens, 2013). The degree to which a scale is devoid of deviation is determined by its reliability. Test-retest reliability and internal consistency are two often cited measures of a scale's reliability. A scale's test-retest reliability is determined by giving it to the same persons on behalf of the defendant and determining the correlation between the two results. A scale with high test-retest correlations is more dependable. The degree to which the scale's items are all determining similar fundamental trait is known as internal consistency (Julie, 2011). Cronbach's coefficient Alpha was used to determine internal consistency. Cronbach's alpha is a measure of internal consistency, or how consistently a group of things are related to one another (Eisinga & Pelzer, 2013). Cronbach's alpha internal consistency level of 0.7 was used in this investigation. This figure represents the average correlation between all of the scale's items.

3.9 Data Analysis and Presentation

The data was coded and entered in version 25 of the Statistical Package for Social Sciences (SPSS), after compilation. Descriptive statistics be produced for quantitative data by obtaining mean, frequencies, and standard deviation to give descriptive aspect of analysis. Further, multiple regression analysis was computed to underpin the extent to which study variables relate in accordance with the research questions. The chief goal of descriptive statistics lies in allowing for substantive depiction of a distribution of scores through the use of few indices or statistics (Mugenda and Mugenda, 2003). The analysed data was presented in the form of tables. This was done based on the objectives and research questions.

The study used multiple linear regression models to measure influence of logistics management practices on the performance of food and beverage manufacturing firms in Nairobi City County, Kenya. The multiple linear regression model was:

$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$, Where ;

Y = dependent variable

β_0 = Constant

Where; Y= Performance of Food and Beverage Manufacturing Firms in Nairobi City County, Kenya

β_0= Constant

β_i is the coefficient for X_i (i=1,2,3,4)

X1=Inventory Management

X2= Transport Management

X3= Information Management

X4= Logistics Outsourcing Management

ε = Error Term

3.0 RESULTS AND DISCUSSION

3.1 Response Rate

A total of 82 questionnaires were distributed for the conduct of the actual study. 71 were well filled and returned; representing 86.59% response level. This level was high enough to allow for a meaningful representation and generalization to be made. A response level of 75% and beyond is considered appropriate (Howe & Peck, 2017). Thus, the response rate achieved in this study can be considered sufficient to make the findings valid.

Table 3. 1 Response rate

Particulars	Frequency	Percentage (%)
Distributed questionnaires	82	100.00
Returned questionnaires	71	86.59
Unreturned questionnaires	11	13.41

3.3 Pilot Test Findings

9 participants took part in pilot test. They were randomly picked from 5 metal and allied sector manufacturing firms in Nairobi City County. The internal consistency was established using Cronbach's Alpha coefficient which were all greater than 0.7; a recommended level. Nyoro and Jayne (2019) argued that a Cronbach's coefficient that is more than 0.7, is a prove for reliability. All the study variables attained the aforementioned threshold and were therefore considered reliable for the study.

Table 3. 2 Pilot Test Findings

Variables	No of items	Cronbach's Alpha
Inventory Management	6	.843
Transport Management	5	.841
Information Management	5	.765
Logistics Outsourcing Management	6	796
Performance of Food and Beverage Manufacturing Firms in Nairobi City County, Kenya	5	.781

3.4 Demographic Information

3.4.1 Designation in the organization

The respondents were asked to indicate their job level and the results are as tabulated below.

Transport managers dominated at 60.56 % (43). Transport managers were at 39.44% (28). The fact that the respondents were from logistics and transport departments, shows that the respondents were in a position to provide relevant information owing their well-informed strategic positions.

Table 3. 3 Job position

Designation	Frequency	Percent
Logistics Manager	28	39.44
Transport Manager	43	60.56
Total	**71**	**100.0**

3.4.2 Level of education

The table below shows that a majority of 69.01% (49) of the respondents were bachelor's degree holders while 16.90% (12), Masters' degree holders. Diploma and PhDs were the fewest with a representation of 5.63% (4) and 8.46% (6) respectively. The information was particularly instrumental in denoting the respondents' ability to

understand the instrument of research. It was therefore worthwhile confirming that the respondents were in a good position to understand the subject matter.

Table 3. 4 Level of education

Level of Education	Frequency	Percent
Diploma	4	5.63
Degree	49	69.01
Masters	12	16.90
PhD	6	8.46
Total	**71**	**100.00**

3.4.3 Duration of work

When asked to indicate their years of work with their organization, 38.04%(27) of the respondents indicated to have worked for a period of between 2-3 Years, 32.39%(23) for a period of 4- 5 years while those of 0-1year and above 5 years at 18.31%(13) and 11.26%(13) respectively. The employees experience in the organization showed that they had adequate experience to give representative information.

Table 3. 5 Duration of work

Level of Education	Frequency	Percent
0-1 year	13	18.31
2-3 Years	27	38.04
4-5 Years	23	32.39
Above 5 Years	8	11.26
Total	**71**	**100.00**

3.5 Discussion of Findings

3.5.1 Inventory Management

Most food and beverage sector manufacturers in Nairobi City County are able to closely monitor their inventory turnover rates, as shown by a mean of 4.3662 and a standard deviation of 0.54088. Further, most firms indicated to always be having stock available in their stores as evident by a mean of 4.2535 and a standard deviation of 0.49909. Majority of the firms also strive to use the right inventory management techniques such as ABC and EOQ analysis to manage their inventories as shown by a mean of 4.2113 and a standard deviation of 0.55845. Similarly, an agreed response was reported on the statements that the organizations are able to meet their customer order fill rates as they arise and that their inventory management practices enable the firm avoid inventory bottleneck in production each reporting a mean of 4.1972 and 4.0704 respectively. The findings agree with Wild, (2017) who believes that rather than causing delays in operations due to a shortage of appropriate materials, it is prudent to keep aside some physical stock that can meet anticipated requests, necessitating inventory in most firms.

Table 3. 6 Inventory Management

	N	Mean	Std. Deviation
We are able to closely monitor our inventory turnover rates.	71	4.3662	.54088
Our inventory management practices enable the firm avoid inventory bottleneck in production	71	4.0704	.54311
We are able to meet our customer order fill rates as they arise	71	4.1972	.49626
We always have stock available in our stores.	71	4.2535	.49909
We use the right inventory management techniques such as ABC and EOQ analysis to manage our inventories	71	4.2113	.55845

3.5.2 Transport Management

The second variable reported responses as tabulated below. As to whether food and beverage firms use electronic system to track all products that are shipped to customers, majority of the firms agreed as indicated by a mean of 4.3944. Similarly, a strong agreement was reported on the statement that firm products are delivered using the right transportation mode i.e. mean of 4.3803 and standard deviation of 0.54422. Furthermore, most firms ensure load security to goods in transit as proved by a mean of 4.3521 and standard deviation of 0.50986. Majority of the firms also indicated that transport management practices enable timely delivery of products and services to their customers as provided by a mean of 4.3239. The findings agree with Mwangangi (2016) who investigated the impact of transport management on manufacturing business performance. The study found that transport management through the use of transport management systems was a significant predictor of company performance once appropriate mode and the right technology is applied.

Table 3. 7 Transport Management

	N	Mean	Std. Deviation
Our transport management practices enable timely delivery of products and services to our customers.	71	4.3239	.52847
We ensure load security to goods in transit.	71	4.3521	.50986
We optimize on the vehicle capacity use	71	4.3803	.48891
Our firm products are delivered using the right transportation mode	71	4.3803	.54422
We use electronic system to track all products that are shipped to customers.	71	4.3944	.57268

3.5.3 Information Management

Most companies were using ICT in their information sharing across the organization evidenced by a mean of 4.6479 and a standard deviation of 0.53715. They further strongly agreed that they use electronic processing of customer orders as supported by a mean of 4.4507 and a standard deviation of 0.52885. Additionally, most firms agreed the firm information flow is used to control logistics process through ICT as supported by a mean of 4.3944 and a standard deviation of 0.57268. Similarly, the statements that the organization share information for verification to enhance accuracy of the information and that information security is assured; attracted a strongly agreed responses with means of 4.2676 and 4.3380 respectively. These findings are in concurrence with those of Pramatari (2016) who concluded that technologies allow for the integration and coordinating of streams both between companies, which is essential for the effective chain supply management. Information interchange is necessary for optimal chain-wide operation and cooperation, which is aided by modern supply chain information management advancements.

Table 3. 8 Information Management

	N	Mean	Std. Deviation
We use ICT in our information sharing across the organization	71	4.6479	.53715
Our information security is assured	71	4.3380	.63118
We share information for verification to enhance accuracy of the information	71	4.2676	.63150
The firm information flow through ICT is used to control logistics process.	71	4.3944	.57268
We use electronic processing of customer orders	71	4.4507	.52885

3.5.4 Logistics Outsourcing Management

Major number of firms strongly agreed that they employ third party to provide logistics technologies as displayed by a mean of 4.6197 and a standard deviation of 0.48891. Further, they trust their financial service provider evidenced by a mean of 4.2817 and a standard deviation of 0.61373. Transport outsourcing has enabled efficient service provision to customers as displayed by a mean of 4.2676 and a standard deviation of 0.60846. Most firms' third-party logistics provider meet the company expectations and they logistics use the latest technologies as supported by means of 4.2254 and 4.1549 respectively. According to Gyimah-Concepcion (2020), logistics outsourcing aims to achieve a number of goals, including but not limited to: lower capital investment in facilities; greater flexibility in

adapting to market changes and access to cutting-edge technology; and effective inventory management as firms only need to contract for the level of service required to meet current demand.

Table 3. 9 Logistics Outsourcing management

	N	Mean	Std. Deviation
We employ third party to provide logistics technologies	71	4.6197	.48891
Our third-party logistics provider meet the company expectations	71	4.2254	.59033
Our logistics provider uses the latest technologies.	71	4.1549	.52503
Transport outsourcing has enabled efficient service provision to our customers	71	4.2676	.60846
We trust our financial service provider.	71	4.2817	.61373

3.5.5 Performance

Majority of the firms strongly agreed that inventory management practices keep inventory related costs at a minimum as denoted by a mean of 4.5352 and a standard deviation of 0.55629. It was also noted that the firms process customer orders in a timely manner as denoted by a mean of 4.4366 and a standard deviation of 0.60314. Furthermore, as indicated by a mean of 4.2394 and a standard deviation of 0.54680, enterprises are able to limit their logistical operation costs to a bare minimum. Finally, means of 4.1127 and 0.43258 were realized on the declarations that the firms had reduced their delivery times as a result of adopting logistics technologies.

Table 3. 10 Performance

	N	Mean	Std. Deviation
We are able to keep our logistics operation costs at bare minimum levels.	71	4.2394	.54680
Our inventory management practices keep inventory related costs at a minimum	71	4.5352	.55629
We are flexible to alter our production to suit changing customer demands	71	4.2254	.53977
We have reduced our delivery times as a result of using logistics technologies.	71	4.1127	.43258
We process customer orders in a timely manner	71	4.4366	.60314

3.6 Correlation Analysis

Correlation shows the relationship among a set of variables. When values are not close to 1 or -1, it is an indication that the factors are sufficiently different measures of separate variables. It is also an indication of non-multicollinearity thus justifying utilization of all the independent variables of the study.

Table 3. 11 Correlations

		Inventory Management	Transport Management	Information Management	Logistics Outsourcing Management	Performance
Inventory Management	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	71				
Transport Management	Pearson Correlation	.180	1			
	Sig. (2-tailed)	.003				
	N	71	71			
Information Management	Pearson Correlation	.380**	.106	1		
	Sig. (2-tailed)	.001	.081			
	N	71	71	71		
Logistics Outsourcing Management	Pearson Correlation	.156	.041	.299*	1	
	Sig. (2-tailed)	.004	.013	.011		
	N	71	71	71	71	

	Pearson Correlation	.106	.173	.145	.025	1
Performance	Sig. (2-tailed)	.000	.048	.027	.007	
	N	71	71	71	71	71

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

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

3.7 Model Summary Regression Analysis

Multiple regression analysis showed a strong relationship, R^2 = 0.629. This shows that 62.9% of variation in performance of food and beverage manufacturers can be explained by the independent variables cooperatively. The remaining 37.1% of the variations is attributed to other factors not covered in the current study.

Table 3. 12 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.793[a]	.629	.516	.20175

a. Predictors: (Constant), Inventory Management, Transport Management, Information Management, Logistics Outsourcing Management

3.8 Analysis of Variance

The ANOVA findings showed that the significance level of the F value of 1.081 is less than 0.05 since p value is at 0.013.

Table 3. 13 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.566	4	.391	1.081	.013[b]
1	Residual	9.899	66	.362		
	Total	10.465	70			

a. Dependent Variable: Performance

b. Predictors: (Constant), Inventory Management, Transport Management, Information Management, Logistics Outsourcing Management

The coefficients show that there was a positive significant relationship between the variables of the study. Therefore, it is worth concluding that logistics outsourcing, information management, transport management and inventory management are of crucial importance in making positive change to the performance of food and beverage manufacturing firms in Nairobi City County.

Table 3. 14 Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.626	1.007		4.595	.000
Logistics Outsourcing Management	.165	.126	.157	1.307	.196
Information Management	.097	.128	.094	.757	.452
Transport Management	.067	.153	.055	.440	.662
Inventory Management	.180	.128	.171	.407	.164

a. Dependent Variable: Performance

$Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$

$Y= 4.626 + 0.157X_1 + .094X_2 + 0.055\ X_3 + 0.171X_4$

4.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

4.1. Summary of Findings

The study findings show that most food and beverage firms ensure close monitoring of their inventory turnover rates. These firms take care of demand fluctuations by always having stock for emergency unplanned orders. This is enhanced through the use of inventory management techniques including ABC and EOQ models. As a result, the firms are able to meet their customer order fill rates. Moreover, avoidance of inventory bottlenecks in the production process is as well avoided. Food and beverage manufacturing firms in Nairobi use electronic systems to track products shipped to customers. The choice of transportation mode is at the center of logistics planning in an attempt to ensure security of goods in transit. The specific transport management practices enhance timeliness in delivery of products and services to their customers. ICT was cited as the major enabler to communication and information management enhancer. Electronic processing of customer orders enhances accuracy and security of the information across the supply chain. The firms employ third party firms to provide logistics technologies. A strong trust based business is also established with their financial service providers. As a result of transport outsourcing, the firms has achieved efficient service provision to customers. Through the use of technology, third-party logistics providers achieve most of the companies' logistics efficiency targets.

4.2 Conclusions

In Nairobi City County, inventory management has a substantial impact on the operation of food and beverage manufacturing companies. This is accomplished by keeping a tight eye on inventory turnover rates, stock availability, and inventory management procedures, all of which have resulted in quick responses to urgent orders. Transportation management has a significant impact on the success of food and beverage manufacturing companies. The right mode of transportation not only improves shipping efficiency, but it also improves the security of consignments in transit. The timely delivery of products and services has been achieved thanks to transportation management. Information sharing through ICT is a strong performance enabler in food and beverage manufacturing firms in Nairobi City County. Electronic order processing drive efficiency in customer service undertaking. Logistics processes are monitored electronically with a goal of achieving maximum efficiency. Moreover, information management has sustained information security and accuracy. Logistics outsourcing management significantly affect performance of food and beverage manufacturing firms in Nairobi City County. Firms use third party logistics service providers who provide the necessary technologies required by these firms. Through the providers, greater efficiency is achieved.

4.3 Recommendations

Due to the established importance of inventory management in the performance of food and beverage manufacturing firms, the firms should ensure security of the inventory in their storage facilities. A balance should be stricken between the optimal inventory to be stored and the costs associated with their storage. This demand for use of models such as EOQ and ABC which informs stocking decisions. To ensure security of goods in transit, manufacturing firms should install tracking devices to shipping vessels and storage facilities. This will go a long way in obstructing pilferage and theft of items from the facility. Proper utilization of vehicle and storage space should be prioritized as it improves on facility utility and possible cost control. Information usefulness should be maximized by ensuring timely sharing. Linking of communication systems help achieve efficiency in data sharing. The firms should use technologies such as the Electronic data interchange and electronic resource planning to share information with customers and the suppliers. This will greatly reduce on transportation costs otherwise incurred. Logistics outsourcing should be used in providing transportation services. Despite this, food and beverage manufacturers should develop their internal logistical capabilities to cushion against failures by the third party providers. Especially for shipment of fast needed items on short notice, the firms should be capable internally.

4.4 Areas for Further Studies

The current research looked at how logistics management affects the performance of food and beverage manufacturing businesses in Nairobi City County. Nairobi City County was the sole focus of the research. As a result, it is suggested that a similar study be carried out in other republican counties. Furthermore, the study's focus was on food and beverage manufacturing companies; the study suggests that other sectors of the economy, such as government parastatals, be addressed. Finally, because the study only looked at four variables: inventory management, transportation management, information management, and logistics outsourcing management, other variables such as technology and automation, as well as order management, should be examined in future research.

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