

LOGISTICS PRACTICES AND THE PERFORMANCE OF COURIER FIRMS IN NAIROBI COUNTY

Dr. Chege, Muna

¹ Lecturer, Procurement and Logistics Department, Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

² MSC. Student, Procurement and Logistics Department, Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

ABSTRACT

The purpose of this study is to determine the Influence of Logistics Practices on the Performance of Courier Firms in Nairobi County. The specific objectives included examining the Influence of Process Automation, Logistics Business Intelligence, Strategic partnerships and Green Logistics on the Performance of Courier Firms in Nairobi County. The study was guided by the Theory of Constraints, Resource Based View Theory, Social Network Theory and the Stakeholder Theory. A Descriptive Research Design was used to conduct the study. The target Population was the 253 Courier Firms which are licensed by the Communication Authority of Kenya. The sample was obtained using the Naissiuma Formula and a total of 72 Courier Firms were targeted with each giving three participants each from Finance Department, Operations Department and Warehouse Department. This study utilised the semi structured questionnaire and the responses were obtained. The data was then checked for completeness then coded and analysed by SPSS. The response rate was 77%. The findings indicate that Process Automation Influences Performance of Courier Firms by 54%, Logistics Business Intelligence by 27%, Strategic Partnerships by 27.6%, Green Logistics by 23.9% and joint they influence the performance of Courier Firms by 30.9%. All the independent variables were significant as their P values were less than 5%. In conclusion, Process Automation plays a critical role in the Performance of Courier Firms. Logistics Business Intelligence also contributes significantly to the overall output of Courier Firms. Strategic Partnerships allow for increased market share thus contributing significantly to good performance. Green Logistics too positively and strongly impacts the Performance of Courier Firms. The study recommends increased digitization of processes and procedures, while adapting Green Logistics Practices such as Electric mobility in order to achieve cost savings and retain market competitiveness. Further may also be conducted on other Logistic Practices which assist the Courier Firms in reducing costs

Keyword - Logistics Practices, Courier Firms

1. INTRODUCTION

In the recent years, more businesses are emerging and with the increased Process Automation of businesses and functions, businesses are having to come up with creative ways to remain competitive. Logistic firms, just like any other firms in other industries, are experiencing the increased costs especially due to the increased fuel prices (Wall Street Journal, 2021). This costs are as a result of demand being high than supply forcing the market forces to strain to meet the needs of the customers. For most organisations, they are forced to source for additional financing to support their operations and at the same time try and retain their price competitiveness in a bid to retain their market share. As a result of this, Courier Firms are having to formulate and implement Logistical Practices to control the operational cost they incur.

Courier Firms are defined to be an outsourced transportation company that facilitates order fulfilment (Bernard, 2018). These Logistics companies are engaged in more than just one function, which is transportation, but also involve other value addition services such as storage, packaging, kitting, bundling and even last mile delivery services. As opposed to other Courier companies, they ensure that the items are delivered to the customer's doorstep for improved customer satisfaction. However, they are limited in terms of which items they transport as they mostly deliver small parcels and even letters. Outsourcing of these logistics firms is proving to be beneficial to the big corporations as this leaves them with ample time to focus on their core competencies. Industries such as Manufacturing, Food and Beverage production and even Service Industry all are embracing the outsourcing of logistics services to the industry leaders who have both the expertise as well as the capacity to effectively handle their job. According to a consultancy firm in Supply Chain Management, Armstrong & Associates (2017), 90% of the biggest firms fully have outsourced their logistics function to TPLs which is a huge increment as compared to the 46% recorded in 2001.

As a result of increase E-commerce, more and more online retailers are also embracing the role played by these Courier companies. Their growth has also been supported by the introduction of tracking and tracing parcels which allows the end user to know the exact location of their parcels and how soon they can receive them. Secondly, the ability of tracking the trucks and delivery vehicles, thanks to the introduction of Internet of Things, has ensured supply chain visibility. As a result, customer satisfaction has really improved and consequently, growth in the market share can be evidenced. This was emphasized by Rheude (2020) who suggests that Courier companies are the link between manufacturers and their end consumers. Since they also offer reverse Logistics, they then ensure that the defective, poor quality and even unutilized products can be recycled to other better items thus advocating for environmental conservation practices. Among the best known advantages of outsourcing these Courier firms include reduced operational overheads, faster and on time deliveries and also enhanced returns handling (Power et al., 2007).

Courier Companies are also embracing decentralization of their warehousing function to decongest their working space and also allow for ease of exchanges and returns processing (Project Practical, 2022). In addition to that, they advocate for optimization of cloud based analytics to forecast customer needs and prepare for them in advance. The historical data can be obtained from previously fulfilled orders and the Courier companies can thus allocate the required resources for smooth operations. This is especially critical due to the ever changing demands and market needs which dictate the direction that the Courier firms will take in terms of strategizing to retain their market competitiveness

1.1 Statement of the Problem

The Logistics function in most firms takes up a huge percentage of the company's revenue. E-Desk (2020) discovered that up to 50% of the sales revenue is spent on transport while 34% is spent on warehousing function which most Courier Firms offer. The study also revealed that Small and Medium Enterprises were the ones who incurred huge expenses on transportation and this can majorly be attributed to the fact that they lack the required infrastructure and resources. These Courier companies too, although being outsourced, face the same challenge of high costs of operation and thus the need for improved operations (GEP, 2019). According to African Continental Free Trade Area (2021), Africa has a population of 1.3 billion citizens and a joint GDP amounting to \$2.6 trillion which for most businesses, their major expenses go to warehousing, packaging, transportation as well as financial planning. Among the major costs include storage and transport services for both the 3PL and firms which have their internal logistics department and these costs average at \$3.5 trillion annually (Michigan State University, 2022).

Some Logistics companies have adapted to the use of various Practices and trends in a bid to lower the logistical costs they incur. In 2017, (HBR) reported that almost 67% of common Practices become unsuccessful as a result of lack of proper execution. They added that any efficient and effective strategy ought to involve the various stakeholders as well as ensure the whole supply chain visibility. According to a study done by Katana (2017) about the Influence of Third Party Logistic firms on Supply Chain firms in Kenya, it was established that firms need to take advantage of the many benefits which are gained by outsourcing. Moreover, the companies were advised to establish Practices to ensure their business sustainability such as building strong strategic relationships with their competitors as it reduces their independent costs since they are able to put their resources together for their mutual benefit.

1.2 Objectives of the Study

1.2.1 General Objectives of the Study

The general objective of this study is to determine the Influence of Logistics Practices on the Performance of Courier Firms in Nairobi County.

1.2.2 Specific Objectives of the Study

1. To determine the Influence of Process Automation on the Performance of Courier Firms in Nairobi County.
2. To assess the Influence of Logistics Business Intelligence on the Performance of Courier Firms in Nairobi County.
3. To examine the Influence of Strategic Partnerships on the Performance of Courier Firms in Nairobi County.
4. To study the Influence of Green Logistics on the Performance of Courier Firms in Nairobi County.

1.3 Significance of the Study

1.3.1 Management of the Courier Firms

The owners and the company management will greatly benefit from this study as they will assess the effectiveness of their Practices. This allows them to make informed, timely and customized solutions and decisions to possible challenges they may face. The study will also enlighten them on areas where they need to change their Practices and ensure that the adverse impacts of those Practices are curbed while the positive Practices are sustained and for continued optimization of resources.

1.3.2 Academicians

The study will contribute to the knowledge in this area as the academicians will determine which Logistics Practices have a positive or adverse impact to the firms' operations. The study will also act as a foundation upon which other related studies will be anchored on and at the same time, act as a point of reference for future researchers.

1.3.3 Government

This research will also be greatly beneficial to the government as it will prove which Logistics Practices have the biggest positive impact in the Transport Sector. This guides the government on strategizing on the most effective policies in the expansion and economic development of the Transport Sector.

1.3.4 Industry Competitors

The Industry competitors can use this information to accurately make decisions in terms of which Logistics Practices are most profitable to them. This is done in a bid for them to identify their core competency and develop a niche for themselves. They will also be informed of how these Practices can best be enhanced to ensure their sustainability.

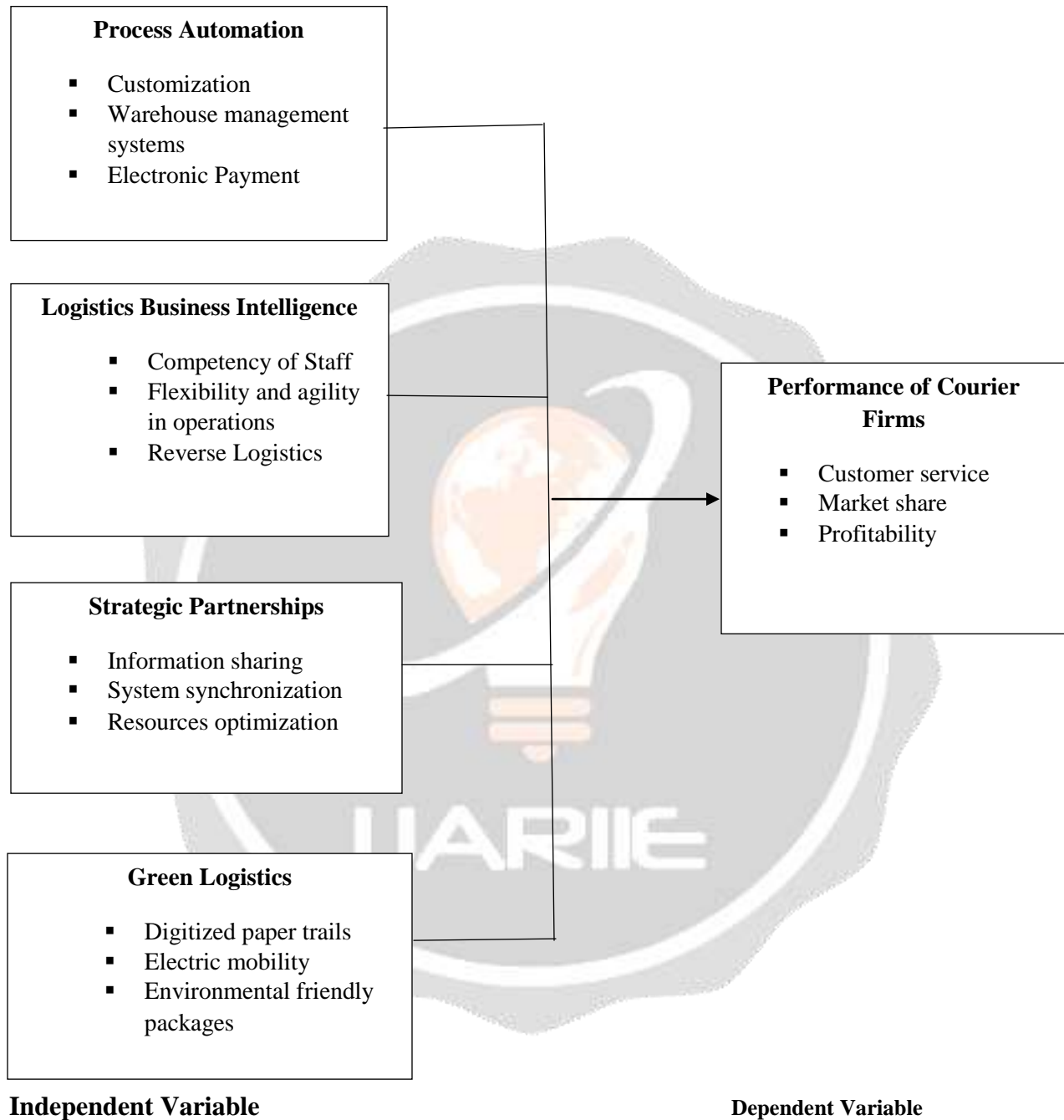


Figure 1.1 Conceptual Framework

2.0 DATA AND METHODOLOGY

2.1 Research Design

The design of this study which will be used is the descriptive research design. The research design aims at getting the data which defines the current phenomena through enquiring from participants on their insights, attitude, conduct or beliefs.

2.2 Target Population

This study will collect information from various Departments in the Courier companies including; the Warehouse team, Finance and Operations teams. The target Population of the study is the Courier Firms in Nairobi County. This study will collect information from various Departments in the Courier companies including; the Warehouse team, Finance and Operations teams.

2.3 Sampling Frame

The target of this research study is two hundred and fifty-three Courier Companies located in Nairobi County as listed by the Communication Authority of Kenya (2020). The staff and management of these 253 Courier companies are widely informed and experienced since they are directly involved in the application of these Logistical Practices.

2.4 Sample and Sampling Technique

The study will adapt a two stage sampling technique. The first being to sample statistically using Nassiuma formula from the target population to obtain the sample size of 72 Courier Firms. From each firm, the respondent will issue three questionnaires to the Operations Department, Finance Department and Warehouse Department making the total sample size to be 216. According to the Nassiuma formula (2000) the sample size will be calculated as below:

$$n = N(cv^2) / Cv^2 + (N-1)e^2$$

Where: n = Sample Size

N = Population (253)

Cv= Coefficient of Variation (0.5)

e= Tolerance of desired level of confidence (at 95% level of confidence = 0.05)

$$n = 253 (0.52) / \{0.52 + (253-1)0.052\}$$

$$n = 63.25/0.88 = 71.875$$

$$n = 72$$

Secondly, the researcher will use purposive sampling to identify the respondents for the Pilot Study. Below is the Target Population Table.

Table 2.1 Target Population

Department	Target Population	Sample Size
Warehouse	51	17
Finance	36	12
Operations	129	43
Total	216	72

2.5 Research Instruments

The data collection instrument which will be applied in this study is the use of questionnaires which are very thorough in the collection of data. The questionnaires will be categorised into six segments with the first part being about Demographic Data, second part covered the Influence of Process Automation, the third part covers the Influence of Logistics Business Intelligence and the fourth part covers the Influence of Strategic Partnerships, the fifth part covers the Influence of Green Logistics while the sixth part covers the Performance of the Logistics Firms.

2.6 Data Collection Procedure

The questionnaires will be issued to the respective respondents based on their departments. The respondents will be requested to fill in the questionnaires truthfully and as it deems correct for them. The respondents will be given ample time to complete their questionnaires. Some questionnaires will be sent via email to the respondents while for others, the researcher purposes to visit them in person to hasten the process of data collection. The questionnaires will enable the respondents to give their explanations where they feel it is necessary in order to collect as much information as possible. The questionnaires will be distributed to them and collected for analysis after one week. This gives the employees sufficient time to answer the questionnaires based on their knowledge and understanding of the Logistics Practices.

2.7 Pilot Test

This is a small-scale trial, where a few examinees take the test and comment on the mechanics of the test (Wright, 2022). They point out any problems with the test instructions, instances where items are not clear and formatting and other errors and issues. Pilot tests depend on the instrument used to collect data. The questionnaires to be used are tested for their reliability and validity.

2.7.1 Validity

Validity is concerned with whether the findings are really about what they appear to be about (Saunders et al, 2009). It is concerned with how accurate data obtained in the study represents the variables of the study. For a data collection instrument to be considered valid, the content selected and included must be relevant to the need or gap established. Before the actual study, the questionnaire will be discussed with the supervisor. The feedback from the supervisor and the experts will help in modifying the questionnaires. Validity is the accuracy and meaningfulness of inferences, which is based on the research results.

2.7.2 Reliability

Reliability refers to the extent to which your data collection techniques or analysis procedures would yield consistent findings (Saunders et al., 2009). If a researcher administers a test to a subject twice and gets the same score on the second administration as the first test, then there is reliability of the instrument. The test re-test technique will be used to estimate the reliability of the instrument. This involves administering the same test twice to the same group of respondents who have been identified for this purpose.

2.8 Data Analysis and Presentation

Once the research is done with data collection, it will be pre-processed to disregard undesirable data that are conflicting and later establish significant information from the answers. The data gathered will be analysed qualitatively and quantitatively and later presented descriptively. The data obtained will be processed via SPSS (Version 24). Information obtained then shall be stored electronic then later presented through tables.

The study will also adapt the Multiple Regression Model which according to Hayes (2022), uses the known explanatory variables to forecast the probable result of a responsive variable. This statistical technique is aimed at optimizing on the accuracy levels of the estimate. The calculation of Multiple Regression is achieved through the formula below:

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

Key; Y=Performance of Courier Firms

β_0 =constant

β_1 is the coefficient for X_i ($i=1, 2,3,4,5$)

X_1 =Process Automation

X_2 =Logistics Business Intelligence

X_3 =Strategic Partnerships

X_4 =Green Logistics

ε = error term

3.0 RESULTS AND DISCUSSION

3.1 Response Rate

For the study, a total of 216 questionnaires were issued to the respondents in the various Departments. Out of these, 168 were returned having been filled. Therefore, the total number of questionnaires which were to be used for the study were 168 translating to a response rate of 78%. This response rate was considered to be appropriate as supported by Bryman and Bell (2015).

Table 3.1 Response Rate

Category	Frequency	Percentage (%)
Response	168	77
Non Response	48	23
Total	216	100

3.2 Pilot Test Findings

3.2.1 Testing Validity of Research Instruments

The test for validity of the Research Instrument was applied through consultation with the industry experts in the Courier Firms in Nairobi County. The validity of the instrument was also checked through confirming on the clarity of the words to see to it that the statements were simple to understand and straight to the point. The test for validity finally ensured that the study was objective and credible and as such, the research instrument was adequate and valid for this study.

3.2.2 Reliability Test of the Research Instruments

For this study, the test for reliability of the research instrument was done using Cronbach's Alpha in a bid to measure the internal consistency and inter relatedness of the items in the questionnaires issued to various respondents of the Pilot Study. According to Taber (2018), any Cronbach's Alpha value that is 0.7 or greater is considered to be acceptable due to its consistency. The closer the alpha is to 1 the higher the reliability (Sekaran, 2010). The pilot study findings for each variable are as indicated on Table 4.2 below.

Table 3.2 Overall Reliability of Questionnaire 1

S/No.	Variable	Cronbach's Alpha	N of items	Reliability
1	Process Automation	0.815	8	Reliable
2	Business Innovation	0.862	8	Reliable
3	Strategic partnership	0.861	8	Reliable
4	Green Logistics	0.88	8	Reliable
5	Performance	0.706	12	Reliable
	Overall	0.824	44	Reliable

3.3 Demographic Information

3.3.1 Education Level of Respondents

The respondents were requested to fill in their highest Education Level. From the respondents, 1.78% were Certificate holders, 14.88% had Diploma Certificate, 13.69% were Professional Courses Graduates and 61.30% were Bachelor's Degree Holders while 8.33% were Postgraduate Holders as indicated in Table 4.3 below. From the data gathered, most of the employees of Courier Firms in Nairobi County had Bachelor's Degree and this shows

they are well versed with the industrial skills and competencies. This indicates that they were informed and knowledgeable to contribute significantly to the study.

Table 3.3 Education Level of Respondents

Education Level	Frequency	Percentage (%)
Certificate	3	1.78
Diploma	25	14.88
Professional Courses	23	13.69
Bachelor's Degree	103	61.3
Postgraduate Degree	14	8.33
Total	168	100

3.3.2 Number of Years in the firm of Respondents

The number of years that the respondents had spent in the courier Firms was sort. From the results, a majority of the respondents 75.59% had worked in their various Courier Firms for less than five years, while 14.88% had worked for 6-10 years in their respective Courier Firms, 4.76% had a working experience of 11-15 years in the industry, 2.97% had worked in their company for 16-20 years while 1.78% had worked for over 20 years as shown in Table 4.4 below. This indicates that a high percentage of the employees of the Courier Firms in Nairobi County are seasoned with much experience in the Implementations of Logistical Practices.

Table 3.4 Number of Years in the firm of the Respondents

Number of Years	Frequency	Percentage (%)
Up to 5years	127	75.59
6-10 years	25	14.88
11-15 years	8	4.76
16-20 years	5	2.97
More than 20 years	3	1.78
Total	168	100

3.3.3 Ownership of the Courier Firms

The study sort to seek the ownership of the Courier Firms in Nairobi. From the results obtained, most Courier Firms in Nairobi County were owned by locals at a percentage of 79.76 while the Internationally Owned Courier Firms were 13.69% and finally the Courier Firms owned by both Locals and citizens from other countries were 6.54% as shown in Table 4.5 below. This indicates that most of the Courier firms operating in Nairobi County have a local ownership and thus, contribute in the growth of the Kenyan economy.

Table 3.5 Ownership of the Courier Firms

Ownership of the Courier Firms	Frequency	Percentage (%)
Locally Owned	134	79.76
Internationally Owned	23	13.69
Both Locally and Internationally Owned	11	6.54
Total	168	100

3.3.4 Duration of the Courier Firm

The section sort to investigate the duration of the courier Firms in Nairobi County in business. According to the results obtained, most Courier Firms in Nairobi County had been in operation for less than 5 years which was 55.35%, 19.64% Courier Firms had operated for 6-10 years, 16.66% had operated for 11-15 years while 8.33% had been in the Logistics Industry for more than 15 years. The majority of the Courier Firms in Nairobi County had operated for less than five years and this shows that increased e-commerce activities in the last five years had highly contributed to the increase in last mile delivery operations (Taniguchi, 2018).

Table 3. 6 Duration of Courier Firms

Duration of Courier Firms	Frequency	Percentage (%)
0-5 years	93	55.35
6-10 years	33	19.64
11-15 years	28	16.66
Over 15 years	14	8.33
Total	168	100

3.3.5 Department of Respondents

The study also wanted to identify the various departments which the respondents were working. The study hugely relied on the Staff working in the Operations Department as they were 45.83%, while those working in Warehouse Department were 34.52 and those from Finance Department were 19.64% as shown in Table 4.7 below. This shows a fair representation of all the relevant functions of the Courier Firms in Nairobi County.

Table 3. 7 Departments of the Respondents

Departments of the Respondents	Frequency	Percentage (%)
Warehouse	58	34.52
Finance	33	19.64
Operations	77	45.83
Total	168	100

3.4 Discussion of Findings

3.4.1 Process Automation

Customization influences the integration possibilities among the Courier companies' systems had a mean of 3.76 indicating that the respondents agreed to this to a great extent that Process Automation indeed influences performance of Courier Firms. The use of enterprise Resource Planning (ERP) allowed for system integration had a mean score of 3.81 showing that the respondents agreed that Process Automation greatly influenced the Performance of Courier Firms in Nairobi. Warehouse Management System (WMS) influences the ease of product retrieval and tracing had a mean score of 3.74 which indicates that the respondents agree that Process Automation influences the Performance of Courier Firms in Nairobi to a great extent. Real time visibility allows for ease of tracking shipments had an overall mean score of 3.83 which suggests that the respondents agree the Influence of Process Automation on Performance of Courier Firms in Nairobi is to a great extent. Electronic Payments Influences the ability to make International and Local payments to and from courier companies had an average mean score of 3.81 and this indicates that the respondents agree that Process Automation Influences Performance of Courier Firms in Nairobi County to a great extent.

Statements	1(%)	2(%)	3(%)	4(%)	5(%)	Mean	SD
Customization influences Process Automation possibilities in courier firms' systems	3.6	13.8	1.8	64.7	16.2	3.76	1.001
Use of ERP allows for system integration	2.4	11.9	4.2	65.5	16.1	3.81	0.928
Warehouse Management Systems influence the ease of product retrieval and tracking	4.2	13.4	3	60.7	17.9	3.74	1.045
Real time visibility allows for ease of tracking shipments	3	13.3	4.8	55.4	23.5	3.83	1.031
Electronic payment influences ease of making local and global payments	3	13.1	5.4	57.1	21.4	3.81	1.015
Prompt payments allow for accurate payment and convenience in cash on delivery	3	16.2	5.4	53.9	21.6	3.75	1.063
Demand forecasting influences planning and forecasting for Courier Firms	4.8	7.1	1.2	51.8	35.1	4.05	1.04
Regular market analysis and adaption of key strategies influence customer retention	2.4	11.3	4.8	54.2	27.4	3.93	0.994

Table 3.8 Descriptive Statistics for Process Automation

3.4.2 Logistics Business Intelligence

Competency of Staff influences how professionally they source and maintain business relationships had a mean score of 3.63 indicating that the respondents greatly agreed that competent staff working for the Courier Firms gives them a competitive niche against their market rivals. Flexibility and agility in Operations influences the rate of adapting new policies and procedures had a mean of 3.91 which indicates that the respondents greatly agreed that being flexible and agile in adapting new policies and procedures had an Influence on the Performance of Courier Firms in Nairobi County. Reverse Logistics influences customer satisfaction by a great extent as the respondents gave a mean of 3.90 and this points to the fact that when reverse logistics are done in an organized manner, then customer satisfaction levels are bound to improve.

Table 3.9 Descriptive Statistics for Logistics Business Intelligence

Statements	1(%)	2(%)	3(%)	4(%)	5(%)	Mean	SD
Competency of staff influence how they Source and maintain business relations	7.14	17.86	0.59	53.57	20.83	3.36	1.202
Staff training in use of IT gadgets such as Drone influences their performance	3.57	19.05	2.38	54.76	20.24	3.69	1.105
Flexibility and agility in operations influences the rate of new policy adaption	1.79	11.31	4.17	59.52	23.21	3.91	0.94
Regular process audits impact process streamlining	2.39	8.33	1.79	56.88	30.54	4.05	0.937
Reverse logistics influences customer Satisfaction	1.19	11.9	4.16	60.71	22.02	3.9	0.917
Repairs and recycling of products influences product longevity	1.82	13.94	2.42	56.36	25.45	3.914	1.02
Warehouse practices influence accessibility and safety of items	2.38	12.5	2.38	60.12	22.62	3.88	0.978
Overstocking and understocking impacts business competitiveness	4.19	11.37	4.19	57.49	22.75	3.85	1.05

3.4.3 Strategic Partnerships

Information sharing influences the rate of strategy formulation had an average of 3.85 indicating that the respondents greatly agreed that information sharing on time impacted the rate of strategy implementation. System synchronization influences the ability for systems to integrate to a moderate extent having scored a mean of 3.00. This indicates that even though synchronization of systems is key, the individual features of the systems have to be able to integrate with other systems. Resource optimization influences the capacity of the Courier Firm by a great extent having scored a mean of 3.21. This indicates that proper use of all the resources available for use by the Courier Firms makes them more enabled and places them in a position to perform their tasks better.

Table 3.10 Descriptive Statistics for Strategic Partnerships

Statements	1(%)	2(%)	3(%)	4(%)	5(%)	Mean	SD
Information sharing influences the rate of strategy formulation	3	11.9	35.7	60.1	21.4	3.85	0.99
Proper Vendor Management influences productivity and decision making	4.8	25.2	5.99	47.3	16.8	3.48	1.19
System synchronization influences ability for systems to integrate	7.1	35.7	21.4	21.4	14.3	3	1.2
User Friendly system interface influences customer satisfaction	7.1	21.4	14.3	21.4	35.7	3.57	1.35
Resource optimization influences the capacity of the Courier Firm	4.2	29.2	17.3	23.2	26.2	3.21	1.27
Good warehouse layout designs influence maximum space application	7.1	35.7	21.4	21.4	14.3	3	1.2
Network coverage influences the market share of a Logistics Firm	4.2	38.7	41.7	13.7	1.79	2.64	0.97
Regional Agents and Fulfilment Centres impact fast delivery services	3	23.2	16.1	24.4	33.3	3.57	1.35

3.4.4 Green Logistics

Digitized Paper Trail influences the ease of retrieving parcels upon delivery and signing of the Electronic Proof of Delivery had a mean score of 3.50 indicating that the respondents greatly agreed that paper digitization and processes such as payment and signing of proof of delivery bear a huge impact when it comes to Green Logistics. Electric Mobility influences the efficiency and Environmental Sustainability of Courier Companies to a great extent having scored a mean of 3.57 and this indicates that adaption of electric vehicles and motorbikes for delivery guarantees the sustainability of the Courier Business in the long term. The statement Environmental friendly packages influence the product functionality and safety had a mean of 3.57 indicating that the respondents agreed to a great extent that biodegradable packaging materials used by the Courier Firms would determine if the products arrived in good shape to their final destination and if they were safe for use or consumption.

Table 3.11 Descriptive Statistics for Green Logistics

Statements	1(%)	2(%)	3(%)	4(%)	5(%)	Mean	SD
Digitized Paper Trail influences retrieval of parcels and signing of Electronic POD	0	19.6	38	11.3	31	3.5	1.12
Streamlined supply chains impact green logistics	13	16.7	26.8	31	13.1	3.14	1.25
Electric Mobility influences the efficiency and environmental sustainability of Courier Companies	0	12.5	13.6	41.7	14.3	3.57	0.91

Charging networks availability influences adaption of hybrid vehicles	4.2	39.9	35.7	13.1	7.14	2.64	0.97
Environmental friendly packages influence the product functionality and safety	0	14.9	19.1	37.5	28.6	3.57	1.18
Inter modal transportation influences efficiency of Green Logistics	0	19.6	38.1	11.9	30.4	3.5	1.12
Waste management influences the competitiveness of the Logistics Firms	0	5.36	22	44.6	28	3.93	0.89
Efficient Energy Management influences profitability	0	16.1	38.7	17.3	28	3.5	1.12

3.4.4 Performance of Courier Firms

For the statement, “Logistics Practices have a direct impact on Customer Satisfaction Levels”, 7.73% stated not at all while the majority of the respondents (40.48%) agreed to a moderate extent. The mean for the statement was 3.0 which indicated that the respondents generally agreed with the statement. For the statement, “Through Logistics Practices, the market coverage of the firms is determined”, the lowest percentage of respondents was 0% or not at all, while the highest was 33.93% which was moderately agree. The mean of this statement was 3.29, which suggests that the respondents generally agree with this statement. For the statement, “Last Mile delivery influences the delivery costs incurred by courier firms”, the lowest percentage was 0% for the not at all while the highest was 40.48% for the great extent. The mean of the statement was 3.93 which suggests that the respondents greatly agree with the statement.

Table 3.12 Descriptive Statistics for Green Logistics

Statements	1(%)	2(%)	3(%)	4(%)	5(%)	Mean	SD
Logistics Practices have a direct impact on Customer Satisfaction Levels	7.7	20	40	24	7.7	3	1
Accuracy and reliability influences the Level of service by Courier firms	0	26	16	26	32	3.6	1.2
Frequency of lost and damaged products impact business relations	0	12	30	40	18	3.6	0.9
Through Logistics Practices the market coverage of the firm is determined	0	23	34	25	18	3.3	1
Effective Logistics Practices have resulted to increased visibility of the brand	0	11	31	46	12	3.6	0.9
Cost effectiveness influences volumes of clients	0	8.9	17	40	33	3.9	0.9
Presence of Insurance coverage for the goods in transit influences customer confidence	0	33	18	23	27	3.3	1.2
Last Mile delivery influences the delivery costs incurred by courier firms	0	7.7	23	40	29	3.9	0.9
Compliance to Government Policies and Regulations influence market coverage	1.8	21	38	17	22	3	1
Transport Infrastructure influences accessibility of various customers	0	18	31	36	15	3.2	0.9
Timely deliveries impact performance	3	15	29	34	20	3.4	1.1
Customer responsiveness influences Delivery schedules	7.7	11	13	22	47	3.6	1.4

3.5 Correlation Analysis

Correlation analysis also determines if the relationship is present and how strong it is. According to Mugenda and Mugenda (2012), the correlation coefficient basically informs of the extent and direction of the relationship existing between two variables.

Table 3.13 Correlation

		PA	BI	SP	GL	PC
PA	Pearson Correlation	1	.815**	.410**	.219**	.232**
	Sig. (2-tailed)		0	0	0.004	0.003
	N	168	168	168	168	168
BI	Pearson Correlation	.815**	1	.363**	.179*	.172*
	Sig. (2-tailed)	0		0	0.02	0.026
	N	168	168	168	168	168
SP	Pearson Correlation	.410**	.363**	1	.707**	.580**
	Sig. (2-tailed)	0	0		0	0
	N	168	168	168	168	168
GL	Pearson Correlation	.219**	.179*	.707**	1	.539**
	Sig. (2-tailed)	0.004	0.02	0		0
	N	168	168	168	168	168
PC	Pearson Correlation	.232**	.172*	.580**	.539**	1
	Sig. (2-tailed)	0.003	0.026	0	0	
	N	168	168	168	168	168

3.6 Model Summary Regression Analysis

The findings show that there is a moderate and positive relationship between the Influence of Logistic Practices and the Performance of Courier Firms with the values of R being .556 while that of R Square being .309. The R square value indicates the variations of the Performance of Courier Firms that may be accounted for by the Logistic Practices. The R Square value of .309 means that 30.9% of the variations in the Performance of Courier Firms can be accounted for by the Logistics Practices. The findings thus ascertain that there is a significant influence which Logistic Practices have on the Performance of Courier Firms.

Table 3.14 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.556	0.309	0.292	0.42666

3.7 Analysis of Variance

The Table 3.15 below indicates the Analysis of Variance (ANOVA) which shows the ability of the independent variable to forecast the outcome of the dependent variable. The findings were F Statistics of 18.200 and $p = .000$. This implies that since the P value is significant ($<.05$), the Logistics Practices (independent variables) may significantly predict the Performance of Courier Firms (dependent variable).

Table 3.15 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.252	4	3.313	18.2	0
	Residual	29.672	163	0.182		
	Total	42.924	167			

3.8 Coefficients

Below, Table 3.16 illustrates the relationship between Process Automation and Performance of Courier Firms is significant and positive (beta = .088, $p = 2.79$). This means that an increase in a single unit of Process Automation, the Performance of Courier Firms will increase by .088. The findings also reveal that Strategic Partnership (beta = .236, $p = 0.01$) and Green Logistics (beta = .151, $p = .012$) have a positive impact on the Performance of Courier Firms respectively. This means an increase in a single unit of Strategic Partnerships and Green Logistics will result in the increase on the Performance of Courier Firms by .236 and .151 respectively. However, Logistics Business Intelligence has a negative influence on the Performance of Courier Firms (beta = -.072, $p = -.106$).

Table 3.16 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.137	0.213		10.041	0
	PA	0.088	0.081	0.125	1.087	0.279
	BI	-0.072	0.076	-0.106	-0.944	0.346
	SP	0.236	0.068	0.345	3.473	0.001
	GL	0.151	0.059	0.237	2.552	0.012

4.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

4.1. Summary of Findings

Process Automation proved to have a positive and equally significant impact on Performance of Courier Firms. This suggests that once Courier Firms fully embrace Process Automation of their processes and system integration, their overall performance is bound to improve. Logistics Business Intelligence emerged as the most influential variable which significantly and positively impacts the Performance of Courier Firms. This implies that when Courier Firms adapt Practices such as reverse Logistics, Data Analytics and even good warehousing practices, their overall performance is greatly improved. Strategic Partnerships came out as a moderately influential variable which impacts the Performance of Courier Firms. This suggests that when Courier Firms enter into strategic collaborations with a mutually shared vision, resources and skills, their performance is bound to improve significantly. Green Logistics was found to have a moderate impact on the Performance of Courier Firms. This implies that application of Practices such as Green Packaging, Green Energy utilization and proper Waste Management, enhance the Performance of these Courier Firms.

4.2 Conclusions

This study concludes that Logistics Business Intelligence is the most significant variable having a strong positive impact on the Performance of Courier Firms. The next influential variable was Process Automation, followed by Green Logistics and finally Strategic Partnerships on the Performance of Courier Firms in Nairobi County. The study further points out the role played by each variable: Logistics Business Intelligence, Process Automation, Green Logistics as well as Strategic Partnerships in ensuring good performance of Courier Firms. This study bears great insight which policy makers and the management of the Courier Firms can draw from to enhance their overall Performance.

4.3 Recommendations

Embrace regular staff training session on the use of systems and even smart gadgets for improved performance. Be very flexible and agile in adaption of the new market trends to ensure they remain competitive and relevant in the market. Conduct regular process and systems audit internally to ensure streamlined operations and that they are operating at the optimum levels. Demand forecasting to be utilized fully to capitalize on historical data and provide insight into the future. Frequent market analysis of the most recent technologies which can be synchronized to ensure full maximization of available systems. Invest in real time visibility to allow customers to track their orders digitally for improved customer satisfaction. Proper waste management depending on whether it can be reused or recycled to guarantee optimum resource utilization. Use of Electronic Proof of Deliveries for enhanced record keeping with more ease of data access and retrieval. Embrace eco-friendly packaging to promote not just the

functionality of the product but also the market appeal for the product. Accurate and timely information sharing to the responsible parties is critical for the smooth delivery process. Strategically locating the fulfilment and distribution centres near the target market is key for faster and more efficient order processing. Presence of user friendly interface to ease the customer experience is key in retaining and growing the market share.

4.4 Areas for Further Studies

The findings of this study were obtained from 243 Courier Firms as Listed and Licensed by the Communications Authority of Kenya (2020). This study is definitely not exhaustive and as a result of the fast paced and ever changing logistics industry, further research can be done on aspects such as E-Mobility, Global Logistics and even Warehouse Management Practices. Future studies ought to assess the validity of the findings from other Courier Firms. As such, care should be taken during the generalization of the findings to other Courier Companies outside of Nairobi County as this study only focused on Nairobi County. Further, this study adapted a Descriptive Research Design which focuses only on the participants' insights and perceptions and may therefore not highlight all the factors that play a significant role in the relationship between the variables. Hence, future studies may employ different research designs such as Cross Sectional Survey. A similar research in another County will also need to be carried out over time to see if they validate, support or contradict the findings of this particular study.

REFERENCES

- Aciita, P. M., & Wanjohi, J. M. (2019). Factors influencing augmentation of water treatment projects by county governments in Kenya: A case of Meru Water and Sewerage Services, Meru County. *International Academic Journal of Information Sciences and Project Management*, 3(4), 82-103.
- Adeleke, A. (2022). The Indigenous Logistics System in Africa: The Case of Nigeria, Past to Present. *Logistics*, 6(4), 80.
- Ahmed, S. O., & Nganga, P. (2019). Internal control practices and financial performance of county governments in the coastal region of Kenya. *International Journal of Current Aspects*, 3, 28-41.
- Aleri, C. O., & Monari, F. (2018). Influence green logistics management on performance of registered automotive firms in Kenya.
- Amazon. (2022). Shipping Rates & Times. *Amazon*. Retrieved June 27, 2022, from <https://www.amazon.com/gp/help/customer/display.html?nodeId=GE66DNRRQVDZAR5E>
- Amiruddin, B. P., & Romdhony, D. R. (2020). A Study on Application of Automation Technology in Logistics and Its Effect on E-Commerce.
- Ampah, J. D., Afrane, S., Agyekum, E. B., Adun, H., Yusuf, A. A., & Bamisile, O. (2022). Electric vehicles development in Sub-Saharan Africa: Performance assessment of standalone renewable energy systems for hydrogen refuelling and electricity charging stations (HRECS). *Journal of Cleaner Production*, 376, 134238.
- Anbuudayasankar, S. P., Ganesh, K., & Mohapatra, S. (2016). *Models for practical routing problems in logistics*. Springer International Pu
- Andrade, C. (2021). The inconvenient truth about convenience and purposive samples. *Indian Journal of Psychological Medicine*, 43(1), 86-88.
- Angira, M. O. (2021). *Agility Strategies and Competitive Advantage of Coca-cola Beverages Africa-Kenya* (Doctoral dissertation, University of Nairobi).

- Aremu, A. Y., Shahzad, A., & Hassan, S. (2018). Determinants of Enterprise Resource Planning adoption on organizations' performance among medium enterprises. *LogForum*, 14(2).
- Arkes, J. (2023). *Regression analysis: a practical introduction*. Taylor & Francis.
- Bag, S. (2017). Identification of Green Procurement Drivers and Their Interrelationship Using Total Interpretive Structural Modelling. *Vision: The Journal of Business Perspective*, 21(2), 129–142. <https://doi.org/10.1177/0972262917700990>
- Barry, R. (2020). How Important Are Eco Friendly Packaging Options to Today's Businesses? *Courier Firms* . https://www.3p-Logistics.co.uk/Third_Party_Logistics_Firms_blog/how-important-are-eco-friendly-packaging-options-to-todays-businesses/
- Becker, F., Schettler-Köhler, K. S., Schubert, F., & Stiebner, I. (2016). The integration and influence of mobile money transfer (especially m-pesa) in comparison to other payment systems in the agricultural value chain in the Mt. Kenya Region. *Heft 186 Berlin 2016*, 115.
- Bernard, D. (2018, July 30). *What is 3PL (third-party logistics)? - Definition from WhatIs.com*. SearchERP. <https://www.techtarget.com/searcherp/definition/3PL-third-party-logistics>
- Blanchard, D. (2021). *Supply chain management best practices*. John Wiley & Sons.
- Blog, L., (2022). 6 Key Benefits of Third-Party Logistics (Third Party Logistics Firms) In Supply Chain Management. [online] *GEP Insight Drives Innovation*. https://www.gep.com/blog/mind/6-key-benefits-of-third-party-Logistics-Third_Party_Logistics_Firms_in-supply-chain-management.
- Blog, T. (2019). Strategic Partnerships in Logistics to improve your profit. *Twig Blog*. https://twignetwork.com/blog/strategic-Strategic_Partnerships/#:~:text=They%20are%3A,models%20that%20bring%20financial%20benefits
- Bocholt, A., (2022). Navigating Africa's New Logistics Landscape. [online] *Ifc.org*. https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/cm-stories/africa-Logistics-landscape.
- Boteler, H. (2020, September 8). Why Logistics Business Intelligence is crucial for Logistics companies. *PTV Group*. <https://blog.ptvgroup.com/en/transport-Logistics/business-intelligence-Logistics/>

- Burke, B. (2019). Streamline Business Operations to be Productive and Profitable. *Aim+*. <https://community.aiim.org/blogs/brandon-burke/2019/07/14/streamline-business-operations-to-be-productive-and-profitable>
- Camille, M. A. (2019). The circular economy's closed loop and product service systems for sustainable development: A review and appraisal. *Sustainable Development*, 27(3), 530-536.
- Chang, C. H., Lu, C. S., & Lai, P. L. (2021). Examining the drivers of competitive advantage of the international Logistics industry. *International Journal of Logistics Research and Applications*, 1-19.
- Chugi, S. K. (2022). Distribution Network Economy and Logistics Performance of Fresh Milk Processing Firms in Kenya (Doctoral dissertation, University of Nairobi).
- Commerce, Q., (2022). The top Third Party Logistics Firms companies in the UK in 2020. [online] *Tradegecko.com*. <https://www.tradegecko.com/blog/supply-chain-management/top-Third Party Logistics Firms -providers-ecommerce-uk>
- Connects. (2022). Connects. [online] <https://connects.world/top-15-best-supply-chain-companies-in-the-uk>.
- D.H.L. (2022b). DHL Express - *MyDHL API*. DHL. <https://developer.dhl.com/api-reference/dhl-express-mydhl-api#get-started-section/>
- Dalin, Z. (2022). Green Logistics: Strategies for Eco-Friendly Delivery. *Bringg*. <https://www.bringg.com/Blog/Logistics/Green-Logistics/>
- DHL. (2020). Managed Transport [Review of *Managed Transport*]. DHL. <https://www.dhl.com/ke-en/home/our-divisions/supply-chain/thought-leadership/fact-sheet/managed-transport.html>
- eCommerce Customer Service Software | eDesk. (2022). *Are you spending too much on Logistics?* [online] <https://www.edesk.com/blog/are-you-spending-more-than-you-should-on-Logistics>.
- F. (2022d). What is green Logistics? Top tips for Logistics sustainability. *Motive*. <https://gomotive.com/blog/what-is-green-Logistics-top-tips/>
- Flatworldsolutions.com. (2022). Challenges and Trends in Third Party Logistics Firms and Distribution - *FWS*. [online] <https://www.flatworldsolutions.com/Logistics/articles/Third Party Logistics Firms -distribution-challenges-trends.php>.

- Fu, Q., Abdul Rahman, A. A., Jiang, H., Abbas, J., & Comite, U. (2022). Sustainable supply chain and business performance: The impact of strategy, network design, information systems, and organizational structure. *Sustainability*, 14(3), 1080.
- G.E.P. (2019). 6 Key Benefits of Third-Party Logistics in Supply Chain Management. GEP. <https://www.gep.com/blog/mind/6-key-benefits-of-third-party-Logistics-Third Party Logistics Firms -in-supply-chain-management>
- Gitonga, S. (2017). Logistics Management Practices and Operational Performance of Fast Moving Consumer Goods Manufacturers in Nairobi. *Strategic Journals*.
- Horne, D. R., Nickerson, D., & DeFanti, M. (2015). Improving supply chain efficiency through electronic payments: The case of micro-entrepreneurs in Kenya and Tanzania. *Journal of Marketing Channels*, 22(2), 83-92.
- I.F.C. (2022c). The Impact of COVID-19 on Logistics. *International Finance Corporation*. Retrieved 2022, from https://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/infrastructure/resources/the+impact+of+covid-19+on+Logistics
- Interlake. (2019b). Green Logistics: definition, challenges and solutions. <https://www.interlakemecalux.com/blog/green-Logistics>
- Irungu, E. W., & Gakuu, C. M. (2019). Influence of service automation project on customer satisfaction in National Transport and Safety Authority, Kenya. *International Academic Journal of Information Sciences and Project Management*, 3(4), 23-54.
- Jaqueta, S., Mashilo, E., Mocke, K. and Agigi, A., (2020). Physical distribution challenges and adaptations: A qualitative study of South Africa-based organisations operating in emerging African markets. *Journal of Transport and Supply Chain Management*, 14.
- Jenkins, A. (2020). *What Is the Difference Between Inbound and Outbound Logistics?* Oracle Netsuite. <https://www.netsuite.com/portal/resource/articles/inventory-management/inbound-outbound-logistics.shtml#:~:text=Inbound%20logistics%20brings%20supplies%20or,while%20outbound%20focuses%20on%20delivery>

- Jennifer Smith, P., (2022). Shipping and Logistics Costs Are Expected to Keep Rising in 2022. [online] *WSJ*. <https://www.wsj.com/articles/shipping-and-Logistics-costs-are-expected-to-keep-rising-in-2022-11639918804>.
- Jenss, A., & Schuetze, B. (2021). Rethinking authoritarian power: The logistics space and authoritarian practices in and between secondary port cities of the Global South. *International Studies Quarterly*, 65(1), 82-94.
- Jepherson, M., Ngugi, P., & Moronge, M. (2021). Logistics management systems and performance of fast-moving consumer goods manufacturers in Nairobi, Kenya. *International Journal of Supply Chain Management*, 6(1), 29-63. <https://doi.org/10.47604/ijscm.1232>
- Job, M. L., Njihia, M., Maalu, J., & Iraki, X. (2020). Reverse logistics and competitive advantage: the mediating effect of operational performance among manufacturing firms in Kenya.
- Jumia Group. (2022). Jumia opens Logistics service to third parties / *Jumia Group*. [online] <https://group.jumia.com/news/jumia-opens-Logistics-service-to-third-parties>.
- Kansime, K. D. Research on the Impact of Inventory Management Practice on Organizational Performance in Telecommunication Companies.
- Kariuki, M. M., Ngugi, P. K., & Mburu, D. K. (2022). Reverse Logistics in Sustainable Supply Chain and Performance of Horticultural Sector in Kenya.
- Katana, M., & Gichure, D. M. (2017). Influence of Third Party Logistics Providers on Supply Chain Performance in Kenya: Case Study of East African Breweries Ltd. *The Strategic Journal of Business & Change Management*, 307-326.
- Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive statistics. *International Journal of Academic Medicine*, 4(1), 60.
- Kern, J. (2021). The digital transformation of logistics: A review about technologies and their implementation status. *The digital transformation of logistics: Demystifying impacts of the fourth industrial revolution*, 361-403.
- Kern, J., & Sullivan, M. (Eds.). (2021). *The digital transformation of logistics: Demystifying impacts of the Fourth Industrial Revolution*. John Wiley & Sons.

- Khan, A., & Siddiqui, D. A. (2018). Information sharing and strategic supplier Strategic Partnership in supply chain management: a study on pharmaceutical companies of Pakistan. *Khan, Ambreen. and Siddiqui, DA (2018). Information Sharing and Strategic Supplier Partnership in Supply Chain Management: A Study on Pharmaceutical Companies of Pakistan. Asian Business Review, 8(3), 117-124.*
- Kipruto, Y. W., & Eric, N. (2021). Role of Supply Chain Collaboration on Operational Performance of Third Party Logistics Service Providers in Kenya. *International Journal of Social Sciences Management and Entrepreneurship (IJSSME), 4(2).*
- Kuhudzai, R. (2021). SADC e-Mobility Outlook: A Zimbabwean Case Study.
- Kumar, R. (2021). Research Methodology: a step-by-step guide for beginners.
- Kwoba, H., & Nairobi. (2020, November 2). *State of electric mobility in Kenya*. Changing Transport. <https://changing-transport.org/state-of-electric-mobility-in-kenya/>
- Lahman, J. (2019). The Benefit of Streamlined Business Processes. *Douglas*. <https://www.douglas-machine.com/the-benefit-of-streamlined-business-processes/#:~:text=Streamlined%20processes%20generally%20mean%20fewer,out%20redundant%20or%20inefficient%20tasks>
- Linker, R., (2022). Global Third Party Logistics (Third Party Logistics Firms) Market to Reach \$1.3 Trillion by 2026. [online] *GlobeNewswire News Room*. <https://www.globenewswire.com/news-release/2021/10/18/2315665/0/en/Global-Third-Party-Logistics-Third-Party-Logistics-Firms-Market-to-Reach-1-3-Trillion-by-2026.html>.
- Lopienski, K. (2022, February 14). *Logistics management guide: Definition, stages, and best practices*. *ShipBob*. <https://www.shipbob.com/blog/logistics-management/>
- Loree, N., & Aros-Vera, F. (2018). Points of distribution location and inventory management model for Post-Disaster Humanitarian Logistics. *Transportation Research Part E: Logistics and Transportation Review, 116*, 1-24.
- Lovas, S., Nagy, K., Sándor, J., & Ádám, B. (2021). Presumed exposure to chemical pollutants and experienced health impacts among warehouse workers at Logistics companies: a cross-sectional survey. *International Journal of Environmental Research and Public Health, 18(13)*, 7052.

- Maata, S. W., & Ombui, K. (2018). Role of third-party Logistics services on supply chain performance in distribution sector in Kenya: A Case of Bollore Transport & Logistics Kenya Limited. *International Journal of Supply Chain Management*, 3(2), 22-43.
- Maina, P. N., & Njeri, P. (2020). Influence of strategy formulation on performance of state corporations in Kenya (Doctoral dissertation, KeMU).
- Mangala, F. Moronge, O. (2019). *Influence of Logistics Management Practices on Performance of Oil Marketing Companies in Nairobi County, Kenya. The Strategic Journal of Business & Change Management*, 6(1), 440-457.
- Mangan, J., & Lalwani, C. (2016). *Global logistics and supply chain management*. John Wiley & Sons.
- Metzker, V. (2019). Retail Combats a \$351-Billion Problem. *Inbound Logistics*. <https://www.inboundLogistics.com/cms/article/retail-combats-a-351-billion-problem/>
- Mohajan, H. K. (2017). Two criteria for good measurements in research: Validity and reliability. *Annals of Spiru Haret University. Economic Series*, 17(4), 59-82.
- Mordorintelligence.com. (2022). Australia Third Party Logistics Firms Market | 2022 - 27 / Industry Share, Size, Growth - *Mordor Intelligence*. [online] <https://www.mordorintelligence.com/industry-reports/australia-Third-Party-Logistics-Firms-market>.
- Muhindo, Zhou and Mzuzza, (2014). Influence of Logistics Outsourcing Strategy in Oil and Gas Industry in Uganda. *International Journal of Business Management* Vol.9 No.6.
- Müller, S., & Voigtländer, F. (2019, March). Automated trucks in road freight Logistics: The user perspective. In *Interdisciplinary Conference on Production, Logistics and Traffic* (pp. 102-115). Springer, Cham.
- [Muogboh, O.S. & Ojadi, F.](#) (2018), "Indigenous Logistics and Supply Chain Management Practice in Africa", *Indigenous Management Practices in Africa (Advanced Series in Management, Vol. 20)*, Emerald Publishing Limited, Bingley, pp. 47-70.
- Mureithi, C. (2022). *Startups are eyeing Kenya as an African EV hub*. *Quartz*. <https://qz.com/africa/2125089/startups-are-eyeing-kenya-as-an-african-electric-vehicle-hub>
- Musi, Y. W., Mukulu, E., & Oloko, M. (2018). Influence of Strategic Planning to Firm Performance in Agricultural Research Based Institutions of Kenya. *J. Mgmt. & Sustainability*, 8, 83.

- Mutenyo & Mose, (2020). Influence of Third-Party Logistics on Performance of Cement Manufacturing Firms in Kenya. Vol. 7, Iss. 3, pp 253 – 268. July 23, 2020.
- Muthoka, R. K., Kilika, J. M., & Muathe, S. (2022). Partner Related Motives and Strategic Alliance Formation: Evidence from Small and Medium Enterprises in Kenya. *Economics and Business Quarterly Reviews*, 5(3).
- Mutie, M. D., Odock, S., & Litondo, K. (2023). Effect of green logistics practices on performance of logistics firms in Kenya.
- Mutuku, A. K., & Osoro, A. (2022). Procurement Practices and Performance of Manufacturing Industry in Nairobi County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship (IJSSME)*, 6(2).
- Mwangangi, P. W. (2016). Influence of Logistics management on performance of manufacturing firms in Kenya (Doctoral dissertation, COHred, supply chain management, JKuat).
- Mwangeka, R. M. (2020). Supply Chain Visibility and Operational Performance of Logistics Firms in Mombasa County, Kenya.
- Mwaura, A. W., Letting, N., Ithinji, G. K., & Bula, H. O. (2016). Green distribution practices and competitiveness of food manufacturing firms in Kenya.
- Nderitu, D. M., & Njuguna, R. K. (2017). The influence of retail network expansion on the competitive advantage of oil marketing firms in Kenya: Case of Vivo energy. *International Journal of Sales, Retailing and Marketing*, 6(2), 3-16.
- Ngaboyimbere, F., Leo, J., Michael, K., & Muteteshe, D. (2021). Development of RFID based Automatic Warehouse Management System: A Case Study of ROK industries Limited Kenya.
- Nguyen, A. T., Parker, L., Brennan, L., & Lockrey, S. (2020). A consumer definition of eco-friendly packaging. *Journal of Cleaner Production*, 252, 119792.
- Njigigua, W. K., & MINCU, M. B. (2018). Effects of technology on Customs performance at the Port of Mombasa.
- Nyiendo, S., & Namuye, S. 2022. Optimization of Postal and Courier Business with RFID Tracking and Quick Response Technologies in Kenya “A sample project for Postal and Courier Service”.

- O'Dennelle, J. (2022). warehouse management system (WMS) [Review of *warehouse management system (WMS)*]. Techtarget. warehouse management system (WMS)
- Okyere, C. A. (2020). • Assessing The Effect of Inventory Management Practices On Organizational Performance. A Case of Coca-Cola Company-Ghana.
- Ouma, D. (2018). *A Proposed Model for Supermarket Branch Network Expansion in Kenya* (Doctoral dissertation, JKUAT).
- Paul, S. R., & Zhang, X. (2010). Testing for normality in linear regression models. *Journal of Statistical Computation and Simulation*, 80(10), 1101-1113.
- Pokharel, S., & Mutha, A. (2009). Perspectives in reverse logistics: a review. *Resources, Conservation and Recycling*, 53(4), 175-182.
- Power, D., Sharafali, M., & Bhakoo, V. (2007). Adding value through outsourcing. *Management Research News*, 30(3), 228-235. <https://doi.org/10.1108/01409170710733296>
- Project Practical. (2022, October 7). *10 logistics management best practices*. ProjectPractical.com. <https://www.projectpractical.com/10-logistics-management-best-practices/>
- Public Consultation on Postal and Courier Baseline Survey. (2022, June 22). Communications Authority of Kenya. <https://www.ca.go.ke/public-consultation-on-postal-and-courier-baseline-survey/>
- Rachih, H., Mhada, F. Z., & Chiheb, R. (2019). Meta-heuristics for reverse Logistics: A literature review and perspectives. *Computers & Industrial Engineering*, 127, 45-62.
- Rheude, J., (2022). What is a Third Party Logistics Firms? Third-Party Logistics Definition, Process & Resources. [online] *Red Stag Fulfillment*. <https://redstagfulfillment.com/Third Party Logistics Firms -definition-process-resources>.
- Rheude, J. (2020). *What is a 3PL? third-party logistics definition, process & resources*. *Red Stag Fulfillment*. <https://redstagfulfillment.com/3pl-definition-process-resources/>
- Riggins, N., (2022). 20 Advantages and Disadvantages of Outsourcing from Your Small Business. [online] *Small Business Trends*. <https://smallbiztrends.com/2017/02/advantages-and-disadvantages-of-outsourcing.html>.

- Roberts. (2021, September 3). World's merchant fleet in graphs. *Infomaritime.eu*. <http://infomaritime.eu/index.php/2021/09/03/where-is-registered-and-who-owns-worlds-merchant-fleet/>
- Route, O. (2022). Top Reverse Logistics Companies and How to Optimize Your Reverse Logistics [Review of Top Reverse Logistics Companies and How to Optimize Your Reverse Logistics]. *OptimoRoute*. <https://optimoroute.com/reverse-logistics-companies/>
- Sadler, L. (2022). How Detrack Helped SGS Logistics Improve Customer Experience [Review of How Detrack Helped SGS Logistics Improve Customer Experience]. *DETRACK*. <https://www.detrack.com/case-studies/sgs-logistics/>
- Shajema, I. I. (2018). Effect of inventory control practices on performance of retail chain stores in Nairobi County, Kenya. *Journal of International Business, Innovation and Strategic Management*, 2(1), 18-38.
- Silitonga, N. (2022). The Advantages and Disadvantages of Reverse Logistics [Review of The Advantages and Disadvantages of Reverse Logistics]. *DropOff*. <https://www.dropoff.com/blog/advantages-and-disadvantages-of-reverse-logistics/>
- Software, J. (2014). *Best practices in global logistics - Supply chain 24/7. Welcome to SupplyChain 24/7*. https://www.supplychain247.com/article/best_practices_in_global_logistics
- Tableu. (2022). *Logistics Business Intelligence : A complete overview*. <https://www.tableau.com/learn/articles/business-intelligence>
- Taniguchi, E., & Thompson, R. G. (Eds.). (2018). *City Logistics 1: New Opportunities and Challenges*. UNCTAD. (2022). High freight rates cast a shadow over economic recovery. [online] <https://unctad.org/news/high-freight-rates-cast-shadow-over-economic-recovery>.
- W. (2021). Top 5 Reasons Why a Warehouse Management System Is Important. *WiSys*. Retrieved 2021, from <https://www.wisys.com/top-5-reasons-why-a-warehouse-management-system-is-important/>
- Wambua, J., Mukulu, E., & Waiganjo, E. (2017). Cost as a factor of outsourcing third-party Logistics providers and the performance of food and beverages manufacturing companies in Kenya. *International Journal of Academic Research in Business and Social Sciences*, 7(2), 343-356.

White, J., (2022). Logistics Costs Are Rising After 4% Drop Last Year: Report. [online] *Supplychainbrain.com*.
<https://www.supplychainbrain.com/articles/33787-Logistics-costs-are-rising-after-4-drop-last-year-report>.

Yatich, H. K. (2017). Effect of Energy Management Practices On Attaining Competitive Advantage Among Manufacturing Firms in Kenya: A Case of Selected Manufacturers in Nairobi County (Doctoral Dissertation, Kabarak University).

Yin, S. (2022, January 15). *Key success factors for effective logistics practices*. SIPMM Publications. <https://publication.sipmm.edu.sg/key-success-factors-effective-logistics-practices/>

Yu, K. H., Zhang, Y., Li, D., Montenegro-Marin, C. E., & Kumar, P. M. (2021). Environmental planning based on reduce, reuse, recycle and recover using artificial intelligence. *Environmental Impact Assessment Review*, 86, 106492.

