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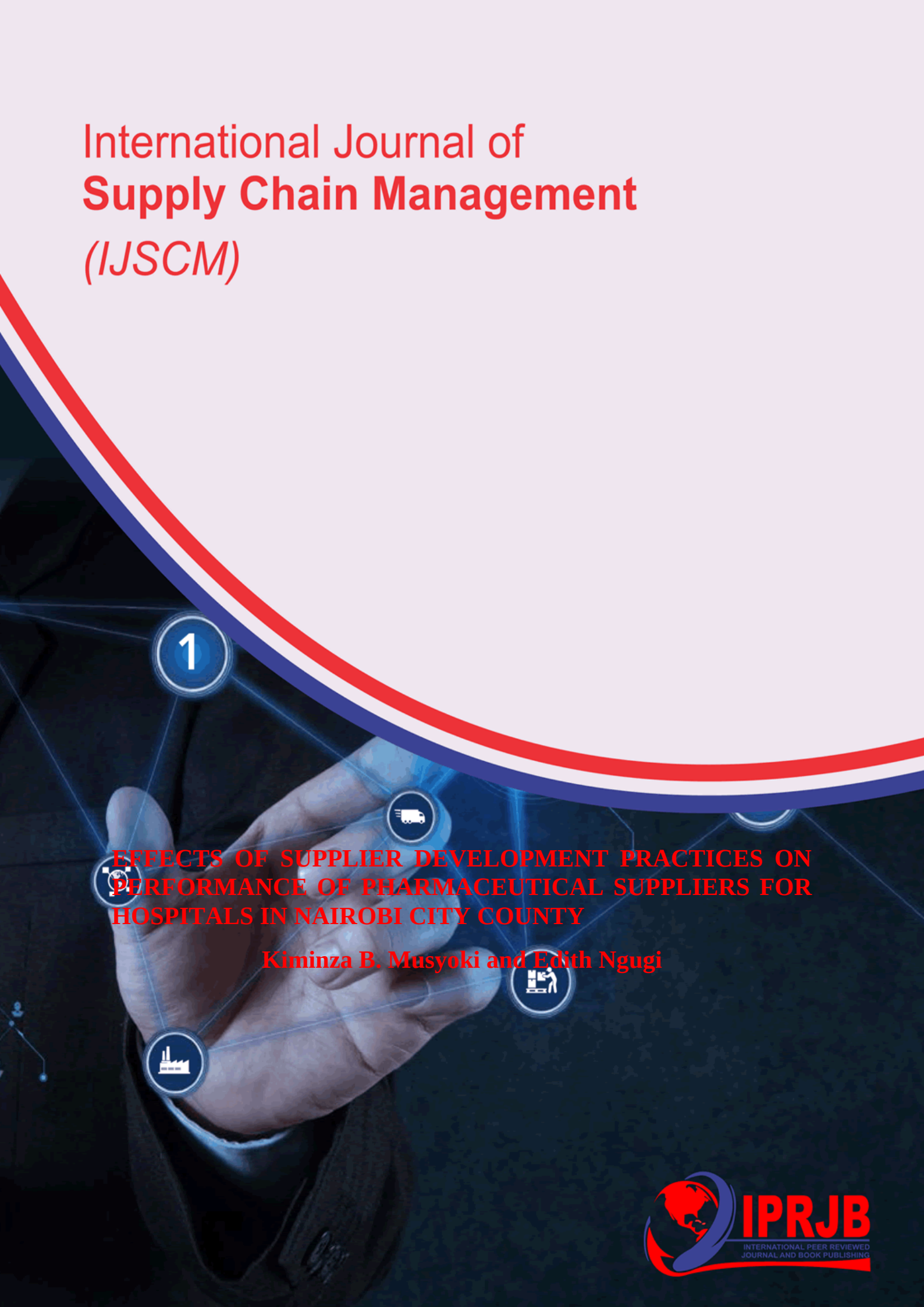

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EFFECTS OF SUPPLIER DEVELOPMENT PRACTICES ON PERFORMANCE OF PHARMACEUTICAL SUPPLIERS FOR HOSPITALS IN NAIROBI CITY COUNTY

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Abstract

Purpose*:* The purpose of this study was to determine the effects of supplier development practices on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya.

Methodology*:* The study employed descriptive research design. The target population for the study was all the pharmaceutical suppliers in Nairobi City County, which were 243. The sample size for the study was 93 pharmaceutical distributors for Nairobi County private and public hospitals. Primary data was collected through a questionnaire. Descriptive and inferential analysis was conducted to analyze the data. The data was presented using tables, graphs and charts.

Results*:* The findings revealed a positive and significant relationship between supplier training, information sharing, management support, strategic partnership and performance of pharmaceutical suppliers for hospitals in Nairobi City County.

Unique contribution to theory, practice and policy: Based on the findings, the study recommended that both pharmaceutical distributors and hospitals should invest resources in training pharmaceutical suppliers; there should be better cooperation between the hospitals and pharmaceutical suppliers; both the hospitals and the pharmaceutical suppliers' management should establish a good working relationship; and the government should provide strategic support to the pharmaceutical suppliers. Finally, the study recommended that similar studies should be conducted in other Counties for comparison purposes.

Keywords: *supplier development practices, pharmaceutical suppliers, hospitals, Nairobi City County*

INTRODUCTION

Background of the Study

The advent of firm competition through well configured supply chain means that buying firms must forge close collaborative working relationships with their supplier (Eltantawy *et al*., 2009). It is widely agreed that successful buyer-supplier relationships are critical to firm's performance because firms increasingly utilize other organizations capabilities and resources to compete (Tanskanen, 2015). Many manufacturing firms rely on capable supplier to contribute to their overall competitiveness in the market place. As such the ever increasing reliance on external suppliers has increased the buying firm's dependence on supplier's capabilities and performance (Mollahosseini & Barkhordar, 2010). Against this solid background, firms have recognized the need to strategically manage their supplier base and develop long term relationships (Hernandez-Esallardo *et al*., 2010).

Supplier development concept as a strategic relationship management has its roots in Japan especially by the Toyota Automaker (Wagner *et al*., 2006). It has since gained acceptance as part of the supply chain relationship anchored on Supply Chain Management (SCM) concept, which has been identified as the next competitive frontier (Markley & Davis, 2007). Many scholars have addressed relationships in SCM from the position of competitive advantage (Krause *et al*., 2007; Mesquita *et al*., 2008). In Europe it is held among the practitioners that companies enjoy significant performance improvements through supply chain strategic collaboration (Vereecke & Muylle, 2006). The concept has dominated the auto industry as a way of enhancing supplier capabilities to meet stringent quality requirements (Kannan & NoorulHaq, 2010).

The South African pharmaceutical sector is relatively small, where total sales account for less than 1% of the total GDP (UN, 2015). Furthermore the local manufacture of drugs has declined and the majority of pharmaceuticals are increasingly being imported (this includes both originator and generic drugs). More generic drugs are consumed in South Africa than originator drugs yet more money is spent on originator drugs; this is suggestive of the relatively high prices of originator drugs. Originator drugs are typically protected by patents which act as barriers to entry for generics, creating a de facto monopoly for that specific drug. The price that pharmaceutical companies charge for such a drug, however, is constrained by Single Exit Price (SEP) regulation. The SEP acts as ceiling on drug prices, however it does not necessarily mean that drugs are cheaper.

Developing countries including Kenya face a number of challenges that limit access to medicines. These include: regulating the quality and flow of medicines into and within the country; geographic access to medicines; financial access to medicines; supply chain forecasting and planning; limited warehousing. A Rockefeller Foundation report (Ballou-Aares, Freitas *et al*., 2009) suggests that effective supply chains provide positive health care outcomes, such as: consistent availability of the right type and quality of medicine; access to safe, authentic, efficacious and unexpired products; medicines that the patients and the health system are able to afford and to sustain; geographic access to medicines, and provision of medicines within a reasonable distance to the patient.

Problem Statement

The supply and distribution of medicines are a fundamental aspect of the success of any health system. Fundamentally, they ensure access to medicines to local populations. However, they also provide information on the supply and demand of products and transfer

money to finance the system (McCabe, 2009). Disruptions to this supply of medicines undermine health outcomes as supply chains have an impact on the availability, cost and quality of medicines available to patients. In 2008, the pharmaceutical sector contributed about 2 per cent of Manufacturing Value Added (MVA) in the Kenyan economy, or 0.2 per cent of Gross Domestic Product (GDP). It employed 3,389 persons. At current levels, if the industry utilized full capacity and instituted two shifts per day, this would boost wage employment in the sector by over 30 per cent.

Despite the tremendous contribution of the pharmaceutical industry into the health sector, there still exists poor supplier performance. Recent statistics show that almost 30% of the Over-the-Counter (OTC) healthcare runs as parallel imports. Counterfeit and expired drugs especially in rural and semi-formal neighborhoods account for nearly 70% of sales (Groves, Sketris, & Tett, 2013). Further, the availability of drugs and other non-pharmaceuticals in both public and private hospitals has been very erratic due to poor management of the supply chain leading to stock outs, poor deliveries, poor lead time, low quality of products and unreliability from suppliers (Groves, Sketris, & Tett, 2013).

There exist gaps in previous studies in explaining the influence of supplier development practices on the performance of pharmaceutical suppliers. For example, Ang'ana (2010) assessed the determinants of supply chain management performance in road construction projects in Kenya; Duba (2009) investigated the influence of strategic partnership between commercial banks and telecommunication companies in Kenya while Humphreys *et al*. (2011) carried out an investigation into supplier development activities and their influence on performance in the Chinese electronic industry". Therefore, the study sought to investigate the effects of supplier development practices on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya.

General Objective

To determine the effects of supplier development practices on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya

Specific Objectives

To assess the influence of supplier training on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya

To establish the influence of information sharing on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya

To determine the influence of management support on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya

To examine the influence of strategic partnership on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya

LITERATURE REVIEW

Theoretical Review

Human capital Theory

This is one theory that has great potential to show the understanding of the impact of supplier training in supplier development. Adam smith defined human capital as the skills, dexterity (physical, intellectual and psychological), and judgment of an individual (Smith, 1973).

Education according to human capital theory is one of the investment alternatives that an individual can choose to obtain future benefits from (Law, 2010). Education is considered both as a consumer and capital good because of its ability to offer the utility to the consumer and the provision of input in further production of goods and services with attendant benefits to both the individual and the society, hence the justification of huge public expenditure on education (Olaniyan & Okemakinde, 2008).

Human capital stock of each individual includes innate ability which can be extended prior to participation in the workforce by education and during employment by on job learning or training, experience and emphasizes development of skills (Olaniyan & Okemakinde, 2008). The human capital theory predicts that individuals or groups who possess higher levels of knowledge, skills, capabilities and competencies can achieve greater performance outcomes than those who possess lower levels (Ployhart & Moliterno,2011).

This theory thus offers a generally acceptable framework for studying a range of economic, business and social issues from returns on education to training (Law, 2010).This theory fits into the expectation of benefits from supplier development derived from supplier training based on economics of education. Training from human capital perspective results in acquisition, development and retention of knowledge, skills, competencies and capabilities. This can improve the performance of the trainee (Ployhart *et al*., 2014). The theory informed the study by providing an understanding of how supplier training influenced the performance of pharmaceutical suppliers for hospitals in Nairobi County.

Information Theory

This theory has great impact in supply chain management. The theory was originally proposed by Shannon in 1940s as mathematical theory of communication to deal with problems of transmission electrical engineering. According to Beckstead and Beckie (2011) the central issue of focus in this theory is quantities information and uncertainty. According to Budd (2010) anything that would be information is communicative and inherently includes exchange. Budd (2010) posit that exchange requires real language, signs and the act of communicating entails as an intentional purpose and connects human and organizations intentionality to the construction of informative actions for the benefit of all players. Related to information theory is Signaling theory which is based on the assumption that information is not equally available to all parties at the same time leading supply chain disruptions.

The interdependence nature of tasks performed by supply chain participants and interactions among organizations creates uncertainties to which organizations must respond (Cegielski *et al*., 2012). Among organizations that participate in supply chain management, there is a requirement for information sharing, collaboration, and connectivity if firms are to perform at an optimal level (Sanders *et al*., 2011; Tokar *et al*., 2011). Uncertainty is a major factor among supply chain members as it creates a gap of disconnect between information available and the information available for decision making in business organizations. Uncertainty being a state of limited knowledge in which it is not possible to exactly describe possible future outcome with certainty (Hubbard, 2010) creates a fertile ground for bullwhip effect along the supply chain.

Buying firms being open systems must allow and encourage sharing of information to bring about visibility along the chain and reduce uncertainties in which opportunistic behaviour is eliminated among the chain members and lower costs (Pandey *et al*., 2010). Information sharing is critical in supply chain coordination and integration (Faisal *et al*., 2007) to eliminate supply disruptions by enhancing the ability to produce dependable plan and

forecast. Farmers are key players in the sugarcane supply chain and this theory provides a solid background in understanding the need for information sharing between farmers and sugarcane miller to reduce supply disruptions and enhance utilization of installed capacity leading to overall reduction in overhead costs and gaining of competitive advantage. The theory informed the study by providing an understanding of how information sharing as a supplier development practice influenced the performance of pharmaceutical suppliers for hospitals in Nairobi County.

Resource Dependence Theory

Resource Dependence Theory (RDT) promoted by Pfeffer and Salancik in 1978, is the study of how the external resources of organizations affects the performance of the organization. The procurement of external resources is an important strategic decision taken by top management of any company where some firms become reliant on others for some inputs such as raw materials (Ketchen Jr & Hult, 2007). According to Hunt and Davis (2008), organizations specifically pursue comparative advantage in resources that will yield marketplace positions of competitive advantage and, thereby, superior financial performance. RDT has implications in the procurement effectiveness of the buying firms especially in tapping into the relationship with suppliers as their important and dependable partners which operate to reduce environmental uncertainties and supply chain vulnerability (Ketchen Jr & Hult, 2007).

RDT proposes that actors lacking in essential resources seeks to establish relationships with those that have the resource in order to obtain needed resources. This is informed by realization that resources and capabilities are heterogeneously dispersed across different firms; thus the resource endowment differs, necessitating building relationships to access the critical resource (Kim & Choi, 2015). Sucky and Durst (2013) posit that when the buyer is more powerful than the supplier, supplier development activities succeed as the dependent supplier will strive to secure current and future business with the buyer by trying to reach the set targets. Conversely, when a supplier is more powerful, it might be less likely that this supplier will accept feedback or improvement suggestions from his buyer. The researcher concludes that supplier development activities may work better with more dependent suppliers.

The decision on whether to make, buy or ally with supplier depends of the criticality of the requirement to its operations (Shook *et al.,* 2009). In the sugarcane supply chain, sugarcane is a key raw material and the sugar millers are wholly depended on suppliers who control land a major means of production. The resource confers to the supplier excessive control and is a source of power but with few usage opportunities available to the supplier, hence the need for millers to create mutual interdependency in order to access the raw material that is critical for their operations and to secure future business on the part of the supplier (Kahkonen *et al*., 2015; Shook *et al*., 2009).

Within this perspective, organizations are viewed as coalitions aligning their structure and patterns of behavior to acquire and maintain needed external resources. Acquiring the external resources in this case, land needed by an organization which is exogenous (Lewis *et al.*, 2010) comes by decreasing the organization's dependence on others and/or by increasing other's dependency on it that is, modifying an organization's power with other organizations. The theory informed the study by providing an understanding of how management support as a supplier development practice influenced the performance of pharmaceutical suppliers for hospitals in Nairobi County.

Psychological Contract Theory

The theory has its foundation in human resource management, specifically in employment. Chris Argris (1960) was the first to apply the psychological contract to the workplace. He believed that employees and their organization created psychological contracts that allowed the expression and gratification of each other's needs. According to Armstrong (2009) a psychological contract represents a set of unwritten expectations that exist between an employee and the employer. The expectations are implied and therefore concerned with the perceptions held by both parties to the employment relationship, the organization and individual (Quest, 2007). A contract represents a set of aspirations as a belief system revolving around actions expected of employees and reciprocal actions by employers in return. While reasonable amount of the psychological contract literature has focused on employee–employer relationships, it is fitting to extend evaluation of this theory to relationships in other areas (Kingshott & Pecotich, 2007).

The theory fits in the pattern of expectations in supplier development relationships between the pharmaceutical suppliers and the hospitals. In a buyer–supplier relationship, the supplier maintains set of expectations which may or may not differ from the expectations understood by the buying firm; the essence of the psychological contract is that it is implied or assumed, and thus may suffer from incongruence between parties (Greer *et al*., 2009). When the expectations are not met, there is an emotional feeling that the contract has been violated and can determine future behavioral attitude of the parties involved in the relationship (Greer *et al*., 2009).

The theory informed the study by providing an understanding of how modern integrated supply chain is characterized by long term relationships like strategic partnership in order to achieve competitive advantage (Menon, 2012). The theory provided valid theoretical framework that build on mutual trust among the chain partners in long term relationship characterized by interdependence which if well managed results in a win-win exchange situation for the hospitals and the pharmaceutical suppliers' well-being.

Empirical Review

Yegon, Lagat and Kosgei (2015) investigated the effect of supplier development on buyer performance. Explanatory research design was utilized to explain the cause-effect relationship between supplier development and buyer performance. A sample of 88 top level purchasing and marketing executives considered by the researcher to have strong buyer-supplier and buyer-customer relationship respectively, were selected using purposive sampling technique. Data from respondents was analyzed using both descriptive and inferential statistics (correlation analysis and multiple regressions).

The study found out that supplier technical support and supplier financial support had positive effect on buyer performance. Hence, it was prudent to infer that supplier technical support and supplier financial support positively affects buyer performance. This means that the company management efforts of developing suppliers will be of great significance to the company if it invested in offering supplier development so as to increase buyer performance both in the short and long run. Further, the study recommended that in order for firms to gain competitive edge over its competitors, they must continuously strive to align the resources, performances and activities of their critical suppliers with the operations of the buying organization through supplier development so as to gain superior overall performance and increased customer satisfaction.

Krause *et al*. (2010) found that direct supplier involvement activities, such as buyer site visits to supplier factories and training/education of supplier personnel, play a critical role in supplier performance improvement. More recently, Terpend *et al.* (2008) found that the involvement of suppliers in the buyer's product development process and continuous improvement programs increase customer satisfaction. According to Nagati and Rebolledo (2013) training and education will be an investment made by the customers, so strategic suppliers are suitable for training and education.

Information is a major source of competitive advantage in the marketplace. Knowledge sharing within supply chain has been found to be a driver of enhancing supply chain competitive advantage through collaborative relationships (Cheng *et al.*, 2008). Communication can be seen as the glue that holds partnerships between different parties and is one of the SD activities (Lawson *et al*., 2009). Supplier developments is viewed as a partnership that relies on interdependence of the supply chain partners to access resources lacking among other partners but necessary for their operations.

Carr and Pearson (2011) investigated the linkage between the implementation of supplier evaluation and a firm's financial performance. In their empirical research, they found evidence of the relationship between effective communication with suppliers and a firm's financial performance. Forker and Hershauer (2010) investigated the relationship between supplier development practices and customer satisfaction, supplier satisfaction, and supplier quality performance. They concluded that control of quality management and supplier development programs were crucial factors that lead to mutual satisfaction among buyers and suppliers.

Silveira and Arkade (2007) explored the contributions of relationship-specific investments toward supply chain coordination and found out that technical capabilities are necessary when input from the supplier is given to certain specification. This is more important to engineering personnel and they must be a part of this type of supplier development so that they can jointly undertake the functional and technical requirements necessary for producing innovative products. This is consistent with research by Carr and Pearson (2011) who reported the existence of a positive impact of supplier reward and recognition on the overall performance of supplier technical capability.

Maina (2011) sought to establish the strategic supplier related factors affecting the performance of the procurement function in the service industry. The study concluded that a strategy includes all the organization's moves and managerial approaches that can be taken to achieve the organizations objectives. The major objective for any organization is to secure competitive advantage and elevate the organizations performance. A well-functioning procurement function is an asset to any forward looking company. This is because the all-important task of acquisition of the required materials or services as well as their management once acquired is the responsibility of the procurement function. Specifically, the research attempted to establish the effect of financial stability, quality aspects, past performance and reliability of suppliers on the performance of the procurement function.

Duba (2009) sought to investigate the influence of strategic partnership between commercial banks and telecommunication companies in Kenya. The specific objectives sought to finding out the level of influence of desire for profit, social relationships and competitions on the existing partnerships as well as other intervening variables such as technology and human resource. The research utilized descriptive survey mode of study. The target population comprised of sixty middle and upper level managers of the nine partnerships out of the

seventeen that exist between commercial banks telecommunication companies in Kenya. The study used representative sample of existing. The findings of the study revealed that strategic partnership has a positive influence on the relationship between commercial banks and telecommunication companies in Kenya. The study reveals a contextual gap since it focused on commercial and telecommunication companies while the current study will focus on pharmaceutical suppliers and hospitals.

Conceptual Framework

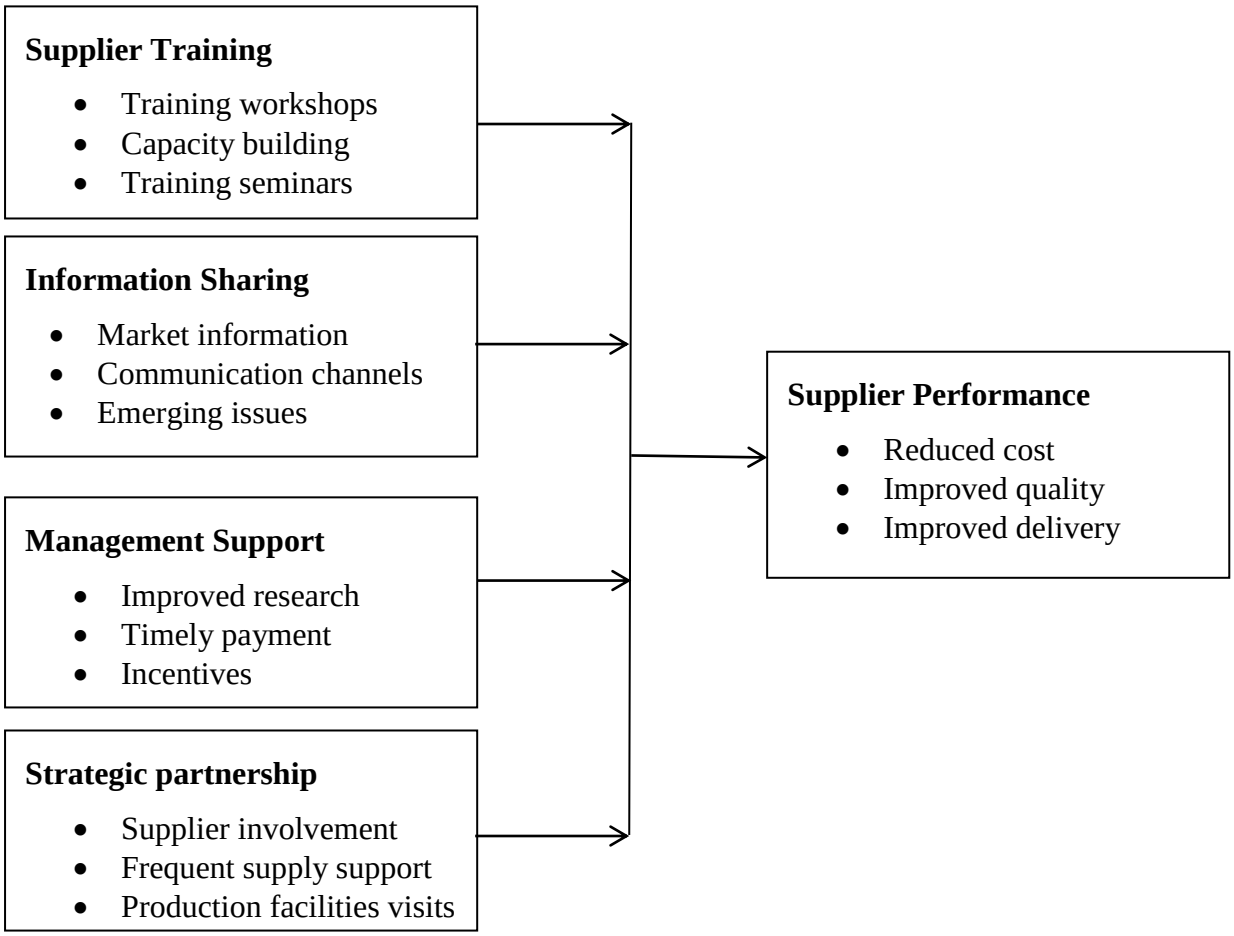

Figure 1: Conceptual Framework

METHODOLOGY OF THE STUDY

The study used a descriptive research design. The study target population was all the pharmaceutical suppliers in Nairobi County. There are 243 pharmaceutical suppliers in Nairobi County. The sample size was 93 pharmaceutical suppliers in Nairobi County. The main research instrument that was used in the study was a questionnaire. Primary data was obtained from the questionnaires that were administered to the selected pharmaceutical suppliers. The data and information obtained through the questionnaires was first checked for completeness. Quantitative data gathered from correctly filled questionnaires was coded, tabulated and analyzed using SPSS version 20 by both descriptive statistics which included mean and standard deviation to capture the characteristics of the variables under study and

inferential statistics which included Pearson correlation and regression coefficient which was used to analyze the relationship of the dependent and the independent variables. A multivariate regression model was used to link the independent variables to the dependent.

RESULTS AND DISCUSSIONS

Response Rate

The number of questionnaires that were administered was 93. A total of 74 questionnaires were properly filled and returned. This represented an overall successful response rate of 80% as shown on Table 1. This agrees with Babbie (2004) who asserted that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good. Based on these assertion 80% response rate is adequate for the study.

Table 1: Response Rate

Response	Frequency	Percent
Returned	74	80%
Unreturned	19	20%
Total	**93**	**100%**

Demographic Information

Respondents Position in the Company

The respondents were asked to indicate their position in the Company. Results in figure 2 reveal that majority (51%) of the respondents indicated middle level management, 26% indicated supervisor level management while 23% of the respondents indicated senior level management. This implies that majority of the respondents served as middle level managers.

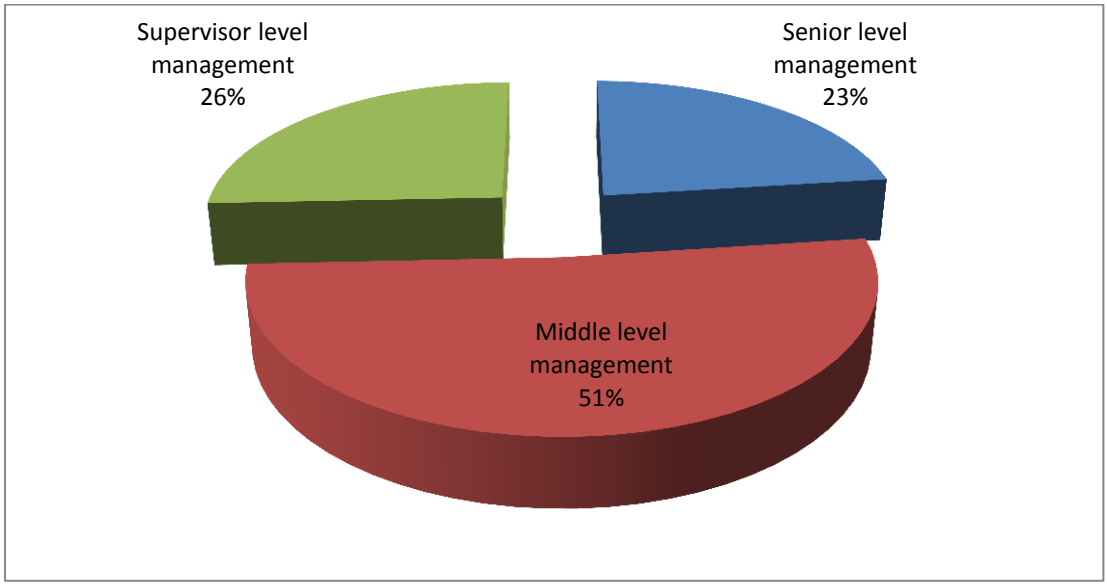

Figure 2: Respondents Position in the Company

Age of the Respondents

The respondents were asked to indicate their age. Results in figure 3 reveal that majority (69%) of the respondents indicated 31-40 years, 12% indicated above 50 years, 11% indicated 41-50 years while 8% of the respondents indicated less than 30 years. This implies the pharmaceutical industry is dominated by middle aged people. This implies that the players in this industry have the potential to improve on their performance.

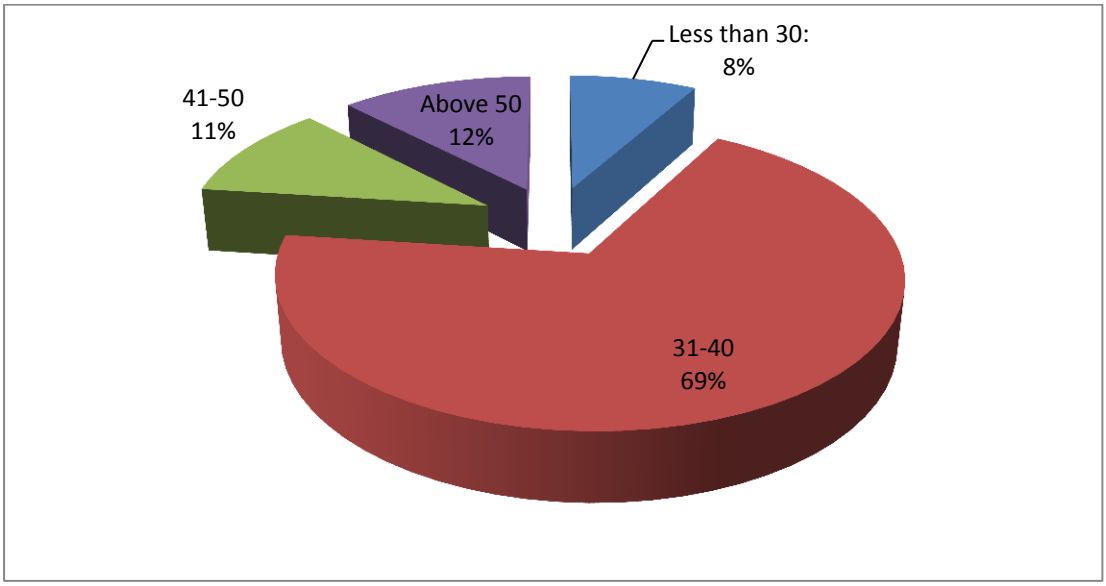

Figure 3: Age of the Respondent

Education Level

The respondents were asked to state the level of their education. Results in figure 4 reveal that majority (54%) of the respondents stated graduate level, 34% stated post graduate level while 12% of the respondents stated college level. This implies that majority of the players in the pharmaceutical industry have sufficient knowledge about pharmaceutical products.

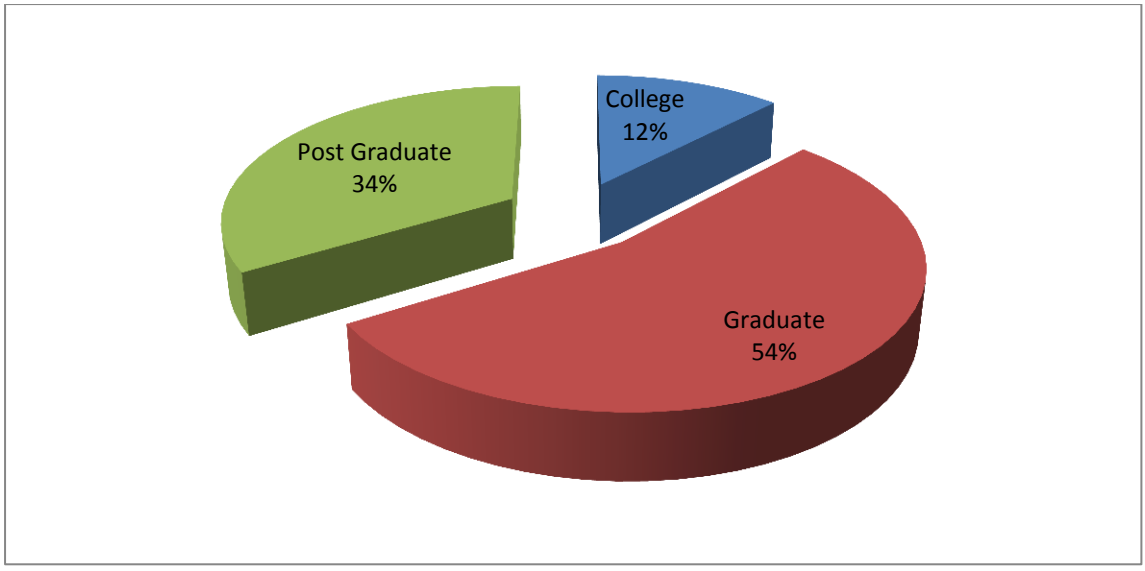

Figure 4: Education Level

Work Duration

The respondents were asked to indicate the duration of time they had worked in the pharmaceutical industry. Results in figure 5 reveal that majority (77%) of the respondents indicated more than 10 years while 23% of the respondents indicated 5-10 years. This implies that majority of the players in the pharmaceutical industry have adequate experience. This implies that they have the potential to improve on their performance.

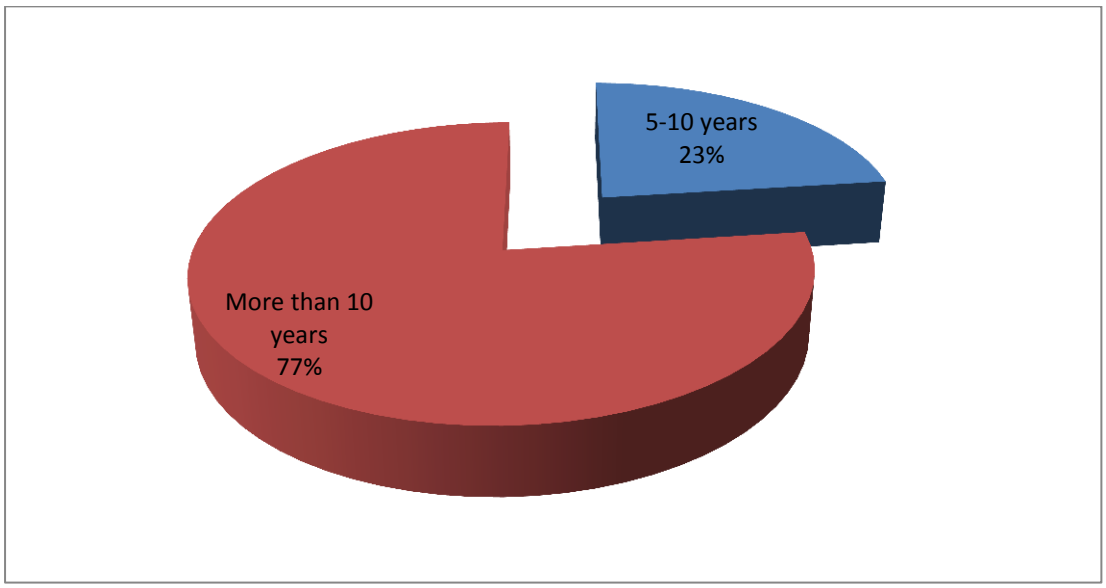

Figure 5: Work Duration

Descriptive Statistics

Supplier Training

The first objective of the study was to assess the influence of supplier training on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya. The respondents were asked to respond to statements on supplier training. The responses were rated on a five likert scale as presented in Table 2. Majority of 51% (37.8% +13.5%) of the

respondents agreed with the statement that we frequently attend pharmaceutical training workshops organized by the hospitals, 72% of the respondents agreed that training has improved the capacity of our company as a leading distributor of pharmaceutical products, 54% of the respondents agreed with the statement that we have regular training programs on distribution of pharmaceuticals organized by the hospitals, 57% of the respondents agreed with the statement that our employees attend training seminars on how to enhance their drug handling skills organized by the hospitals, however, 44% disagreed with the statement that the hospitals train our staff on how to handle pharmaceutical products

On a five point scale, the average mean of the responses was 3.30 which means that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 1.11.

Table 2: Supplier Training

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev.
We frequently attend pharmaceutical training workshops organized by the hospitals.	4.10%	20.30%	24.30%	37.80%	13.50%	3.36	1.08
The hospitals train our staff on how to handle pharmaceutical products	16.20%	28.40%	16.20%	32.40%	6.80%	2.85	1.24
Training has improved the capacity of our Company as a leading distributor of pharmaceutical products.	4.10%	12.20%	12.20%	54.10%	17.60%	3.69	1.03
We have regular training programs on distribution of pharmaceuticals organized by the hospitals	8.10%	20.30%	17.60%	54.10%	0.00%	3.18	1.03
Our employees attend training seminars on how to enhance their drug handling skills organized by the hospitals	8.10%	16.20%	18.90%	40.50%	16.20%	3.41	1.18
Average						**3.30**	**1.11**

The respondents were further asked to state whether supplier training influence their performance. Results in table 3 reveal that majority of 96% of the respondents said yes while only 4% said no. This implies that majority of the players in the pharmaceutical sector feel that training has an impact on their performance.

Table 3: Supplier Training Influence on Performance

Response	Frequency	Percent
No	3	4.1
Yes	71	95.9
Total	**74**	**100**

Information Sharing

The second objective of the study was to establish the influence of information sharing on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya. The respondents were asked to respond to statements on information sharing. The responses were rated on a five likert scale as presented in Table 4. Majority of 77% (58.1% +18.9%) of the respondents agreed with the statement that we receive timely market information about pharmaceutical products, 88% of the respondents agreed that there is effective communication between us and the hospitals, 65% of the respondents agreed with the statement that we have regular training programs on distribution of pharmaceuticals organized by the hospitals, 57% of the respondents agreed with the statement that we have invested heavily in modern information technology so as to enhance our access and dissemination of information, 80% agreed with the statement that we receive frequent updates on emerging issues in the pharmaceutical industry while 79% agreed with the statement that our information sharing systems needs improvement.

On a five point scale, the average mean of the responses was 3.90 which means that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 0.80.

Table 4: Information Sharing

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev.
We receive timely market information about pharmaceutical products	0.00%	4.10%	18.90%	58.10%	18.90%	3.92	0.74
There is effective communication between us and the hospitals	0.00%	0.00%	12.20%	66.20%	21.60%	4.09	0.58
We have invested heavily in modern information technology so as to enhance our access and dissemination of information	0.00%	12.20%	23.00%	56.80%	8.10%	3.61	0.81
We receive frequent updates on emerging issues in the pharmaceutical industry	4.10%	8.10%	8.10%	73.00%	6.80%	3.70	0.87

Our information sharing systems needs improvement	4.10%	0.00%	16.20%	32.40%	47.30%	4.19	0.99
Average						**3.90**	**0.80**

The respondents were further asked to state whether information sharing influences their performance. Results in table 5 reveal that 100% of the respondents said yes. This implies that players in the pharmaceutical sector believe that information sharing has a great impact on their performance.

Table 5: Information sharing influence on Performance

Response	Frequency	Percent
Yes	74	100

Management Support

The third objective of the study was to determine the influence of management support on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya. The respondents were asked to respond to statements on management support. The responses were rated on a five likert scale as presented in Table 6. Majority of 96% (66.2% +29.7%) of the respondents agreed with the statement that we have good working relationship with the hospitals' management, 61% of the respondents agreed that we receive timely payment from the hospitals' management, 84% of the respondents agreed with the statement that the hospitals' management recognizes our role as suppliers, however, 82% of the respondents disagreed with the statement that the hospitals' management provides us with incentives while 48% disagreed with the statement that the hospital management supports us in other areas such as research.

On a five point scale, the average mean of the responses was 3.21 which means that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 0.75.

Table 6: Management Support

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev.
We have good working relationship with the hospitals' management.	0.00%	0.00%	4.10%	66.20%	29.70%	4.26	0.53
We receive timely payment from the hospitals' management.	0.00%	8.10%	31.10%	60.80%	0.00%	3.53	0.65
The hospitals' management provides us with incentives	39.20%	43.20%	17.60%	0.00%	0.00%	1.78	0.73
The hospitals' management recognizes our role as suppliers	4.10%	0.00%	12.20%	68.90%	14.90%	3.91	0.80

The hospital management supports us in other areas such as research	20.30%	28.40%	27.00%	24.30%	0.00%	2.55	1.08
Average						**3.21**	**0.75**

The respondents were further asked to state whether management support influences their performance. Results in table 7 reveal that majority of 88% of the respondents said yes while 12% said no. This implies that majority of the players in the pharmaceutical sector feel that management support is necessary for performance improvement.

Table 7: Management support influence on Performance

Response	Frequency	Percent
No	9	12.2
Yes	65	87.8
Total	**74**	**100**

Strategic Partnership

The fourth objective of the study was to examine the influence of strategic partnership on performance of pharmaceutical suppliers for hospitals in Nairobi City County, Kenya. The respondents were asked to respond to statements on strategic partnership. The responses were rated on a five likert scale as presented in Table 8. Majority of 59% (55.4% +4.1%) of the respondents agreed with the statement that we receive frequent support on the supply of pharmaceuticals from the hospitals, 53% of the respondents agreed that through strategic partnership with the hospitals, our production facilities have improved, 72% of the respondents agreed with the statement that we are fully involved in the supply process, 87% of the respondents agreed with the statement that we should be involved more on matters pertaining to pharmaceuticals distribution while 32% agreed with the statement that we have not received adequate strategic support from the hospitals.

On a five point scale, the average mean of the responses was 3.56 which means that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 0.79.

Table 8: Strategic Partnership

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev.
We receive frequent support on the supply of pharmaceuticals from the hospitals	0.00%	12.20%	28.40%	55.40%	4.10%	3.51	0.76
Through strategic partnership with the hospitals, our production facilities have improved	0.00%	20.30%	27.00%	48.60%	4.10%	3.36	0.85
We are fully involved in the supply process.	0.00%	8.10%	20.30%	48.60%	23.00%	3.86	0.87
We have not received adequate strategic support from the hospitals	5.40%	16.20%	45.90%	32.40%	0.00%	3.05	0.84
We should be involved more on matters pertaining to pharmaceuticals distribution.	0.00%	4.10%	8.10%	71.60%	16.20%	4.00	0.64
Average						**3.56**	**0.79**

The respondents were further asked to state whether strategic partnership influences their performance. Results in table 9 reveal that 100% of the respondents said yes. This implies that the players in the pharmaceutical sector believe that strategic partnership plays a key role in their performance.

Table 9: Strategic Partnership Influence on Performance

Response	Frequency	Percent
Yes	74	100

Pharmaceutical Supplier Performance

The respondents were asked to respond to the following statements on pharmaceutical supplier performance. The responses were rated on a five likert scale as presented in Table 10. Majority of 64% (48.6% +14.9%) of the respondents agreed with the statement that supplier development has led to reduction in cost of production and distribution, 88% of the respondents agreed that supplier development has led to improvement in the quality of pharmaceuticals, 100% of the respondents agreed with the statement that supplier development has led to improvement in the delivery of pharmaceuticals, 72% of the respondents agreed with the statement that supplier development has enhanced the relationship between suppliers and the hospitals while 80% agreed with the statement that supplier development has led to improved capacity of the suppliers.

On a five point scale, the average mean of the responses was 4.00 which means that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 0.64.

Table 10: Supplier Performance

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev.
Supplier development has led to reduction in cost of production and distribution.	0.00%	8.10%	28.40%	48.60%	14.90%	3.70	0.82
Supplier development has led to improvement in the quality of pharmaceuticals	0.00%	0.00%	12.20%	62.20%	25.70%	4.14	0.60
Supplier development has led to improvement in the delivery of pharmaceuticals	0.00%	0.00%	0.00%	74.30%	25.70%	4.26	0.44
Supplier development has enhanced the relationship between suppliers and the hospitals.	0.00%	0.00%	28.40%	50.00%	21.60%	3.93	0.71
Supplier development has led to improved capacity of the suppliers	0.00%	0.00%	20.30%	60.80%	18.90%	3.99	0.63
Average						**4.00**	**0.64**

Inferential Statistics

Correlation Analysis

Table 11 below presents the results of the correlation analysis. The results revealed that supplier training and pharmaceutical suppliers performance are positively and significantly associated (r=0.397, p=0.000). The table further indicated that information sharing and pharmaceutical suppliers performance are positively and significantly associated (r=0.929, p=0.000). It was further established that management support and pharmaceutical suppliers performance are positively and significantly associated (r=0.674, p=0.000). Finally, results showed that strategic partnership and pharmaceutical suppliers performance are positively and significantly associated (r=0.570, p=0.000). This implies that a change in any unit of the variables leads to a significant change in pharmaceutical suppliers' performance.

Table 11: Correlation Matrix

		Performance	Supplier Training	Information Sharing	Management Support	Strategic Partnership
Performance	Pearson Correlation	1.000				
	Sig. (2-tailed)					
Supplier Training	Pearson Correlation	0.397	1.000			
	Sig. (2-tailed)	0.000				
Information Sharing	Pearson Correlation	0.929	0.290	1.000		
	Sig. (2-tailed)	0.000	0.012			
Management Support	Pearson Correlation	0.674	0.152	0.644	1.000	
	Sig. (2-tailed)	0.000	0.197	0.000		
Strategic Partnership	Pearson Correlation	0.570	0.211	0.418	0.239	1.000
	Sig. (2-tailed)	0.000	0.071	0.000	0.04	

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

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

Regression Analysis

The results presented in table 12 present the fitness of the regression model in explaining the study phenomena. Supplier training, information sharing, management support and strategic partnership were found to be satisfactory variables in explaining pharmaceutical suppliers' performance. This is supported by coefficient of determination also known as the R square of 93%. This means that supplier training, information sharing, management support and strategic partnership explain 93% of the variations in the dependent variable which is pharmaceutical suppliers' performance. This results further means that the model applied to link the relationship of the variables was satisfactory.

Table 12: Model Fitness

Indicator	Coefficient
R	0.964
R Square	0.929

In statistics significance testing the p-value indicates the level of relation of the independent variable to the dependent variable. If the significance number found is less than the critical value also known as the probability value (p) which is statistically set at 0.05, then the conclusion would be that the model is significant in explaining the relationship; else the model would be regarded as non-significant.

Table 13 provides the results on the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant. Further, the results imply that the independent variables are good predictors of pharmaceutical suppliers' performance. This was supported by an F statistic of 226.527 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level.

Table 13: Analysis of Variance

Indicator	Sum of Squares	df	Mean Square	F	Sig.
Regression	15.722	4	3.931	226.527	0.000
Residual	1.197	69	0.017		
Total	16.919	73			

Regression of coefficients results in table 14 shows that supplier training and pharmaceutical suppliers' performance are positively and significantly related (β=0.065, p=0.000). The table further indicates that information sharing and pharmaceutical suppliers' performance are positively and significantly related (β=0.672, p=0.000). It was further established that management support and pharmaceutical suppliers' performance are positively and significantly related (β=0.120, p=0.000). Finally, strategic partnership and pharmaceutical suppliers' performance were found to be positively and significantly related (β = 0.323, p=0.000).

Table 14: Regression of Coefficients

Variable	B	Std. Error	T	Sig.
(Constant)	-0.382	0.183	-2.089	0.040
Supplier Training	0.065	0.018	3.703	0.000
Information Sharing	0.672	0.043	15.504	0.000
Management Support	0.120	0.034	3.514	0.001
Strategic Partnership	0.323	0.054	5.968	0.000

Thus, the optimal model for the study is;

Pharmaceutical Suppliers' Performance= -0.382+ 0.065Supplier Training+ 0.672Information Sharing +0.120Management Support + 0.323Strategic Partnership

DISCUSSION CONCLUSIONS AND RECOMMENDATIONS

Discussion

The first objective of the study was to assess the influence of supplier training on performance of pharmaceutical suppliers for hospitals in Nairobi County, Kenya. Majority of the respondents noted that training has improved the capacity of their company as a leading distributor of pharmaceutical products. The employees undergo regular training programs on distribution of pharmaceuticals organized by the hospitals. Employees attend training seminars on how to enhance their drug handling skills organized by the hospitals. However, a good number of the respondents disagreed that the hospitals train pharmaceutical companies' staff on how to handle pharmaceutical products. The correlation results indicated that supplier training and pharmaceutical suppliers' performance are positively and significantly associated. The regression results showed that there is a positive and significant relationship between supplier training and pharmaceutical supplier performance as supported by a p value of 0.000 and a beta coefficient of 0.065. This implies that a unit increase in supplier training results to an improvement in pharmaceutical supplier performance by 0.065 units. The findings were also supported by the statements in the questionnaire which majority of the respondents agreed. These findings agree with that of Yegon, Lagat and Kosgei, (2015) who investigated the effect of supplier development on buyer performance. The study found out that supplier technical support and supplier financial support had positive effect on buyer performance.

The second objective of the study was to establish the influence of information sharing on performance of pharmaceutical suppliers for hospitals in Nairobi County, Kenya. Majority of the respondents noted that pharmaceutical companies receive timely market information about pharmaceutical products. There is effective communication between the companies and the hospitals. The organizations have invested heavily in modern information technology so as to enhance access and dissemination of information. The Companies receive frequent updates on emerging issues in the pharmaceutical industry. Further, the respondents pointed out that the companies' information sharing systems needs improvement. The correlation results indicated that information sharing and pharmaceutical suppliers' performance are positively and significantly associated. The regression results showed that there is a positive and significant relationship between information sharing and pharmaceutical supplier performance as supported by a p value of 0.000 and a beta coefficient of 0.672. This implies that a unit increase in information sharing results to an improvement in pharmaceutical supplier performance by 0.672 units. The findings were also supported by the statements in the questionnaire which majority of the respondents agreed. The findings agree with that of Carr and Pearson (2011) who investigated the linkage between the implementation of supplier evaluation and a firm's financial performance. In their empirical research, they found evidence of the relationship between effective communication with suppliers and a firm's financial performance.

The third objective of the study was to determine the influence of management support on performance of pharmaceutical suppliers for hospitals in Nairobi County, Kenya. Majority of the respondents observed that they have a good working relationship with the hospitals' management. The companies receive timely payment from the hospitals' management. The

hospitals' management recognizes the suppliers' role. However, the respondents disagreed that hospitals' management provides them with incentives. Further, a good number of the respondents disagreed that the hospital management supports them in other areas such as research. The correlation results indicated that management support and pharmaceutical suppliers' performance are positively and significantly associated. The regression results showed that there is a positive and significant relationship between management support and pharmaceutical supplier performance as supported by a p value of 0.001 and a beta coefficient of 0.120. This implies that a unit increase in management support results to an improvement in pharmaceutical supplier performance by 0.120 units. The findings were also supported by the statements in the questionnaire which majority of the respondents agreed. The findings agree with that of Wagner (2006) who noted that a supplier who is properly and adequately financially supported augment the buyers' ability to deliver high-quality and innovative products to its customers and thus reduces buyers operational risks. The study concludes that Supplier's financial support is critical in determining the supplier's ability to remain financially solvent. Further, financial support enhances suppliers' capability and capacity to cope with the buyers' requirement and therefore strengthens the suppliers' capacity to meet resource requirements by the buyer.

The fourth objective of the study was to examine the influence of strategic partnership on performance of pharmaceutical suppliers for hospitals in Nairobi County, Kenya. Majority of the respondents noted that the companies receive frequent support on the supply of pharmaceuticals from the hospitals. Through strategic partnership with the hospitals, the firms' production facilities have improved. The firms should be involved more on matters pertaining to pharmaceuticals distribution. The correlation results indicated that strategic partnership and pharmaceutical suppliers' performance are positively and significantly associated. The regression results showed that there is a positive and significant relationship between strategic partnership and pharmaceutical supplier performance as supported by a p value of 0.000 and a beta coefficient of 0.323. This implies that a unit increase in strategic partnership results to an improvement in pharmaceutical supplier performance by 0.323units. The findings were also supported by the statements in the questionnaire which majority of the respondents agreed. The findings agree with that of Duba (2009) who investigated the influence of strategic partnership between commercial banks and telecommunication companies in Kenya. The findings of the study revealed that strategic partnership has a positive influence on the relationship between commercial banks and telecommunication companies in Kenya.

Conclusions

From the correlation results, the study concluded that there is a positive and significant association between supplier training and performance of pharmaceutical suppliers. This means that supplier training and performance of pharmaceutical suppliers changes in the same direction. Further, from the regression results the study concluded that supplier training has a positive and significant influence on the performance of pharmaceutical suppliers in Nairobi County.

Based on the correlation results, the study concluded that there is a positive and significant association between information sharing and performance of pharmaceutical suppliers. This means that information sharing and performance of pharmaceutical suppliers change in the same direction. Further, from the regression results the study concluded that information

sharing has a positive and significant influence on the performance of pharmaceutical suppliers in Nairobi County.

Based on the correlation results, the study concluded that there is a positive and significant association between management support and performance of pharmaceutical suppliers. This means that management support and performance of pharmaceutical suppliers change in the same direction. Further, from the regression results the study concluded that management support has a positive and significant influence on the performance of pharmaceutical suppliers in Nairobi County.

From the correlation results, the study concluded that there is a positive and significant association between strategic partnership and performance of pharmaceutical suppliers. This means that strategic partnership and performance of pharmaceutical suppliers change in the same direction. Further, from the regression results the study concluded that strategic partnership has a positive and significant influence on the performance of pharmaceutical suppliers in Nairobi County.

Recommendations

Based on the findings the study recommends that pharmaceutical companies should invest resources in training their employees on how to handle pharmaceutical products. Similarly, hospitals should also invest resources in training their pharmaceutical suppliers. This will ensure that the suppliers meet the expectations of the hospitals. Further, the study recommends that hospitals organize for workshops and seminars so as to train their pharmaceutical suppliers. The training will provide the opportunity to transfer tacit knowledge which in turn will improve supplier's competences that will then improve on their performance.

The study recommended that there should be better cooperation between the hospitals and pharmaceutical suppliers. This can only be achieved through proper information sharing between the two parties. Through information sharing, hospitals will be able to get rid of poorly performing suppliers, thus increasing their satisfaction with their suppliers' performance. Further, the study recommended that both the hospitals and the pharmaceutical suppliers should find a reliable and convenient communication media. This will enhance information sharing between the two parties.

The study recommended that both the hospitals and the pharmaceutical suppliers' management should establish a good working relationship. Further, the study recommended that the hospitals management should develop ways on how to support their pharmaceutical suppliers. For example, financial support will enhance suppliers' capability and capacity to cope with the hospitals' requirement and therefore strengthens the suppliers' capacity to meet resource requirements by the hospitals.

The study recommended for the establishment of strategic partnerships between the hospitals and the pharmaceutical suppliers. For example, the hospitals management should ensure that they strengthen the capacity of their suppliers. Further, the government should provide strategic support to the pharmaceutical suppliers. This will ensure that the suppliers deliver quality and timely products.

Areas of further research

The study recommends that a similar study should be conducted in other counties for comparison purposes. The study also recommends that a study seeking to establish other

supplier development practices that affect performance of pharmaceutical suppliers should be conducted.

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