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**Effect of Supply Chain Management Practices on the
Performance of Companies in EPZ, Kenya**



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Effect of Supply Chain Management Practices on the Performance of Companies in EPZ, Kenya

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Abstract

Purpose: The aim of the study was to assess the influence of supply chain management practices on performance of companies in EPZ, Kenya with an aim of making recommendations on proper use of supply chain management practices

Methodology: To achieve this, the study reviewed both theoretical and empirical literature and then proposed the research methodology that addressed the gaps identified in literature as well as answer the stipulated research questions. The study used the following theories, supply chain network theory, goal setting theory, resource-based theory and stewardship theory. This research study adopted a descriptive research design approach. The study prefers this method because it allowed an in-depth study of the subject. The target population was heads of procurement in the EPZ companies in Kenya. The study was conducted in EPZ, Athi River, Kenya. The population of the study consisted of enterprises in the five (5) major categories. There exist five (5) categories of sectors, namely; food and beverage, pharmaceuticals, textile and apparel, and leather products in Athi River EPZ. The sample was one hundred and four (104) heads of procurement. Semi structured questionnaires were used to collect data. Pilot study was carried out to establish the reliability and validity of research instruments. Data gathered from the questionnaires administered was analysed by the help of SPSS and Microsoft Excel. The outputs were presented in form of statistical diagrams, tables and charts.

Findings: The regression results revealed that supply chain management practices identified in the study, that is, inventory management, supply chain planning, vendor management and contract management combined could explain approximately 72% of the variations in the performance of companies in EPZ. The other 28% may be attributed to other strategies not explained by the model or the variables. The strongest correlation was established between inventory management and performance of companies in EPZ. All the independent variables were found to have a statistically significant association with the dependent variable at ninety-five percent level of confidence

Unique contribution to theory, practice and policy: Based on the study findings, the study concludes that performance of companies in EPZ can be improved by inventory management, supply chain planning, vendor management and contract management. The study recommended that companies in EPZ should embrace procurement practices so as to improve their performance and further researches should be carried out in other institutions to find out if the same results can be obtained.

Keywords: *Inventory management, Supply Chain Planning, Vendor Management Contract management.*

1.1 Introduction

Export Processing Zones (EPZs) are industrial zones that offer incentives and infrastructure to attract foreign investment and promote export-oriented production. These zones have grown in importance in the global economy, particularly in developing countries, since they provide several benefits to businesses that operate within them, such as tax breaks, faster customs procedures, and access to inexpensive labor. Supply chain management methods that are effective are important to the success of enterprises operating in EPZs (Das, 2017). This is due to the fact that EPZ companies often confront fierce competition, high consumer expectations, and cost-cutting pressure while retaining quality. Good supply chain management methods can assist businesses in meeting these problems by increasing efficiency, lowering costs, and boosting overall performance.

The purpose of supply chain management is to analyze the processes of planning, implementing, and regulating material, completed items, and end-users; the interrelated activities of supply chain begin with a client order and terminate when the goods are in the consumers' hands. Supply chain management (SCM) has garnered increased interest from academics, consultants, and corporate executives alike (Agus, 2016). SCM has been defined to openly acknowledge the strategic character of coordination between trading partners and to explain its twin objective, which is to improve the performance of both the individual business and the entire supply chain.

Globally, SCM practices are the collection of actions a business engages in to enhance the efficient management of its supply chain. It is argued that SCM is a multidimensional notion that encompasses both the upstream and downstream sides of the supply chain. Using data acquired from survey questionnaire respondents, operational measures for the constructs are constructed and empirically evaluated. To evaluate postulated correlations, structural equation modeling is employed. By investigating SCM practices concurrently from both the upstream and downstream sides of a supply chain, it is anticipated that the present research will assist researchers better understand the breadth and activities connected with SCM and enable them to examine the causes and effects of SCM practice (Wang & Dai, 2018).

Locally, in addition, by providing a validated instrument to measure SCM practices and empirical evidence of the impact of SCM practices on an organization's competitive advantage and performance, it is anticipated that this research will provide useful guidance for measuring and implementing SCM practices in an organization and facilitate further research in this area. The supply chain management practices (SCMP) are defined as the approaches applied in the integration, management, and coordination of supply, demand, and relationships in order to effectively satisfy clients, as the set of activities undertaken by an organization to promote the effective management of its supply chain, and as tangible technologies that play a significant role in the collaboration of the focal firm with its supplier and clients.

Early attempts at empirical research in SCM were restricted to the development of measurement tools for SCM activities. Some studies have recently concentrated their efforts on examining the link between SCM practices and performance. They have operationalized performance using financial and market criteria (return on investment, market share, profit margin on sales, growth of return on investment, growth of sales, and growth of market share).

In addition, they examined the connection between SCM practices, operational performance, and SCM-related performance. Due to operationalizing the organization's performance subjectively and objectively, these studies and others have yielded a variety of outcomes (Al-Weshah et al., 2019). There are three areas of performance driven by the supply chain. Initially, resource performance demonstrates value addition in the form of efficiency. Second, output performance indicates value addition as the company's capacity to give exceptional customer service.

The study, "Impact of Supply Chain Management Practices on Performance of Businesses in EPZs in Kenya," sought to evaluate the relationship between supply chain management practices and the performance of companies operating in Kenyan EPZs. The study attempted to ascertain the extent to which good supply chain management methods such as vendor management, inventory management, and contract management can influence the performance of Kenyan EPZ enterprises. While there is an expanding corpus of literature on the relationship between supply chain management techniques and business performance, little is known about the unique setting of EPZs in Kenya.

1.2 Statement of the Problem

Kenya is East Africa's most industrialized country, although it has not yet achieved achievements commensurate with its potential (Kleibert, 2020). The manufacturing sector especially with regards to exports must exert greater effort to improve its performance and contribute more to the country's GDP. For industrial firms, supply chain management strategies have a significant impact on their success, given the competitive nature of the market in which they operate both locally and internationally.

Fast-moving manufacturing companies use supply management methods to increase efficiency and effectiveness. According to Chae et al., (2014), the usage of supply chain aspects such as purchasing and distribution help organizations reduce operational costs in material management and throughout manufacturing. Furthermore, Lambert (2016) found that good supply management should incorporate proper operations management to boost customer satisfaction by providing items that fulfill the consumers' expectations (Aura, 2017).

Academics, consultants, and business managers have all been paying greater attention to the concept of SCM. Numerous firms have recognized that SCM is critical to establishing a sustained competitive edge. Despite this increased emphasis, the literature has been unable to

provide much assistance for effective SCM practice. Much of the present theoretical/empirical research in supply chain management is focused only on the downstream or upstream sides of the supply chain, or on certain aspects/perspectives of supply chain management.

On a global scale, research such as (Fauziah et al., 2019) concentrate on the downstream relationships between manufacturers and merchants. A few recent research examined the relationship between vendor management techniques, customer interaction practices, and performance simultaneously. Fraccascia & Yazan (2018) conducted numerous studies on the effects of supplier-customer integration on performance. These papers illustrate efforts to address the different but fascinating aspects of SCM practices. However, the absence of an integrated framework that encompasses all supply chain operations on both the upstream and downstream sides and connects them to both competitive advantage and performance makes developing a framework for applying prior SCM outcomes difficult.

In Kenya, inefficiency has developed as a result of inadequate alignment of supply chain processes with the performance aims of fast-moving industrial enterprises (Aura, 2017). According to World Bank International (2016), the manufacturing industry in Kenya, notably in Nairobi, is one of the top GDP contributors at 24.5 percent, while food and other items account for more than 55 percent of produced products in 2016. Despite this economic contribution, the Kenya Association of Manufacturers reported that agriculture's percentage of GDP increased, but manufacturing's part decreased from 9.3 percent in 2016 to 7.6 percent in 2020. While the government's expenditure intentions are in line with the Medium-Term Plan III (MTP III), which led the pursuit of Vision 2030, the effect of implementation is not creating expected sectoral changes.

Locally, studies have been conducted that have concentrated on particular areas of SCM. Apopa (2018) conducted research on the buyer-supplier relationship and performance and discovered a strong correlation between the two factors. Ngeno and Kinoti (2017) examined the adoption of electronic procurement in large industrial organizations. He discovered that numerous industrial organizations have implemented a variety of e-procurement strategies. This demonstrates a dearth of local research aimed at gaining a better knowledge of the entire range of SCM techniques and how they might help a business improve its performance and achieve a competitive edge. This study sought to bridge this gap and found answers to research questions which were: What are supply chain management practices adopted by manufacturing companies in EPZ, Athi River and what effect the supply chain management practices adopted have on the performance of companies in EPZ.

1.3 Objectives of the Study

- i. To establish the effect of inventory management on performance of companies in EPZ, Kenya.

- ii. To find out how supply chain planning affects performance of companies in EPZ, Kenya.
- iii. To assess the effect of vendor management on performance of companies in EPZ, Kenya.
- iv. To determine the effect of contract management on performance of companies in EPZ, Kenya.

2.0 LITERATURE REVIEW

2.1 Theoretical Literature

The resource-based perspective was primarily created in the late 1980s and early 1990s, with additions added subsequently. With an emphasis on achieving a competitive edge through internal resources, the resource-based approach has become one of the major economic theories. According to Mbaka (2017), the resource-based perspective investigates the relationship between an organization's internal features and its performance. The resource-based perspective views the utilization of tangible and intangible resources as the basis for a competitive advantage. The primary idea of the Resource Based View is that a firm wishes heterogeneous resources, which can be treasured, inimitable, and non-substitutable to gain an extra sustainable overall performance than its competitors (Barney, 1986). Furthermore, the RBV acknowledges the significance of intangible belongings of a company. To maintain a durable competitive advantage, resources must be diverse and immobile (Guinigundo, 2018). In addition, to establish a competitive advantage, resources must meet the requirements of being valued, uncommon, imitable, and irreplaceable.

Using this as a foundation, the resource-based approach enables businesses to identify their key competencies, which are essential for the development of the latter (Kibera & Orwa, 2016). Through the addition of dynamic capabilities, the resource-based perspective gains a higher advantage. First mentioned by Zou & Kajikawa (2017), dynamic capabilities are defined as the "firm's capacity to integrate, create, and reconfigure internal and external competencies to handle quickly changing contexts."

Keeping this in mind, they address production variables, resources, organizational abilities, and core competencies that enable the use of firm-specific assets in clusters consisting of individuals and groups. This suggests that competences are not just applicable within the organization but may also have worth outside of it. In addition, Eldridge et al. (2016) believe that new resource configurations may be attained through dynamic capacities as processes inside businesses that utilize resources and generate market change. These new or improved arrangements of resources can then result in a sustainable competitive advantage.

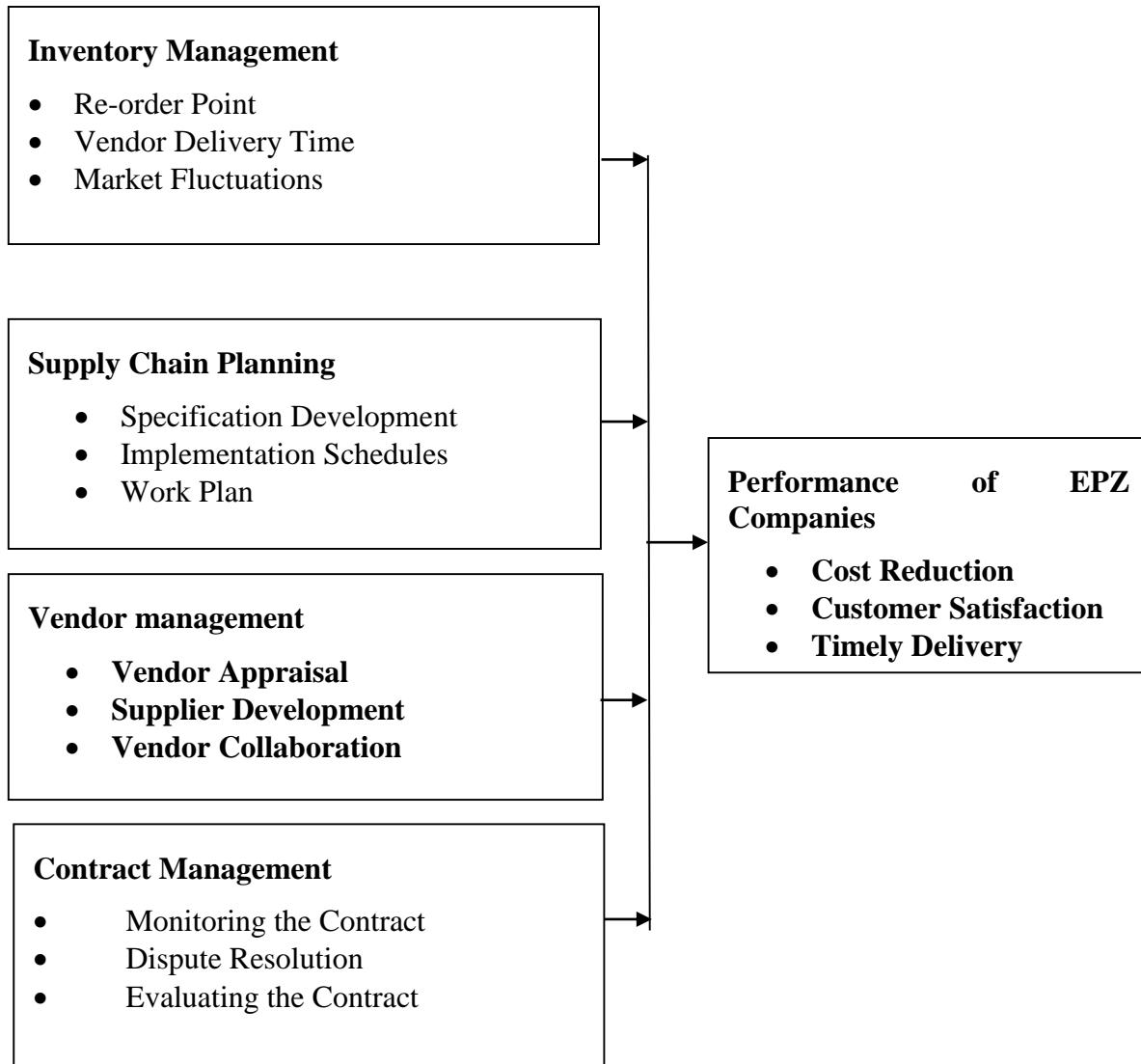
A firm's development of dynamic skills amid conditions of change enables it to remain profitable. Dynamic capabilities are defined as "the capacity of an organization to build,

extend, or adjust its resource base on purpose" (Chimwani et al., 2014). This concept also emphasizes the process of searching for and selecting dynamic capabilities. As capabilities are seen as resources, they may be acquired externally, which requires the search for and selection of qualified personnel (Vinodh et al., 2014). The external perspective presented here by means of the idea of dynamic capacities has also been considered by other researchers in relation to other themes. With a focus on a relational view of competitive advantage.

Awino (2015) considered network routines to obtain a competitive edge. To do this, it is proposed that assets should be networked across organizational boundaries. Consequently, whereas the original resource-based view focuses on the creation of returns based on internal resources and capabilities, the relational perspective enhances this view by recognizing that rents can be jointly generated through knowledge sharing with partners and alliances (Kariuki & Murimi, 2015). These partnerships can give a competitive advantage either through collaboration with complementary resources or through the successful establishment of an alliance portfolio that leverages resources (Osuga et al., 2015). Partnering and keeping this connection is advantageous so long as partners actively supply network resources, which boosts a company's market performance if the company can avoid becoming dependent on its partner.

2.2 Conceptual Framework

A conceptual framework is a set of concepts that the study operationalizes to meet certain goals (Chakraborty, 2017). It is the primary framework that provides the study its form and shape, as well as holding all of the parts in the logical arrangement together (Mugenda & Mugenda, 2018). It demonstrates how a study conceptualizes and displays the link between the variables in the study (Kothari, 2015).



Independent Variables

Dependent Variable

Figure 1: Conceptual Framework

Operationalization of Variables

Table 1: Operationalization of Variables

<i>Variable Type</i>	<i>Variable</i>	<i>Indicator</i>	<i>Level of Measurement</i>	<i>Method of Collection of Data</i>
<i>Dependent</i>	Performance of EPZ Companies	<ul style="list-style-type: none"> ○ Cost Reduction ○ Customer Satisfaction ○ Timely Delivery 	Ordinal	Structured Questionnaire
<i>Independent</i>	Inventory Management	<ul style="list-style-type: none"> ○ Re-order Point ○ Vendor Delivery Time ○ Market Fluctuations 	Ordinal	Structured Questionnaire
<i>Independent</i>	Supply Chain Planning	<ul style="list-style-type: none"> ○ Specification Development ○ Implementation Schedules ○ Work Plan 	Ordinal	Structured Questionnaire
<i>Independent</i>	Vendor management	<ul style="list-style-type: none"> ○ Vendor Appraisal ○ Supplier Development ○ Vendor Collaboration 	Ordinal	Structured Questionnaire
<i>Independent</i>	Contract Management	<ul style="list-style-type: none"> ○ Monitoring the Contract ○ Dispute Resolution ○ Evaluating the Contract 	Ordinal	Structured Questionnaire

2.3 Critique of Literature Reviewed

From the literature reviewed, it is clear from different authors that traditionally companies were not keen with supply chain management practices. But from the literature we observe that they instead should be keenly managed. More can be gained by efficient and effective supply chain management practices than by forcing cost-cutting on materials and labour.

Kitheka (2012) found a favorable linear link between inventory optimization automation and supermarket performance in western Kenya in research. The study was limited to supermarkets only leaving out the context of state corporations in Kenya. Inventory optimization has helped the Kenyan corporations improve their inventory management and become more competitive. Because of the availability of technology; organizations may now operate on a daily basis with less inventory. Increased transportation competitiveness has given shippers more options for purchasing high-quality, tailored services, decreasing the need to keep huge inventories.

Research carried out by Gakuru (2012) on strategic procurement management and organizational performance shows that the independent factors of strategic supplier partnership, quality of information, outsourcing extent, and lean techniques all explain a substantial link between strategic procurement management and procurement performance. The investigation was limited to Nairobi's city council services. As a result, the researcher suggests that more study be conducted on other services that are not situated in Nairobi and are not administered by the city government. Future study could expand on the topic of strategic procurement management by examining new aspects and aim to use numerous respondents to improve research findings, according to the researcher.

Inventory management practices, according to John and Ime (2014), can improve a firm's operational performance by increasing capital utilization efficiency, increasing service level, and reducing lead time, and firms that use inventory management models can handle supply chain disruptions, merchandise safety stocks, and constituent pile up. This study therefore seeks to expound further on the effects of supply chain management practices using other variables; supply chain planning, evaluation of bids, inventory management and contract management.

2.4 Summary of Reviewed Literature

From the above studies, it can be noted that many scholars have theorized and established a model in which policy makers and managers make their decisions on supply chain management practices. The current study has been anchored on the goal setting theory, the resource based view model, the stochastic inventory model and the stewardship theory.

It also creates constructs, which serve as the foundation for the study's conceptual framework. The variables are operationalized in the study by a thorough review of relevant literature, which provides a solid framework for the empirical investigation and contextual understanding of the research topic.

There have been a number of empirical studies on supply chain management practices and most of them concentrated on the process and methods in Kenya and some countries in Africa like Ghana, Nigeria and Malaysia. These studies provided further research gap as from the theoretical and empirical review, it is evident that supply chain management practices in

companies in EPZ has not been expounded at length and hence this forms a fertile ground for the academicians to explore on in their studies.

2.5 Research Gap

The Literature reviewed clearly showed that the aspects of supply chain management practices among firms in Kenya majorly concentrated on the procurement process while there are so many variables under supply chain management practices. The current study hence attempted to elaborate further on these variables.

The study conducted by Ngumi (2015) on supply chain management practices and productivity of large manufacturing firms in Nairobi, Kenya mentioned that, supply chain planning should be regarded as a top management function although the study did not give insights on the role of the top management in supply chain planning and instead the researcher expounded on the following variables which affect supply chain planning; Activity Based Costing and work schedules. The study also described IT as an emerging issue in the supply chain planning in large manufacturing firms which should be researched further by the future researchers.

The above literature notwithstanding, it is clear that no detailed study has been carried out to specifically determine the role supply chain management practices variables such as; inventory management, supply chain planning, vendor management and contract management play in the performance of companies in EPZ in Kenya. None of those studies carried out so far have focused on supply chain management practices and its role in performance especially in the developing countries and more so the companies in EPZ in Kenya. These constitute the research gaps that this research study investigated and quantify to understand the influence of supply chain management practices on the performance of companies in EPZ, Kenya.

3.0 METHODOLOGY

The study reviewed both theoretical and empirical literature and then proposed the research methodology that addressed the gaps identified in literature as well as answer the stipulated research questions. The study used the following theories, supply chain network theory, goal setting theory, resource-based theory and stewardship theory. This research study adopted a descriptive research design approach. The study prefers this method because it allowed an in-depth study of the subject. The target population was heads of procurement in the EPZ companies in Kenya. The study was conducted in EPZ, Athi River, Kenya. The population of the study consisted of enterprises in the five (5) major categories. There exist five (5) categories of sectors, namely; food and beverage, pharmaceuticals, textile and apparel, and leather products in Athi River EPZ. The sample was one hundred and four (104) heads of procurement. Semi structured questionnaires were used to collect data. Pilot study was carried out to establish the reliability and validity of research instruments. Data gathered from the questionnaires administered was analysed by the help of SPSS and Microsoft Excel

Data processing and analysis is essential to ensure that all relevant data is gathered for making contemplated comparisons and analysis (Mugenda & Mugenda, 2018). Data analysis is the computation of certain measures along with searching for patterns of relationships that exist. Babbie (2018), states that data analysis can refer to a variety of specific procedures and methods.

Descriptive statistics enabled computation of measures of central tendencies, measures of skewness and measures of variability in order to determine how independent variables influence the dependent variable (Neuman, 2019). Inferential statistics were used in computation of: the confidence levels to be applied, correlation matrix and the multiple regression process for testing of the hypothesis. Statistical Package for Social Sciences (SPSS) program version 20 was used as a tool for analysis of study variables. It has got descriptive statistics features that assist in variable response comparison and gives clear indication of response frequencies.

Correlation analysis to establish the relationship between the independent and dependent variables was employed. Pearson correlation coefficient (r) was used to determine the magnitude and the direction of the relationships between the variables (Ngechu, 2020). Values of the correlation coefficient are always between -1 and +1. Multiple linear regression attempts to model the relationship between two or more explanatory variables and a response variable by fitting a linear equation to the observed data, where every value of independent variable is associated with a value of the dependent variable (Ogula, 2021). This study therefore well fits the technique and test. R^2 is the proportion of variation of the response variable that is explained by the variation of the predictor variable(s) and as such the higher it is the better (Kombo & Tromp, 2018).

The multiple regression model was :

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

Y =Performance of EPZ Companies

α is the y-intercept or model coefficient;

$\beta_1 - \beta_4$ = the coefficients of the independent variables;

X_1 = Inventory Management

X_2 = Supply Chain Planning

X_3 = Vendor management

X_4 = Contract Management

ε is the error term

4.0 RESULTS FINDINGS

4.1 Introduction

4.2 Response Rate

A sample of 104 respondents were approached using questionnaires that allowed the researcher to drop the questionnaire to the respondents and then collect them at a later date when they had filled the questionnaires. Out of the population covered, 78 were responsive representing a response rate of 75%. This was above the 50% which is considered adequate in descriptive statistics according to (Mugenda, 2019).

Table 2: Response Rate of Respondents

Response	Frequency	Percentage
Actual Response	78	75
Non-Response	26	25
Total	104	100%

4.3 Pilot Study

The Cronbach's alpha was computed in terms of the average inter-correlations among the items measuring the concepts. The rule of thumb for Cronbach's alpha is that the closer the alpha is to 1 the higher the reliability (Serekan, 2020). A value of at least 0.7 is recommended. Cronbach's alpha is the most commonly used coefficient of internal consistency and stability. Consistency indicated how well the items measuring the concepts hang together as a set. Cronbach's alpha was used to measure reliability. This was done on the four objectives of the study. The higher the coefficient, the more reliable is the test.

Table 3 Reliability Results

Variable	No of Items	Respondents	α =Alpha	Comment
Inventory Management	9	10	0.893	Reliable
Supply chain planning	9	10	0.987	Reliable
Vendor management	9	10	0.974	Reliable
Contract Management	9	10	0.976	Reliable

4.4 Demographic Information

This section presented the personal details of the respondents and it provided data regarding the study and was necessary for the determination of whether the individuals in

a particular study were a representative sample of the target population and testing appropriateness of respondent in answering the questions for generalisation. The study sought to determine the demographic characteristics of the respondents as they are considered as categorical variables which give some basic insight about the respondents. The characteristics considered in the study were; gender, their highest level of education attained and their work experience.

4.4.1 Distribution of Respondents by Gender

The study also determined the gender of the respondents. The results are submitted in table 4.1 where the majority 74.4% were male while a partly 25.6% were female.

Table 4: Distribution of Respondents by Gender

Gender	Frequency	Percent
Male	58	74.4
Female	20	25.6
Total	78	100

4.4.2 Distribution of Respondents by age

The study determined the age distribution of the respondents. The results summarized in the table below. The findings indicate that the majority respondents belonged to age bracket of 41-50 years at 42.3%. Respondents in the age bracket of 50 years and above accounted for 34.6%. Respondents between 31-40 years accounted for 23.1%.

Table 5: Distribution of Respondents by age

Age	Frequency	Percent
31-40	18	23.1
41-50	33	42.3
50 and above	27	34.6
Total	78	100

4.4.3 Distribution of Respondents by Level of Education

The study determined the n Respondents by level of educationThe respondents were asked to state their highest level of education and the results were as captured in tables The results indicated that majority of the respondents 42.3% had acquired a diploma, and 30.8% had a masters while 26.9% had a degree.

Table 6: Distribution of Respondents by Level of Education

Level of Education	Frequency	Percent
Diploma	33	42.3
Degree	21	26.9
Masters	24	30.8
Total	78	100

4.4.4 Distribution of Respondents by Length of Service

The study determined the number of years the respondents had worked in their current office. From the findings the majority of the respondents had worked for 3-5 years at 32.1%, from the findings those who had worked for 6-8 years was also 32.1%, 9 and above length of service results were 35.9%. The results in this case could be relied because the work experience of the respondents was considered important for the study. This was so because the study assumed that the more experienced staff would be well informed about issues under investigation and provides a deeper insight from their years of experience.

Table 7: Distribution of Respondents by Length of Service

Length of Service	Frequency	Percent
3-5	25	32.1
6-8	25	32.1
9 and above	28	35.9
Total	78	100.0

4.5 Descriptive Statistics

4.5.1 Inventory Management

The first objective of the study was to assess the influence of inventory management on the performance of companies in EPZ, Kenya. The respondents were asked to rate to what extent inventory management affected performance of companies in EPZ in Kenya. Results indicated that majority of the respondents 24% said it was effective, 26% said that it was very effective, 24% said it was ineffective, while 26% also said it was somehow effective.

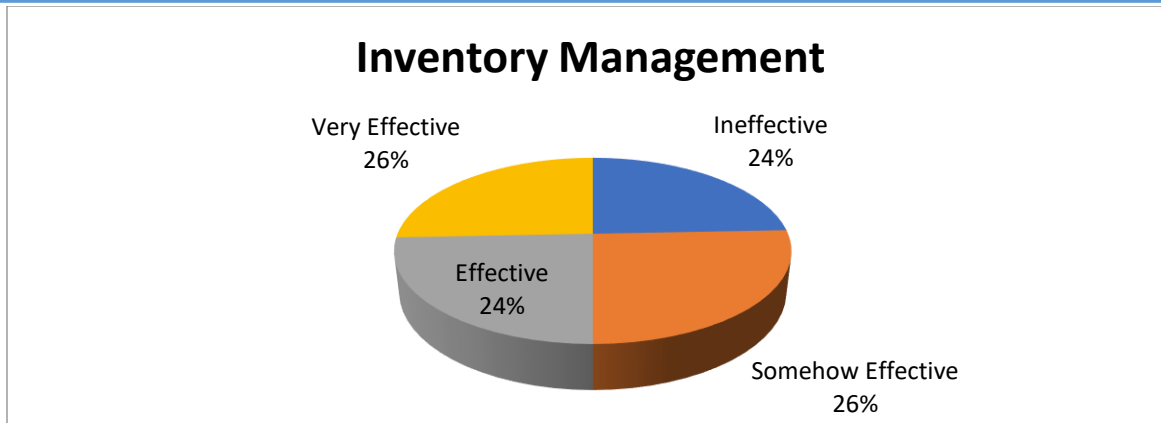


Figure 2: Inventory Management

The result revealed that majority of the respondent with a mean of (4.83) agreed with the statement that Re-order point plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.283 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.91) agreed with the statement that the Vendor delivery time plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.271, indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.55) agreed with the statement that Market fluctuations plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.374. Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (4.47) agreed with the statement Re-order point plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.575 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (3.81) agreed with the statement Vendor delivery time plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.163 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (4.12) agreed with the statement that Market fluctuations play a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.619 Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (3.88) agreed with the statement Re-order point plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.081 indicating the responses were varied. The result in table 4.5.1 revealed that majority of the respondent with a mean of

(4.24) agreed with the statement Vendor delivery time plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.776 indicating the responses were varied. The result in table 4.7 revealed that majority of the respondent with a mean of (4.18) agreed with the statement market fluctuations plays a significant role in timely delivery. The measure of dispersion around the mean of the statements was 0.698 indicating the responses were varied.

Table 8: Inventory Management

Statements	Mean	Std. Deviation
Re-order point plays a significant role in cost reduction	4.83	1.283
Vendor delivery time plays a significant role in cost reduction	3.91	1.271
Market fluctuations plays a significant role in cost reduction	3.55	1.374
Re-order point plays a significant role in improving customer satisfaction	4.47	0.575
Vendor delivery time plays a significant role in improving customer satisfaction	3.81	1.163
Market fluctuations play a significant role in improving customer satisfaction	4.12	0.619
Re-order point plays a significant role in attaining timely delivery	3.88	1.081
Vendor delivery time plays a significant role in attaining timely delivery	4.24	0.776
Minimum energy consumption plays a significant role in environmental performance indicators	4.18	0.698

4.5.2 Supply chain planning

The second objective of the study was to establish the influence of supply chain planning on the performance of companies in EPZ in Kenya. The respondents were asked to indicate to rate effectiveness of supply chain planning on performance of companies in EPZ in Kenya. Results indicated that a majority of the respondents 18% agreed that it was very effective, 20% said that it was effective, 27% said it was ineffective, while somehow effective was at 35%.

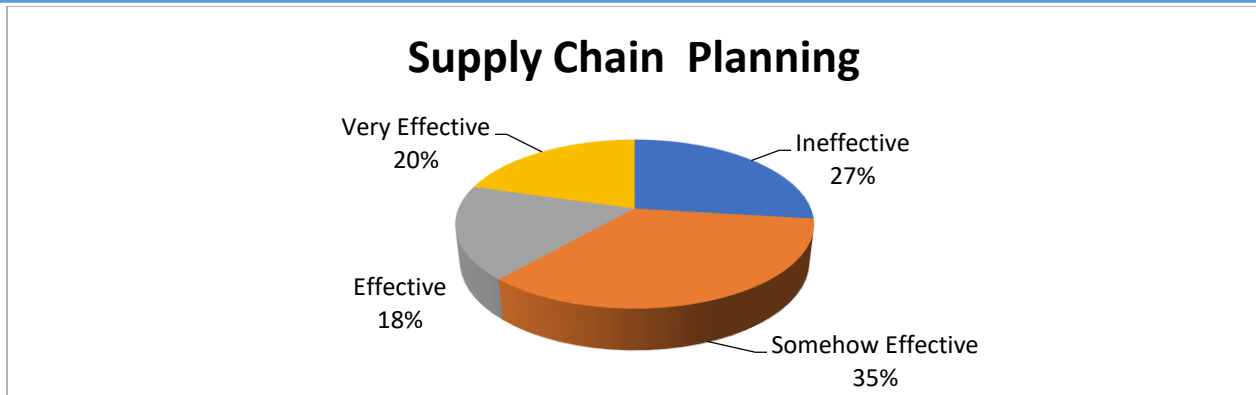


Figure 3: Supply chain planning

The respondents were also asked to comment on statements regarding the influence of Supply chain planning on the performance of companies in EPZ in Kenya. The result revealed that majority of the respondent with a mean of (3.84) agreed with the statement that Specification development plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.434 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.59) agreed with the statement that Implementation schedules play a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.263, indicating the responses were varied. The result revealed that majority of the respondent with a mean of (4.38) agreed with the statement that Work plan plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.198 Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (3.73) agreed with the statement Specification development plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.147 indicating the responses were varied. The result in table 4.6 revealed that majority of the respondent with a mean of (4.26) agreed with the statement Implementation schedules play a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.844 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (4.26) agreed with the statement that Work plan plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.844 Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (3.59) agreed with the statement Specification development play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.368 indicating the

responses were varied. The result in table 4.6. revealed that majority of the respondent with a mean of (4.03) agreed with the statement Implementation schedules play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.738 indicating the responses were varied. The result in table 4.8 revealed that majority of the respondent with a mean of (3.97) agreed with the statement Work plan plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.925 indicating the responses were varied.

Table 9: Supply chain planning

Statements	Mean	Std. Deviation
Specification development plays a significant role in cost reduction	3.84	0.434
Implementation schedules play a significant role in cost reduction	3.59	1.263
Work plan plays a significant role in cost reduction	4.38	1.198
Specification development plays a significant role in improving customer satisfaction	3.73	1.147
Implementation schedules play a significant role in improving customer satisfaction	4.26	0.844
Work plan plays a significant role in improving customer satisfaction	4.26	0.844
Specification development play a significant role in attaining timely delivery	3.59	0.368
Implementation schedules play a significant role in attaining timely delivery	4.03	0.738
Work plan plays a significant role in attaining timely delivery	3.97	0.925

4.5.3 Vendor Management

There was also need to determine the influence of vendor management on performance of companies in EPZ in Kenya. The respondents were asked to comment on extent of vendor management on performance of companies in EPZ in Kenya. Results indicated that majority of the respondents 40% agreed that it was very effective, 42% said that it was effective, while ineffective was at 10% and somehow effective was at 8%.

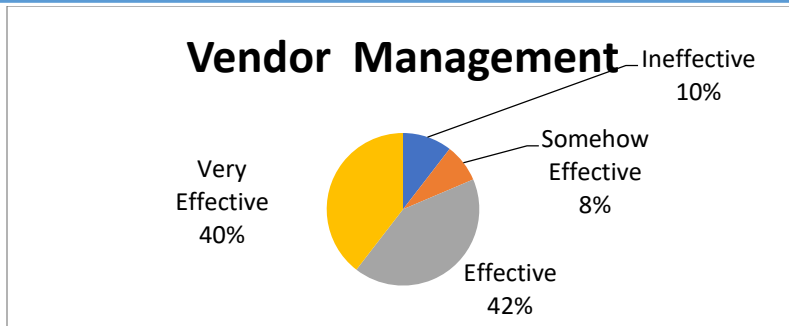


Figure 4: Vendor management

The respondents were also asked to comment on statements regarding the influence of Vendor management on the performance of companies in EPZ in Kenya. The result revealed that majority of the respondent with a mean of (3.9) agreed with the statement that Vendor appraisal plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.799, indicating the responses were varied. The result revealed that majority of the respondent with a mean of (4.21) agreed with the statement that the Supplier development play a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.998 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (4.31) agreed with the statement that Vendor collaboration plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.997. Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (4.06) agreed with the statement Vendor appraisal plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.155 indicating the responses were varied. The result in table 4.5.1 revealed that majority of the respondent with a mean of (3.73) agreed with the statement Supplier development play a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.266 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (3.874359) agreed with the statement that Vendor collaboration plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 1.217239 Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (3.55) agreed with the statement Vendor appraisal play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.383 indicating the responses were varied. The result in table 4.8 revealed that majority of the respondent

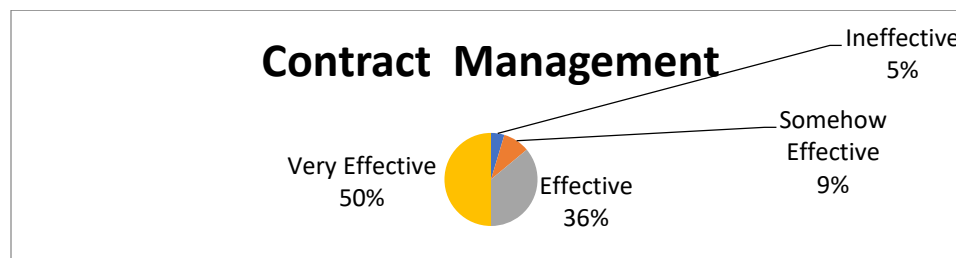
with a mean of (3.51) agreed with the statement Supplier development play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.43, indicating the responses were varied. The result in table 4.9 revealed that majority of the respondent with a mean of (3.99) agreed with the statement Vendor collaboration plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.294 indicating the responses were varied.

Table 10: Vendor management

Statements	Mean	Std. Deviation
Vendor appraisal plays a significant role in cost reduction	3.9	0.799
Supplier development play a significant role in cost reduction	4.21	0.998
Vendor collaboration plays a significant role in cost reduction	4.31	0.997
Vendor appraisal plays a significant role in improving customer satisfaction	4.06	1.155
Supplier development play a significant role in improving customer satisfaction	3.73	1.266
Vendor collaboration plays a significant role in improving customer satisfaction	3.87	1.21
Vendor appraisal play a significant role in attaining timely delivery	3.55	1.383
Supplier development play a significant role in attaining timely delivery	3.51	1.43
Vendor collaboration plays a significant role in attaining timely delivery	3.99	1.294

4.5.4 Contract Management

There was also need to evaluate the influence of contract management on the performance of companies in EPZ in Kenya. The respondents were also asked to comment on statements regarding reverse logistics on performance of companies in EPZ in Kenya. Results showed that 50% of respondents indicated it was very effective, effective were at 36 %, somehow effective was 9%, while ineffective was at 5%.

**Figure 5: Contract Management**

There was also need to evaluate the statements on influence of contract management on the performance of companies in EPZ in Kenya. The result revealed that majority of the

respondent with a mean of (4.1) agreed with the statement that Monitoring the contract plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.1 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (3.2) agreed with the statement that the Dispute resolution plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 1.54 indicating the responses were varied. The result revealed that majority of the respondent with a mean of (4.5) agreed with the statement that Evaluating the contract plays a significant role in cost reduction. The measure of dispersion around the mean of the statements was 0.5. Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (4.5) agreed with the statement Monitoring the contract plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.5 indicating the responses were varied. The result in table 4.9 revealed that majority of the respondent with a mean of (4.3) agreed with the statement Dispute resolution plays a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.9 indicating the responses were varied. The results revealed that majority of the respondent with a mean of (4.5) agreed with the statement that Evaluating the contract play a significant role in improving customer satisfaction. The measure of dispersion around the mean of the statements was 0.7 Indicating the responses was varied.

The result revealed that majority of the respondent with a mean of (4.5) agreed with the statement Monitoring the contract plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 0.7. indicating the responses were varied. The result in table 4.6 revealed that majority of the respondent with a mean of (4.2) agreed with the statement Dispute resolution plays a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.0 indicating the responses were varied. The result in table 4.9 revealed that majority of the respondent with a mean of (4.2) agreed with the statement Evaluating the contract play a significant role in attaining timely delivery. The measure of dispersion around the mean of the statements was 1.0 indicating the responses.

Table 11: Contract Management

Statements	Mean	Std. Deviation
Monitoring the contract plays a significant role in cost reduction	4.1	1.1
Dispute resolution plays a significant role in cost reduction	3.2	1.5
Evaluating the contract plays a significant role in cost reduction	4.5	0.5
Monitoring the contract plays a significant role in improving customer satisfaction	4.5	0.5
Dispute resolution plays a significant role in improving customer satisfaction	4.3	0.9
Evaluating the contract play a significant role in improving customer satisfaction	4.5	0.7
Monitoring the contract plays a significant role in attaining timely delivery	4.5	0.7
Dispute resolution plays a significant role in attaining timely delivery	4.2	1.0
Evaluating the contract play a significant role in attaining timely delivery	4.2	1.0

4.6 Correlation analysis

Correlation analysis was used to determine both the significance and degree of association of the variables and also predict the level of variation in the dependent variable caused by the explanatory variables. The correlation technique is used to analyze the degree of relationship between two variables. The results of the correlation analysis are summarized in

Table 12: Summary of Pearson's Correlations

Correlations		Inventory Management	Supply chain planning	Vendor management	Contract Management	Performance of companies in EPZ
Inventory Management	Pearson Correlation	1	.377**	.604**	.492**	.662**
	Sig. (2-tailed)		0.001	0	0	0
	N	78	78	78	78	78
Supply chain planning	Pearson Correlation	.377**	1	.470**	.495**	.561**
	Sig. (2-tailed)	0.001		0	0	0
	N	78	78	78	78	78
Vendor management	Pearson Correlation	.604**	.470**	1	.593**	.747**
	Sig. (2-tailed)	0	0		0	0
	N	78	78	78	78	78
Contract Management	Pearson Correlation	.492**	.495**	.593**	1	.702**
	Sig. (2-tailed)	0	0	0		0
	N	78	78	78	78	78
Performance of companies in EPZ	Pearson Correlation	.662**	.561**	.747**	.702**	1
	Sig. (2-tailed)	0	0	0	0	
	N	78	78	78	78	78

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

The correlation analysis to determine the relationship between supply chain management practices on the performance of companies in EPZ, Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The correlation summary shown in Table 4.11 indicates that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The results indicate that there is a positive relationship ($r = .662^{**}$) between Inventory Management on the performance

of companies in EPZ in Kenya in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ($p=0.000$, <0.05).

The results indicate that there is a positive relationship ($r=.561^{**}$) between Supply chain planning and performance of companies in EPZ in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ($p=0.000$, <0.05). The correlation analysis to determine the relationship between Vendor management and performance of companies in EPZ in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship ($r=.747^{**}$) between contract Management and performance of companies in EPZ in Kenya. The results indicate that there is a positive relationship ($r=.702^{**}$) Contract Management and performance of companies in EPZ in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ($p=0.000$, <0.05).

4.7 Regression Analysis

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Regression analysis was conducted to find the proportion in the dependent variable (performance of companies in EPZ in Kenya) which can be predicted from the independent variables (inventory management, supply chain planning, vendor management and contract management). Table 4.12 presents the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there is a significant positive relationship between dependent variable and the independent variable. The independent variables reported R value of 0.849 indicating that there is perfect relationship between dependent variable and independent variables. R-square value of 0.72 means that 72.1% of the corresponding variation in performance of companies in EPZ in Kenya can be explained or predicted by inventory management, supply chain planning, vendor management and contract management.

Table 13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.849a	0.72	0.705	0.45081

Table 14: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.144	4	9.536	46.923	.000 ^b
	Residual	14.836	73	0.203		
	Total	52.979	77			

The significance value is 0.000 which is less than 0.05 thus the model is statistically significant in predicting how inventory management, supply chain planning, vendor management and contract management affect performance of companies in EPZ. The study therefore establishes that; inventory management, supply chain planning, vendor management and contract management were all important practices that affect performance of companies in EPZ.

Table 15: Coefficients of Determination

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	0.421	0.316		1.331	0.187
Inventory Management	0.299	0.097	0.246	3.094	0.003
Supply Chain Planning	0.181	0.084	0.158	2.144	0.035
Vendor Management	0.313	0.078	0.349	3.985	0.00
Contract Management	0.293	0.082	0.295	3.594	0.001

The research used a multiple regression model

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

$$Y = 0.421 + 0.299X_1 + 0.181X_2 + 0.313X_3 + 0.293X_4$$

The regression equation above has established that taking all factors into account (supply chain management practices) constant at zero, performance of companies in EPZ in Kenya will be an index of 0.421. The findings presented also show that taking all other independent variables at constant, a unit increase in inventory management will lead to a 0.299 increase in performance of companies in EPZ. The P-value was 0.003 which is less than 0.05 and thus the relationship was significant. The study also found that a unit increase in supply chain planning will lead to a 0.181 increase in performance of companies in EPZ in Kenya. The P-value was 0.035 and thus the relationship was significant. In addition, the study found that a unit increase in vendor management will lead to a 0.313 increase in the performance of companies in EPZ in Kenya. The P-value was 0.00 and thus the relationship was significant. Lastly, the study found that a unit increase in contract

management will lead to a 0.293 increase in the performance of companies in EPZ. The P-value was 0.001 and hence the relationship was significant since the p-value was lower than 0.05. The findings of the study show that, vendor management contributed most to the performance of companies in EPZ.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The study found that inventory management, supply chain planning, vendor management, and contract management all have a positive effect on the performance of companies in EPZ.

Inventory management: Increasing levels of inventory management by one unit would increase the levels of performance of companies in EPZ by 0.299 units. Supply chain planning: Increasing levels of supply chain planning by one unit would increase the levels of performance of companies in EPZ by 0.181 units. Vendor management: Increasing levels of vendor management by one unit would increase the levels of performance of companies in EPZ by 0.313 units. Contract management: Increasing levels of contract management by one unit would increase the levels of performance of companies in EPZ by 0.059 units.

Conclusion:

The study concludes that companies in EPZ can improve their performance by investing in inventory management, supply chain planning, vendor management, and contract management.

Implications for practice:

The study's findings have important implications for practice. Companies in EPZ should focus on improving their inventory management, supply chain planning, vendor management, and contract management practices in order to improve their performance

Recommendations for future research:

The study's findings could be extended by examining the impact of other factors, such as employee training and development, on the performance of companies in EPZ. Additionally, future research could explore the mediating and moderating effects of other variables on the relationship between inventory management, supply chain planning, vendor management, contract management, and performance.

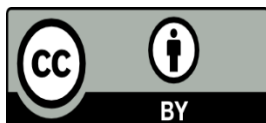
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