

European Journal of
Business and Strategic Management
(EJBSM)

**EFFECT OF STRATEGIC VALUE CHAIN POSITIONING ON
FIRM'S PERFORMANCE: A CASE OF PHARMACEUTICAL
SUPPLY CHAIN FIRMS IN KENYA**

George Muriithi Munyi and Dr. Jared Deya

Strategy

EFFECT OF STRATEGIC VALUE CHAIN POSITIONING ON FIRM'S PERFORMANCE: A CASE OF PHARMACEUTICAL SUPPLY CHAIN FIRMS IN KENYA

¹*George Muriithi Munyi

Post Graduate Student: Jomo Kenyatta University of Agriculture and Technology

*Corresponding Author's E-mail: muriithigm144@gmail.com

¹Dr. Jared Deya

Lecturer: Jomo Kenyatta University of Agriculture and Technology

Abstract

Purpose: The purpose of the study was to assess effect of strategic value chain positioning on performance of Kenya's pharmaceutical firms.

Methodology: Descriptive research design was used in this study. The target population for this study was members of staff drawn from the 152 pharmaceutical distributors in Nairobi. A critical sample of 10 firms was considered. Purposive sampling was used to arrive at an adequate sample size. The sample size was 40 people focusing on four officers per firm that is procurement, warehouse and logistics, marketing or customer service and finance managers. The data was collected using a self-administered questionnaire. Data analysis was done through descriptive and inferential statistics using SPSS with the main analysis tools being frequencies, means, standard deviation, and regression analysis. The results were then presented, discussed and interpreted. Finally, a summary, conclusions and recommendations were presented. The significance level was set at 0.05 and the confidence interval at 95%.

Results: The findings of the study indicated that logistics management, operational practices, customer engagement and strategic procurement have a positive relationship with performance of pharmaceutical firms.

Unique contribution to theory, practice and policy: It would be constructive for pharmaceutical firms to invest more in reducing operational costs to reduce the cost of operations through unnecessary reworks and ensure accuracy in operations through get it right the first time approach. They should form strategic alliances with their vendors so as to have a more improved working relationship characterized by electronic data interchange which ensure customers get what they want as when they need it this can be actualized through e-commerce. There is need for pharmaceutical firms to always set aside a substantial part of their resources for activities that spend a huge amount of total resources, and this entails the strategic procurement management. Procurement staff in the pharmaceutical firms should ensure that they strictly follow strategic value chain positioning procedures to ensure that goods supplied are of the right quality, in the right quantity, at the right time, to the right place from the right source at the most competitive price.

Keywords: *Strategic value chain positioning, Performance, Pharmaceutical firms.*

1.0 INTRODUCTION

A value chain helps a firm to identify and focus on strategic activities with an aim of identifying and controlling costs while exploiting possible areas of differentiation. The value chain as designed by Porter, emphasizes that a firm should focus on activities that create value by minimizing cost and offering differentiated services and products (Kannegiesser, 2008). Whereas the value chain focuses on the internal capacity and efficiency of a firm, the supply chain extends the scope towards inter-company material and information flows from raw materials to the end consumer (Kannegiesser, 2008)

A well-managed supply chain seeks better interactions between firms operating within the same the supply chain to improve service delivery, better utilization of resources and save costs particular for holding inventories. Individual businesses can no longer compete as solely autonomous entities, but rather as supply chains. (Kannegiesser, 2008). Pharmaceutical industry is hugely considered as an area of business that involves health and hence greatly concerns the wider public. Whewell (2009) noted that the healthcare and pharmaceutical industries are hugely complex because they involve a critical number of markets, intermediaries, processes, and products. Furthermore, the two industries are heavily regulated across the world owing to the fact that not everyone engages in them.

Changes in one area of the pharmaceutical industry bear significant impact upon others. According to Robson (2006), "External factors such as pricing, regulatory change or actions by competing firms, affect the entire supply chain in ways that are not easily understood or properly managed." Funding in the healthcare sector in Kenya is expected to increase due to the government initiative on Universal Health Coverage (UHC). The initiative is meant to improve access to quality services however medical supply chain organizations need to provide the products at an affordable price while sustaining their operations. There exists a challenge of limited resources and increased operational costs resulting to high costs of treatment (World Health Organization, 2018).

Pharmaceutical industry majorly delegates the function of supply and distribution to wholesalers as well as third-party logistics providers making it less advanced in comparison with other sectors when it comes to channel management. Robson (2006) views this as a weakness of the pharmaceutical industry limits the quantity of data regarding product flow and patient demand that ought to reach the manufacturer. This has resulted into a major problem which has yielded the necessity for parallel importation from cheaper to more expensive markets. Therefore, it becomes more difficult for pharmaceutical firms to guarantee the quality and integrity of their products after they leave their store.

Value chain describes the set of processes and activities that a corporation undertakes to generate value for its customers and gain competitive advantage. In Porter's value chain, inbound logistics, operations, outbound logistics, marketing and sales, and service are categorized as primary activities. Secondary activities include procurement, human resource management, technological development and infrastructure (Christopher & Holweg, 2011).

Value chain concept is anchored on the basis that a firm has a collection of functions that are geared towards conceptualizing, formulating and actualizing the products and services that create

value for the firm. Porter (1985) derives the concept of “margin” which is the difference between total value and the collective cost of performing the value activities (Christopher & Holweg, 2011).

1.2 Statement of the Problem

A well-managed and organized supply chain seeks better interaction between companies in the same supply chain. This is geared towards improving service delivery, resource utilization and to save costs particular for holding inventories. (Kannegiesser, 2008). According to Kannegiesser, (2008), the above approach requires a cross-company coordination and information exchange platform in order to create transparency and accurate information about material flows in the chain as basis for decisions. In addition, full collaboration and trust rather than the competition between different companies is required.

Monitoring the firm’s performance through strategic value chain can help give a firm competitive advantage over the industry. According to Kurien (2011), whose study focused on performance measurement practices in supply chain he notes that all players in the supply chain should be involved and focused to common goals of efficiency and customer satisfaction. The specific business problem is that funding healthcare sector in Kenya is expected to increase due to the government initiative on Universal Health Coverage (UHC) but lack strategic initiatives in supply chain management may lead to increased operational costs hence reduced profit margins and high cost of medicines. The Ministry of health is considering imposing price caps on medicines meaning the supply chain firms have to be efficient in their operations to control their costs for sustainability. The Ministry of health through the Cabinet Secretary while addressing Horn of Africa Pharmaceutical Conference and Expo in October 2018 indicated that a structure to monitor pricing of drugs through updated Market Price Index data was being explored (Horn of Africa Pharmaceutical report, 2018).

Based on the existing literature, it is evident that the pharmaceutical sector is not widely researched in developing countries because of many dynamics involved in this supply chain. Based on an extensive review of pharmaceutical supply chains, research gaps are identified in different areas such as logistics management, operations management, sales and marketing and strategic procurement. There exists limited literature investigating the implications of these strategic issues in Kenya’s pharmaceutical industry. Scholars have made efforts to research on the supply chain among pharmaceutical firms, however their focus was on developed economies. Being a developing economy, there is a need to study these effects in Kenya hence this forms a research gap. It is against this background that this study seeks to establish the effect of strategic value chain positioning on performance of Kenya’s pharmaceutical firms.

1.3 Objectives of the Study

To investigate the effect of strategic value chain positioning on performance of Kenya’s pharmaceutical firms.

1.3.1 Specific Objectives

- i. To establish the effect of strategic logistics management on pharmaceutical firm’s performance in Kenya
- ii. To identify the effect of strategic operational practices on pharmaceutical firm’s performance in Kenya

- iii. To establish the effect of strategic customer engagement on pharmaceutical firm's performance in Kenya
- iv. To identify the effect strategic procurement on pharmaceutical firm's performance in Kenya

2.0 LITERATURE REVIEW

2.1 Theoretical Review

2.2.1 Theory of constraints (TOC)

Theory of constraint which is a systems-management philosophy was developed by Eliyahu M. Goldratt in the early 1980s. This theory indicates that there exists constraints or challenges that limit the full performance of a system. The theory advocates that a firm's management should focus on strategically and effectively eliminating the bottlenecks by assessing the firm's capacity to significantly improve performance (Cox & Schleier, 2010). TOC poses a challenges for the managers to rethink and re-evaluate the inherent assumptions within an organization that can hinder superior performance. In the pharmaceutical supply chain, there exists several constraints that affect the overall effectiveness of the firms. Increased operating costs, high inventory holding, expiries, long order processing timelines and perennial stock-outs are some of the inherent challenges (Margaret, 2013). This theory was important to resolve these challenges and was largely used to support the operation practices independent variable.

2.2.2 Systems Theory

Systems theory has various principles. The first principle indicates that the longer the supply chain in terms of its links (that is, third, fourth or more party logistics providers are involved (Whitney, 2015), the less adaptable the supply chain are to possible changes needed for it to survive. The second principle of the systems theory indicates that supply chains firms can take the opportunity to outsource non-core functions to other organizations by adopting new strategies such as vendor-managed inventory to make operations efficient (Johnson, Kast & Rosenzweig, 2009). The third principle argues that organizations are broken down to smaller subsystems hence not monolithic. In the fourth principle of the systems theory, Johnson, Kast and Rosenzweig (2009) stated that information system, even though they are artificial constructs, do in fact grow. A well-functioning supply chain is supported by a coherent system and sub system. According to Margaret (2013), the various functions or departments within a firm tend to operate in isolation as silos affecting the system dynamics. This theory was used to explain the importance of synergy within a system and supported the need of synergy on value chain components hence supporting the four independent variables.

2.2.3 Resource Based Theory

This theory gives answers to the need of creating organizational identity through the inherent resources and capabilities (Barney, 1991). RBV insists that for successful firm to find their future competitiveness, they must effectively identify and develop unique capabilities. The capabilities are often implicit or intangible (Teece, 2011). The success of any firm is hence pegged the firm's unique resources and capabilities (Rousse, 2014). The supply chain firms in Kenya possess resources that are valuable, they are rare, hard to imitate and if well exploited, they create value

for the firm (Margaret, 2013). This theory focused on exploiting those inherent resources hence supporting the four independent variables

2.2.4 Competitive Advantage Theory

Michael porter in his theory of competitive advantage indicated that a firm can gain a hedge over competition through cost leadership, differentiation and focus strategies (Dess & Davis, 1984; Nayyar, 1994). To gain superior profits and outperform its competitors, a firm must make strategic choices between the cost leadership differentiation and focus strategy. The strategy of Cost leadership requires a firm to offer products at a sustainable lower prices compared to the competition (Porter, 1985). The lowered cost is realized by being efficient through cost reduction in the production and distribution. The benefits of reduced cost of production is further passed to clients through lowered prices. To sustain differentiation, the firm has to offer a price that exceeds the extra cost incurred in designing the unique products. This theory strongly supports the sales and marketing independent variable.

2.3 Empirical Review

2.3.1 Logistics Management

Owuoth (2010) discusses that the purpose of a well-managed value chain within the bigger supply chain is to attain seamless interactions within the organizations. This reduces cost and enables a win-win situation for all stake holders. A supply chain benefits from an effective and efficient Logistic function through cost and waste reduction while improving customer service levels. Logistics management had received much attention over the past decade from practitioners and government (Tilokavichai *et al.*, 2012). Realizing the importance of sustainability in logistics management was critical for competitive advantage because operational performance had a positive impact on company's financial performance.

2.3.2 Operational Practices

Pearson (2010) observed that operations management is a multidisciplinary area of specialization within a firm. The operations function ensures that materials and human resource are utilized in the most effective and efficient way possible within an organization – thus maximizing the output. Managers involved in operations are held responsible for the roles that contribute to the smooth efficient service delivery. The inherent nature of the operations will vary depending on the organizations co mandate and the strategies in place. The operations are responsible for value creation through optimal utilization of resources while ensuring quality and timely services.

2.3.3 Sales and marketing

Marketing and sales activities which involves selling, branding and promoting. A lot of emphasis has been put on quality marketing as well-trained sales force (Byegon, 2015). Apollo (2010) conducted a survey published by the Aberdeen Group, that noted that in the year 2010, despite the prevailing economic conditions in the US, Firms that had highly-aligned their marketing and sales strategy managed to average 20% annual revenue growth - as opposed to a 4% decline for their poorly-aligned competitors. From his study, he observed that firms which performed well had the following fundamental initiatives in place. They were closely monitored for effectiveness. Focused service level agreement between sales and marketing teams benefit from agreeing and having this

documented the service level agreements that formulates the common understanding between the teams. The roles and responsibilities are defined with accountability and timelines clearly put. The two functions commit to work together and they share joint key performance indicators (Apollo, 2010).

2.3.4 Strategic procurement

Strategic procurement plays a critical role in the supply chain firm. This function ensures sourcing is strategically done and a firm fulfills its mission and objectives. Procurement engages suppliers and seeks to create a mutually beneficial relationship between the firm and the suppliers (Masiko, 2013). Strategic procurement is perfectly demonstrated in three key areas which supplier engagement and development, internal are sourcing to maintain quality and drive down cost, creating customer satisfaction by timely availability of products. This is considered as an important and strategic function for any supply chain firm (Margaret, 2013). Strategic procurement models like lean procurement, just in time and vendor managed merchandise are important aspects that the procurement function oversees to create value for any organization (Kocabasoglu, 2012).

2.3.5 Supply Chain Performance

According to Tan (1999) supply chain management is viewed from 3 key levels. Strategic level being at the top while tactical and operational levels follow. At the highest level of strategy, the firm makes high-level decisions that impact the direction of the organization. The operational and tactical strategies define how the organization gain competitive advantage by redesigning the operations to create efficiency. The processes within the firms are supposed to cover all functions along the supply chain. These functions are product development, the suppliers, production, logistics and consumers. (Anderson, Britt & Favre, 1997).

In the pharmaceutical industry, the eventual cost of medication will be determined by the efficiency of the supply chain. To achieve a good-functioning health delivery supply chain, the medical products must be affordable and accessible. The availability of medicines and the necessary supplies is estimated at 38% in public health facilities and 60% in private health facilities (WHO/HAI, 2008). For firms to achieve their desired internal objectives while meeting their co mandates, they need to address internal problems and position themselves along the supply chain to create value for consumers and stake holders (Arndt, 2014).

3.0 METHODOLOGY

Descriptive research design was used in this study. The target population for this study was members of staff drawn from the 152 pharmaceutical distributors in Nairobi. A critical sample of 10 firms was considered. Purposive sampling was used to arrive at an adequate sample size. The sample size was 40 people focusing on four officers per firm that is procurement, warehouse and logistics, marketing or customer service and finance managers. The data was collected using a self-administered questionnaire. Data analysis was done through descriptive and inferential statistics using SPSS with the main analysis tools being frequencies, means, standard deviation, and regression analysis. The results were then presented, discussed and interpreted. Finally, a summary, conclusions and recommendations were presented. The significance level was set at 0.05 and the confidence interval at 95%.

4.0 FINDINGS AND DISCUSSIONS

4.1 Descriptive Analysis

The responses were rated on a Likert scale and the results presented in Tables. It was rated on a 5 point Likert scale ranging from; 1 = strongly disagree (SD) to 5 = strongly agree (A), where Strongly Agree (SA) = 5 Agree (A) = 4 Neutral (N) = 3 Disagree (D) = 2 and Strongly Disagree (SD) = 1. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'neutral' has been taken to represent a statement agreed upon, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.

4.1.1 Logistics Management

Table 1: Logistics Management

Statements	SA	A	N	D	SD	Mean	Std. Dev
Delivery timelines play a significant role in return on investment	8.8%	5.9%	27.9%	26.5%	30.9%	3.65	1.231
Distribution cost plays a significant role in return on investment	1.5%	4.4%	39.7%	50.0%	4.4%	3.51	0.723
Consignment security plays a significant role in return on investment	2.9%	2.9%	33.8%	33.8%	26.5%	3.78	0.975
Delivery timelines play a significant role in improving customer satisfaction index	5.9%	4.4%	5.9%	41.2%	42.6%	4.10	1.095
Distribution cost plays a significant role in improving customer satisfaction index	5.9%	1.5%	10.3%	39.7%	42.6%	4.12	1.058
Consignment security plays a significant role in improving customer satisfaction index	8.8%	2.9%	5.9%	41.2%	41.2%	4.03	1.184
Delivery timelines play a significant role in improving order fill rates	4.4%	1.5%	2.9%	47.1%	44.1%	4.25	0.936
Distribution cost play a significant role in improving order fill rates	0.0%	0.0%	29.4%	29.4%	41.2%	4.12	0.838
Consignment security plays a significant role in improving order fill rates	5.9%	2.9%	7.4%	33.8%	50.0%	4.19	1.096
Average						3.97	1.015

Results indicated that majority of the respondents 57.4% agreed on the statement that Delivery timelines play a significant role in return on investment. Further results indicated that 54.4% of the respondents were in agreement that Distribution cost plays a significant role in return on investment. A 60.3% of the respondents agreed that Consignment security plays a significant role in return on investment.

83.8% of the respondents expressed agreement on the statement that Delivery timelines play a significant role in improving customer satisfaction index. Results indicated that majority of the

respondents 82.3% agreed on the statement that Distribution cost plays a significant role in improving customer satisfaction index. Results indicated that majority of the respondents 82.4% agreed on the statement that Consignment security plays a significant role in improving customer satisfaction index.

Results also indicated that majority of the respondents 91.2% agreed on the statement that Delivery timelines by suppliers play a significant role in improving order fill rates. Results indicated that majority of the respondents 70.6% agreed on the statement that Distribution cost play a significant role in improving order fill rates in terms of orders placed. Results indicated that majority of the respondents 83.8% agreed on the statement that Consignment security from vendors plays a significant role in improving order fill rates.

The average mean of all the statements was 3.97 indicating that majority of the respondents agreed on the statement that strategic logistics management on performance of pharmaceutical firms in Nairobi County. However, the variations in the responses were varied as shown by a standard deviation of 1.015. The findings agree with Margaret (2013) that practicing strategic logistics management when doing prudent management can be smart and rewarding

4.1.2 Operational Practices

Table 2: Operational Practices

Statements	SA	A	N	D	SD	Mean	Std. Dev
Order processing timelines play a significant role in return on investment	4.4%	4.4%	38.2%	27.9%	25.0%	3.65	1.048
Inventory holding plays a significant role in return on investment	5.9%	2.9%	29.4%	35.3%	26.5%	3.74	1.074
Operational cost plays a significant role in return on investment	4.4%	2.9%	23.5%	29.4%	39.7%	3.97	1.079
Order processing timelines play a significant role in improving customer satisfaction index	7.4%	2.9%	5.9%	42.6%	41.2%	4.07	1.124
Inventory holding plays a significant role in improving customer satisfaction index	2.9%	4.4%	5.9%	52.9%	33.8%	4.10	0.917
Operational cost plays a significant role in improving customer satisfaction index	20.6%	14.7%	17.6%	19.1%	27.9%	3.19	1.509
Order processing timelines play a significant role in improving order fill rates	20.6%	11.8%	19.1%	19.1%	29.4%	3.25	1.51
Inventory holding play a significant role in improving order fill rates	5.9%	22.1%	20.6%	17.6%	33.8%	3.51	1.321
Operational cost plays a significant role in improving order fill rates	5.9%	26.5%	22.1%	27.9%	17.6%	3.25	1.202
Average						3.63	1.198

Results indicated that majority of the respondents 52.9% agreed on statement that Order processing timelines play a significant role in return on investment. Further results indicated

that 61.8% of the respondents were in agreement that Inventory holding plays a significant role in return on investment. 69.1% of the respondents agreed that Operational cost plays a significant role in return on investment.

83.8% of the respondents expressed agreement on the statement that Order processing timelines play a significant role in improving customer satisfaction index. Results indicated that majority of the respondents 86.7% agreed on the statement that Inventory holding plays a significant role in improving customer satisfaction index. Results indicated that a sizeable number of respondents 47% agreed on the statement that Operational cost plays a significant role in improving customer satisfaction index.

Results indicated that majority of the respondents 48.5% agreed on the statement that Order processing timelines play a significant role in improving order fill rates. Results indicated that majority of the respondents 81.4% agreed on the statement that Inventory holding play a significant role in improving order fill rates. Results indicated that 45.5% respondents agreed on the statement that Operational cost plays a significant role in improving order fill rates.

The average mean of all the statements was 3.63 indicating that majority of the respondents agreed operational practices had an effect on performance of the pharmaceutical firms in Nairobi County. However, the variations in the responses were varied as shown by a standard deviation of 1.198. These findings agree with Howard (2014) that organizations must look toward their operational practices improvements. The opportunities for cost savings and partnerships improvements can be enormous as the impact on margins and bottom line is considerable.

4.1.3 Customer Engagement

Table 3: Customer Engagement

Statements	SA	A	N	D	SD	Mean	Std. Dev
Sales and marketing initiatives play a significant role in return on investment	4.4%	4.4%	25.0%	32.4%	33.8%	3.87	1.078
Promotion/marketing initiatives plays a significant role in return on investment	7.4%	1.5%	35.3%	33.8%	22.1%	3.62	1.079
After sales services plays a significant role in return on investment	2.9%	4.4%	36.8%	30.9%	25.0%	3.71	0.993
Sales and marketing initiatives play a significant role in improving customer satisfaction index	7.4%	2.9%	23.5%	27.9%	38.2%	3.87	1.183
Promotion/marketing initiatives plays a significant role in improving customer satisfaction index	10.3%	1.5%	22.1%	44.1%	22.1%	3.66	1.154
After sales services plays a significant role in improving customer satisfaction index	5.9%	2.9%	36.8%	29.4%	25.0%	3.65	1.076
Sales and marketing initiatives play a significant role in improving order fill rates	19.1%	13.2%	19.1%	16.2%	32.4%	3.29	1.517
Promotion/marketing initiatives play a significant role in improving order fill rates	5.9%	5.9%	5.9%	39.7%	42.6%	4.07	1.124
After sales services plays a significant role in improving order fill rates	4.4%	2.9%	5.9%	39.7%	47.1%	4.22	1.005
Average						3.77	1.134

Results indicated that 66.2% agreed on the statement that Sales and marketing initiatives play a significant role in return on investment. Majority of the respondents 55.9% agreed on the statement that Promotion/marketing initiatives plays a significant role in return on investment. Further results indicated that 55.9% of the respondents were in agreement that After sales services plays a significant role in return on investment.

66.1% of the respondents agreed that Sales and marketing initiatives play a significant role in improving customer satisfaction index. 66.4% of the respondents expressed agreement on the statement that Promotion/marketing initiatives plays a significant role in improving customer satisfaction index. Results indicated that majority of the respondents 54.4% agreed on the statement that after sales services plays a significant role in improving customer satisfaction index.

Results indicated that majority of the respondents 48.6% agreed on the statement that Sales and marketing initiatives play a significant role in improving order fill rates. Results indicated that majority of the respondents 82.3% agreed on the statement that Promotion/marketing initiatives

play a significant role in improving order fill rates. Results indicated that majority of the respondents 86.8% agreed on the statement that after sales services plays a significant role in improving order fill rates.

The average mean of all the statements was 3.77 indicating that majority of the respondents agreed on customer engagement having an effect on performance of the pharmaceutical firms in Nairobi County. However, the variations in the responses were varied as shown by a standard deviation of 1.134. These findings imply that through customer engagement, companies can improve competitive positioning, gain entry to new dynamic, technology driven markets, supplement critical skills and share the risk (Nzioka, 2013).

4.1.4 Strategic Procurement

Table 5: Strategic Procurement

Statements	SA	A	N	D	SD	Mean	Std. Dev
Procurement model play a significant role in return on investment	4.4%	4.4%	4.4%	44.1%	42.6%	4.16	1.016
Supplier engagement plays a significant role in return on investment	4.4%	4.4%	4.4%	36.8%	50.0%	4.24	1.038
Order fulfilment plays a significant role in return on investment	4.4%	1.5%	10.3%	41.2%	42.6%	4.16	0.987
Procurement model play a significant role in improving customer satisfaction index	8.8%	4.4%	7.4%	38.2%	41.2%	3.99	1.215
Supplier engagement plays a significant role in improving customer satisfaction index	2.9%	1.5%	2.9%	41.2%	51.5%	4.37	0.862
Order fulfilment plays a significant role in improving customer satisfaction index	4.4%	1.5%	2.9%	44.1%	47.1%	4.28	0.944
Procurement model play a significant role in improving order fill rates	1.5%	0.0%	5.9%	52.9%	39.7%	4.29	0.714
Supplier engagement play a significant role in improving order fill rates	4.4%	2.9%	2.9%	51.5%	38.2%	4.16	0.956
Order fulfilment plays a significant role in improving order fill rates	4.4%	2.9%	5.9%	44.1%	42.6%	4.18	0.992
Average						4.2	0.969

Results indicated that majority of the respondents 86.7% agreed on the statement that Procurement model play a significant role in return on investment. Further results indicated that 86.8% of the respondents were in agreement that Supplier engagement plays a significant role in return on investment. An 83.8% of the respondents agreed that Order fulfilment plays a significant role in return on investment.

79.4% of the respondents expressed agreement on the statement that Procurement model play a significant role in improving customer satisfaction index. Results indicated that majority of the respondents 92.7% agreed on the statement that Supplier engagement plays a significant role in improving customer satisfaction index. Results indicated that majority of the respondents 91.2% agreed on the statement that Order fulfilment plays a significant role in improving customer satisfaction index.

92.6% of the respondents expressed agreement on the statement that Procurement model play a significant role in improving order fill rates. Results indicated that majority of the respondents 89.7% agreed on the statement that Supplier engagement play a significant role in improving order fill rates. Results indicated that majority of the respondents 86.7% agreed on the statement that Order fulfilment plays a significant role in improving order fill rates.

The average mean of all the statements was 4.20 indicating that majority of the respondents agreed strategic procurement had an effect on performance of pharmaceutical firms in Nairobi County. However, the variations in the responses were varied as shown by a standard deviation of 0.969. The results imply that an organization benefits greatly when strategic procurement is embraced to reduce costs (Croom & Jones, 2010).

4.2 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 independent 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 6.

Table 6: Summary of Pearson's Correlations

		Logistics Management	Operational Practices	Customer Engagement	Strategic Procurement	Pharmaceutical Firm's Performance
Logistics Management	Pearson Correlation	1				
	Sig. (2-tailed)					
Operational Practices	Pearson Correlation	.863**	1			
	Sig. (2-tailed)	0.000				
Customer Engagement	Pearson Correlation	.904**	.959**	1		
	Sig. (2-tailed)	0.000	0.000			
Strategic Procurement	Pearson Correlation	.890**	.889**	.905**	1	
	Sig. (2-tailed)	0.000	0.000	0.000		
Pharmaceutic al Firm's Performance	Pearson Correlation	.744**	.663**	.721**	.812**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

** Correlation is Significant at the 0.05 Level (2-Tailed).

The correlation summary shown in Table 4.10 indicates that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The correlation analysis to determine the relationship between strategic value chain positioning and performance of the pharmaceutical firms in Nairobi County, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship ($r=0.744$) between strategic logistics management and performance of pharmaceutical firms in Nairobi County. 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 strategic operational practices and performance of pharmaceutical firms in Nairobi County, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship ($r=0.663$) between strategic operational practices and performance of pharmaceutical firms in Nairobi County. 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 strategic customer engagement and performance of pharmaceutical firms in Nairobi County, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship ($r=0.721$) strategic customer engagement and performance of pharmaceutical firms in Nairobi County. 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 strategic procurement and performance of pharmaceutical firms in Nairobi County, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship ($r=0.812$) between strategic procurement and performance of pharmaceutical firms in Nairobi County. In addition, the researcher found the relationship to be statistically significant at 5% level ($p=0.000, <0.05$).

4.3 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 pharmaceutical firms in Nairobi County) which can be predicted from the independent variables (logistics management, operational practices, customer engagement and strategic procurement).

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.832 ^a	.693	.673	.1194

Predictors: (Constant), Logistics Management, Operational Practices, Customer Engagement and Strategic Procurement

Dependent Variable: Performance of Pharmaceutical firms

Table 7 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 0.832 indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.693 means that 69.3% of the corresponding variation in performance of pharmaceutical firms in Nairobi County can be explained or predicted by (logistics management, operational practices, customer engagement and strategic procurement). The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at ($\beta = 0.1194$), $p=0.000 <0.05$).

Table 8: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.03	4	0.508	18.815	.000 ^b
	Residual	0.9	33	0.027		
	Total	2.93	37			

Predictors: (Constant), Logistics Management, Operational Practices, Customer Engagement and Strategic Procurement

Dependent Variable: Performance of Pharmaceutical firms

The significance value is 0.000 which is less than 0.05 thus the model is statistically significance in predicting how logistics management, operational practices, customer engagement and strategic procurement affect performance of pharmaceutical firms in Nairobi County. The F critical at 5% level of significance was 6.80. Since F calculated which can be noted from the ANOVA table above is 18.815 which is greater than the F critical (value = 6.80), this shows that the overall model was significant. The study therefore establishes that; logistics management, operational practices, customer engagement and strategic procurement were all important factors affecting performance of pharmaceutical firms. These results agree with Margaret (2013) results which indicated a positive and significant effect of strategic value chain positioning on performance of pharmaceutical firms.

Table 9: Coefficients of Determination

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	β	Std. Error	Beta		
1 (Constant)	1.197	1.119		1.07	0.028
Logistics Management	0.913	0.186	0.895	4.908	0.000
Operational Practices	0.628	0.268	0.591	2.343	0.002
Customer Engagement	0.255	0.329	0.138	0.774	0.004
Strategic Procurement	0.245	0.206	0.353	1.189	0.003

a) Predictors: (Constant), Logistics Management, Operational Practices, Customer Engagement and Strategic Procurement

b) Dependent Variable: Performance of Pharmaceutical firms

The research used a multiple regression model

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

Where

Z = Performance of Pharmaceutical firms

β_0 = Constant

X_1 = Logistics Management

X_2 = Operational Practices

X_3 = Customer Engagement

X_4 = Strategic Procurement

E = Error Term

The regression equation is;

$$Z = 1.197 + 0.913X_1 + 0.628X_2 + 0.255X_3 + 0.245X_4$$

The regression equation above has established that taking all factors into account (logistics management, operational practices, customer engagement and strategic procurement) constant at zero, performance of pharmaceutical firms in Nairobi County is an index of 1.197. The findings presented also shows that taking all other independent variables at zero, a unit increase in logistics management leads to a 0.913 increase in performance of pharmaceutical firms in Nairobi County. The P-value was 0.000 which is less 0.05 and thus the relationship was significant.

The study also found that a unit increase in operational practices will lead to a 0.628 increase in performance of pharmaceutical firms in Nairobi County. The P-value was 0.002 and thus the relationship was significant. In addition, the study found that a unit increase in customer engagement leads to a 0.255 increase in the performance of pharmaceutical firms in Nairobi County. The P-value was 0.004 and thus the relationship was significant.

Lastly, the study found that a unit increase in strategic procurement leads to a 0.245 increase in the performance of pharmaceutical firms in Nairobi County. The P-value was 0.003 and hence the relationship was significant since the p-value was lower than 0.05. The findings of the study show that, logistics management contributed most to the performance of pharmaceutical firms in Nairobi County.

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study found that delivery timelines and distribution cost were common in the pharmaceutical firms. The results revealed that this was an important variable that could perhaps be explained by the observation from the findings that strategic logistics management was an important factor in influencing performance of pharmaceutical firms.

Order processing timelines and operational cost were also found to be common in the pharmaceutical firms. The results revealed that this was an important variable that could perhaps be explained by the observation from the findings that strategic operational practices was an important factor in influencing performance of pharmaceutical firms.

After sales services and marketing initiatives were common in the pharmaceutical firms. The results revealed that this was an important variable that could perhaps be explained by the observation from the findings that strategic customer engagement was an important factor in influencing performance of pharmaceutical firms.

Efficient procurement model and supplier engagement was common in the pharmaceutical firms. The results revealed that this was an important variable that could perhaps be explained by the observation from the findings that strategic procurement was an important factor in influencing performance of pharmaceutical firms.

The results revealed that strategic value chain positioning strategies identified in the study, that is, logistics management, operational practices, customer engagement and strategic procurement combined could explain approximately 69.3% of the variations in the performance of pharmaceutical firms. The other 30.7% may be attributed to other strategies not explained by the model or the variables.

5.2 Conclusions

Based on the study findings, the study concluded that performance of pharmaceutical firms can be improved by logistics management, operational practices, customer engagement and strategic procurement.

First, in regard to logistics management, the regression coefficients of the study show that it has a significant influence on performance of pharmaceutical firms. This implies that increasing levels of logistics management by a unit would increase the levels of performance of the pharmaceutical firms. This shows that logistics management has a positive influence on performance of pharmaceutical firms.

Second in regard to operational practices, the regression coefficients of the study show that it has a significant influence on performance of pharmaceutical firms. This implies that increasing levels of operational practices by a unit would increase the levels of performance of the pharmaceutical firms. This shows that operational practices have a positive influence on performance of pharmaceutical firms.

With regard to customer engagement, the regression coefficients of the study show that it has a significant influence on performance of pharmaceutical firms. This implies that increasing levels of customer engagement by a unit would increase the levels of performance of the pharmaceutical firms. This shows that customer engagement has a positive influence on performance of pharmaceutical firms.

Lastly, in regard to the fourth objective, the regression coefficients of the study show that it has a significant influence on performance of pharmaceutical firms. This implies that increasing levels of strategic procurement by a unit would increase the levels of performance of the pharmaceutical

firms. This shows that strategic procurement has a positive influence on performance of pharmaceutical firms.

Drawing on this research, lack of logistics management, operational practices, customer engagement and strategic procurement in pharmaceutical firms is leading to poor performance. Though the pharmaceutical firms are striving hard to improve their performance there are still issues of poor quality products, long lead time and high cost of products. It was articulated that the current phenomenon of poor performance in pharmaceutical firms can be reversed if the government and other stakeholders ensure logistics management, operational practices, customer engagement and strategic procurement are embraced in the functions. Thus, it is evident that all the independent variables identified in this study were all important strategic value chain positioning activities that influenced the performance of pharmaceutical firms.

5.3 Recommendations

To ensure that pharmaceutical firms have better performance they should focus more on using delivery timelines so as to ascertain the realistic capacity of suppliers and transporters, control their logistics cost they should involve logistics providers early enough to enable them to have consignment security.

With regard to the second objective, it would be constructive for pharmaceutical firms to invest more in reducing operational costs to reduce the cost of operations through unnecessary reworks and ensure accuracy in operations through get it right the first time approach. Optimal inventory holding should be maintained to reduce holding cost while availing the required stocks. This should be done consistently with training and capacity building.

In relation to customer engagement, the organizations should form strategic alliances with their vendors so as to have a more improved working relationship characterized by electronic data interchange which ensure customers get what they want as when they need it this can be actualized through e-commerce. After sale and promotional services should be encouraged by pharmaceutical firms embracing interactive and effective customer engagement.

Concerning strategic procurement, there is need for pharmaceutical firms to always set aside a substantial part of their resources for activities that spend a huge amount of total resources, and this entails the strategic procurement management. This is because decisions made here have major effects on sustainability measures. In the same regard, they should embrace continuous replenishment policy to enable them to come up with cost effective sourcing strategies. Strategic sourcing of quality products from reliable suppliers at the most competitive prices should be the basic key performance indicator for procurement function.

The study recommends that procurement staff in the pharmaceutical firms should ensure that they strictly follow strategic value chain positioning procedures to ensure that goods supplied are of the right quality, in the right quantity, at the right time, to the right place from the right source at the most competitive price. This will aim at satisfaction of customers in terms of cost, quality, and timeliness of the delivered product or service, minimizing administrative operating costs, conducting business with integrity, fairness and openness.

REFERENCES

- Anderson, D. L., Britt, F. F., & Favre, D. J. (2007). The 7 principles of supply chain management. *Supply Chain Management Review*, 11(3), 41-46.
- Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of management*, 27(6), 643-650.
- Chiang, C. Y., Kocabasoglu-Hillmer, C., & Suresh, N. (2012). An empirical investigation of the impact of strategic sourcing and flexibility on firm's supply chain agility. *International Journal of Operations & Production Management*, 32(1), 49-78.
- Christopher, M., & Holweg, M. (2011). "Supply Chain 2.0": Managing supply chains in the era of turbulence. *International Journal of Physical Distribution & Logistics Management*, 41(1), 63-82.
- Cox III, J., & Schleier, J. (2010). *Theory of Constraints Handbook*. McGraw-Hill.
- Dambrin, C., & Robson, K. (2011). Tracing performance in the pharmaceutical industry: Ambivalence, opacity and the performativity of flawed measures. *Accounting, Organizations and Society*, 36(7), 428-455.
- DESS, G. G., & Davis, P. S. (1984). Strategic Group Membership and Organizational Performance. *The Academy Of Management Journal*, 27(3), 467-488.
- Goldratt, E. M. (1990). *Theory of constraints*. Croton-on-Hudson: North River.
- Kannegiesser, M. (2008). Value Chain Management. *Value Chain Management in the Chemical Industry: Global Value Chain Planning of Commodities*, 11-61.
- Kurien, G. P., & Qureshi, M. N. (2011). Study of performance measurement practices in supply chain management. *International Journal of Business, Management and Social Sciences*, 2(4), 19-34.
- Masiko, D. M. (2013). Strategic procurement practices and procurement performance among commercial banks in Kenya. *Unpublished MBA Project*.
- Nayyar, P., & Bantel, K. (1994). Competitive Agility: A Source of Competitive Advantage Based on. *Advances in strategic management*, 10, 193-222.
- Owuoth, R. (2010). *Critical success factors in the pharmaceutical industry: a survey of multinational pharmaceutical companies in Kenya* (Doctoral dissertation, University of Nairobi, Kenya).
- Tan, K. C., Kannan, V. R., Handfield, R. B., & Ghosh, S. (1999). Supply chain management: an empirical study of its impact on performance. *International journal of operations & production Management*, 19(10), 1034-1052.
- Teece, D. J. (2011). Achieving integration of the business school curriculum using the dynamic capabilities framework. *Journal of Management Development*, 30(5), 499-518.
- Tilokavichai, V., Sophatsathit, P., & Chandrachai, A. (2012). Innovative Logistics Management under Uncertainty using Markov Model.

Whitney, K., Bradley, J. M., Baugh, D. E., & Jr, C. W. C. (2015). Systems theory as a foundation for governance of complex systems. *International Journal of System of Systems Engineering*, 6(1-2), 15-32.

World Health Organization. (2018). Delivering quality health services: a global imperative for universal health coverage.