



**ROLE OF VERTICAL SUPPLY CHAIN COLLABORATION ON MANUFACTURING
FIRMS DISTRIBUTION SERVICE PERFORMANCE IN KENYA. A CASE OF
NAIROBI BOTTLERS LIMITED**

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ABSTRACT

Soft drinks manufacturing firms in Kenya over the years have been facing challenges on their collaborations levels largely due to their supply chain strategies, supply chain maturity, supply chain power, supply chain distance hence affecting their distribution performance. These challenges have led to inefficiency and ineffectiveness in these organizations. The main purpose of this study was to examine the role of vertical supply chain collaboration on soft drinks distribution service performance in Kenya. The study findings indicate that 58.6% of change in distribution service performance of NBL was explained by the four variables namely supply chain strategy, supply chain maturity, supply chain power and supply chain distance. The variables' distance were found to be statistically significant with positive impact on distribution performance. The study recommends that it is imperative that that organizations pay special attention to supply chain strategy, supply chain maturity, supply chain power and supply chain distance in regards to their operations so as to manage distribution service levels

Keywords: distribution service performance, supply chain collaboration, Vertical supply chain collaboration

I. INTRODUCTION

Kenyan perspective on vertical supply chain collaboration

There is strong evidence that most enterprises in Kenya have insufficient infrastructure and inconsistent strategies for managing buyer – supplier collaborations Pelvic (2007). Enterprises that established standard metrics and procedures for measuring buyer - supplier collaborations sustainability were able to improve physical distribution service by 26.6%, on average, since the program's inception Veludoet *et al.*, (2006; Williamson 2009). Most often, these improvements came in the areas like quality of delivery, timeliness in order delivery life cycle, and reliability in order fulfilment, order status information, and availability of inventory Krapfeletet *et al.*, (2009). These improvements manifested themselves in direct hard dollar savings to the enterprise as well as enhancements in responsiveness and service to end customers Casson, (2013).

It is on the basis of such less integrated buyer – supplier collaborations that this study sought to examine, Kenya inclusive, have successfully embraced and implemented vertical supply chain collaborations in downstream and upstream supply chain, yet they have been known for promoting bulk distributions, customers retention and upstream visibility whose concepts are key in enhancing organizational performance. Muriithi, (2012). Manufacturing is an important sector in Kenya and it makes a substantial contribution to the country's economic development. It has the potential to generate foreign exchange earnings through exports and diversify the country's economy. This sector has grown over time both in terms of its contribution to the country's gross domestic product and employment.

The average size of this sector for tropical Africa is 8 per cent. Despite the importance and size of this sector in Kenya, it is still very small when compared to that of the industrialized nations United Nations Industrial Development Organization (UNIDO, 2007).

The sector experienced the lowest real GDP growth rates in 2008 to 2009 as 1.7 percent in 2008 and improved to 2.6 percent in 2009 after the controversial 2007 general elections in Kenya (East African Community Facts and Figures– 2010, March Issue, 2011). In the financial year 2010, the real GDP growth rate was 5.6 percent, revealing the improvement (East African Community Facts and Figures– 2011, October Issue, 2011). In terms of gross domestic product(GDP), the share of manufacturing sector maintained in the last 10 years from 2000-2001 as 10 percent to 2009-2010. On the other side, investment a “booster” of an economy, according to (East African Community Facts and Figures – 2011, October Issue, 2011) has shown a decreasing trend from 2008 to 2010.

Overview of Soft drinks industry in Kenya

The soft drink industry is one of the very competitive industries in the market. In Kenya it has both local and multinational companies thus making it one of the very competitive industries. The soft drink industry is classified into; the carbonated soft drinks, the ready to drink juices and the mineral water. In Kenya the soft drink industry consists of Coca cola Kenya which has six strategically located bottling companies in the country, Softa bottling company, Milly foods,

Trufoods, premier foods and East African Breweries Ltd (EABL). Earlier Pepsi company had operations in Kenya but pulled out after a bruising battle with Coca cola during the difficult trading environment of the early 1980s before its come back in 2010.

Schweppes Company entered the market in the late 1990s but also pulled out in early 2000. The major brands of Coca cola are Coke, Fanta, Sprite, Krest, Stoney and Dasani with Coke being their flagship brand. While those for Kuguru foods are Softa cola, Softa lemon, Softa orange and Mecca cola. Milly brands include Picana which is a juice that come in different flavours such as mango, passion and cocktail. The EABL has also entered into the soft drinks with its Malta Guinness and Alvaro brands. Implementation of structural adjustment programmes (SAPS) in Kenya led to intense competition which saw new entrants especially cheap imports and substitutes threaten the strategic position of the incumbents in the market.

Coca cola has a demand creation competency that deals with promotion and recruitment of new customers, thus increasing the consumer base. Coca cola practice aggressive, innovative and creative advertising policies on billboards, Christmas Coca cola caravans, road side shows and point of purchase raffles while the East African breweries concentrate on corporate advertising, sales promotion and advertising on billboards, Softa on the other hand has played low and imitated Coca cola through positioning of vendors (Push carts) strategically and advertising through the radio. Due to changing lifestyles and consciousness towards health, consumers have tended to prefer low calorie drinks, bottled water and also tea. This has led to increasing number of packaged water brands ranging from Keringet, Dasani –produced and distributed by coca cola Company, Grange Park, Mt. Kenya, Highland and Kilimanjaro among others. It has also led to Coca Cola Company producing diet drinks such as; Coke light, Fanta light and Sprite light.

Kenya Tea Packers (KETEPA) has also begun packaging iced tea. In the last five years competition in the soft drinks industry has really intensified existing players such as Softa (Kuguru foods) which is currently in the process of winding up due to its inability to withstand intense competition from other players in the soft drinks industry (Kuguru food report, 2016). In 2012 East African Breweries also introduced into the Kenyan market Alvaro which is a non-alcoholic drink while Coca Cola bottling company in a bid to counter competition from Alvaro it introduced minute brand).

Overview of Coca Cola Company

Coca-Cola originated as a soda fountain beverage in 1886 selling for five cents a glass. Early growth was impressive, but it was only when a strong bottling system developed that Coca-Cola became the world-famous brand it is today. It was however until 1948 that the Coca Company founded Nairobi Bottlers in Kenya. Nairobi Bottlers later formed a partnership in the late 1960s with the Industrial and Commercial Development Corporation (ICDC), which is the government's initiative for promotion of investment. There were eight bottlers in Kenya, the other seven being: Mt Kenya Bottlers, East Kenya Bottlers, Equator Bottlers, Kisii Bottlers, Flamingo Bottlers, Rift Valley Bottlers and Coastal Bottlers. All these have common ownership in ICDC, while the other investing owners differ. Coca-Cola South Africa bottling company

(Sabco), together with a local investment partner, acquired Nairobi Bottlers Limited from The Coca-Cola Company in November 1995 and followed suit a little over two years later with the purchase of Flamingo Bottlers in Nakuru from the Shah family in December 1997. In 2000, East Kenya Bottling of Machakos was added to the territory, thus reducing the number of bottlers to the current six. Nairobi bottlers is in Nairobi County.

Statement of the problem

Coca-Cola Company being one of the largest multinational corporation in soft drinks manufacturing industry had according to the Company's global financial report, (2016) its global operating revenues slipped to \$12.2 billion, as sales fell 13% in Latin America, 10% in the Eurasia and Africa division, 9% in Europe and 7% in Asia, as consumers kept the lid on alternative soft drinks from competing firms.

This decline in sales levels was a replica of the overall company sales performance globally as the company adopts uniform standards of operations (Coca-Cola company president report, 2016). According to the company's president financial report the decline in sales may have been due to high operational cost arising from its ineffective collaborations and distribution service performance.

While previous studies had tended to focus more on the developed world (McKinnon, Edwards, Piecyk & Palmer, 2009; Sanchez-Rodrigues, Cowburn, Potter, Naim & Whiteing, 2009). Evidence showed that information sharing, dependence, formalization, culture policies, resource sharing, communication trust, incentive alignment cultural, social, economic and environmental aspects of each country did influence the link between vertical supply chain collaboration and distribution service quality (Miguel & Brito, 2011; Kaufmann & Carter, 2006).

Keebler & Plank, (2009) agreed that the findings of US firm could not represent the universe of companies nor could findings be generalized to other countries. Furthermore, first world such as Europe, America and part of Asia had more developed infrastructure and business structures that easily supported the establishment of vertical supply chain collaborations as opposed to developing countries. The effort to achieve generalization of the causal relationship between vertical supply chain collaboration and distribution service performance soft drinks manufacturing firms called for empirical confirmation in diverse environments, especially developing economies such as Kenya. This study therefore intend to empirically examine how supply chain maturity, supply chain power, supply chain distance and supply chain strategy influence distribution service performance of soft drinks manufacturing firms in the Kenyan setting.

Objectives of the study

The main purpose of this study was to examine the role of vertical supply chain collaboration on soft drinks distribution service performance in Kenya. The specific objectives of this study were to;

- i. Find out the role of supply chain strategy on soft drinks firms distribution service performance.
- ii. Establish the role of supply chain distance on soft drinks firms distribution service performance
- iii. Determine the role of supply chain maturity on soft drinks firms distribution service performance.
- iv. Examine the role of supply chain power on soft drinks firms distribution service performance.

II. LITERATURE REVIEW

Theoretical Literature Review

The underpinning theories of this study included; Theory of Constraints, Transaction cost theory, Network theory and Stakeholder theory.

To illustrate the fundamental concepts of vertical supply chain collaboration and distribution performance, a conceptual framework that integrates the independent and dependent variables was developed as shown in figure 1.

Conceptual Framework

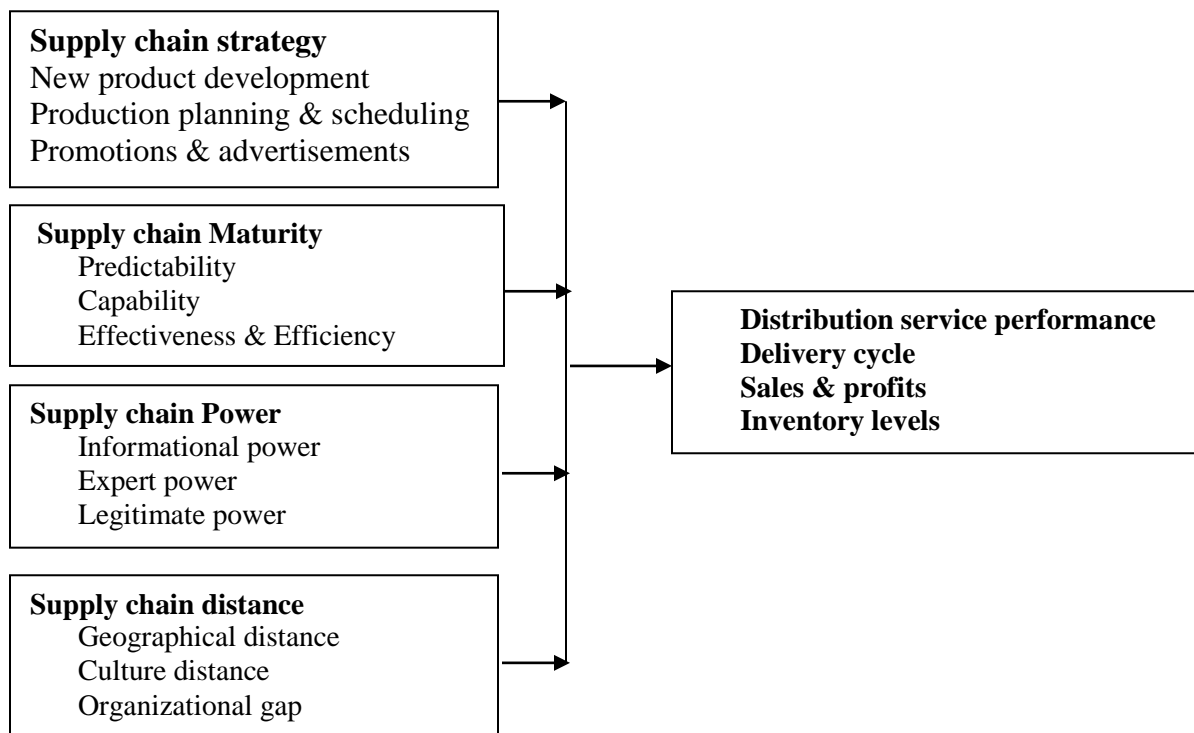


Figure 1: Conceptual Framework

III. RESEARCH METHODOLOGY

The study employed a case study research design. The data was collected using questionnaire. The data was collected from NBL. The target population of the study was 596 and the sample size was 239 that were selected using stratified sampling. The sampling frame was all the employees or their equivalent of the company. The questionnaires were dropped to each department in the company. The collected data was edited, coded and entered for analysis. Prior to the survey administration, the researcher distributed 60 questionnaires for pre-testing. This was done to determine validity and reliability of the research that was to be carried out to ensure that the scale items are meaningful to the sample and captures the issues that were be measured. The data was analyzed using descriptive statistics and this was done using a statistical package for analysis (SPSS) version 21.

IV. RESEARCH FINDINGS AND DISCUSSION

Supply chain strategy

The study sought to establish the role of supply chain strategy on distribution service of manufacturing firms. Supply chain strategy in supply chain collaborations enhances the levels at which organization deliver satisfaction to customers.

Table 1 Frequency and percentages distribution of respondent's perception on supply chain strategy

Supply chain Strategy	Not at all	Small extent	Moderate extent	Large extent	Very large extent
Customizing products as per the customer needs	0%	0%	26.3%	56.1%	17.5%
Customer involvement in product development	3.5%	8.8%	43.9%	35.1%	8.8%
Our company usually Benchmarking product development	7%	40.4%	33.3%	19.3%	0%
Timely production processes	3.5%	8.8%	43.9%	29.8%	14%
Agile production systems	1.8%	8.8%	35.1%	43.9%	10.5%
Flexible product lines	0%	8.8%	47.4%	35.1%	8.8%
Embracing ICT	0%	7%	36.8%	43.9%	12.3%
Road shows in promotions of products	1.8%	8.8%	36.8%	38.6%	14%
Corporate sponsorship as a promotions and advertisements strategy	1.8%	17.5%	35.1%	19.3%	26.3%

From table 1, majority of the respondents agreed that supply chain strategy affects distribution service performance. This is whereby more than 50% of the respondents agreed to a large extent, and less than 41.0% agreeing to small extent and 28.1% were not sure. When the opinion of the

respondent was sought on company's customization of the products as customers' needs more than 50.0% agreed to a large extent that the company was willing to customize the products to suite customer need while only 26.3% agreed to moderate extent. When the respondents were asked whether the company involves customers in new product development, more that 43.9% of the respondents agreed to a moderate extent while only less than 4% didn't agree at all. When asked about whether the company benchmarks its product development process majority of the respondents agreed to small extent that is more than 40.0% as compared to less than 20.0% that agreed to a large extent while 7% didn't agree at all.

When the respondents were asked on their opinion about the company's timeliness in production process majority of the respondents to a moderate extent agreed that more than that 42 % the company was timely in production process while only less than 4% didn't agree at all. On whether the company uses agility production systems more than 42.0% agreed to a large extent while less than 2% didn't agree at ll. When the opinion of the respondents was sought on whether the company offers flexible product lines more than 47.0% agreed to a moderate extent, 8.8 agreed to a small extent while no one agreed at all. When the respondents were asked on whether the company embraces ICT in its operations majority that is more than 40.0% agreed to a large extent, less than 10.0% agreed to a small extent while none agreed at all. On whether their company uses road shows in promotion of its products 38.6% of the respondents who are the majority agreed to a large extent, with 8.8% agreeing to a smaller extent and 1.8% totally disagreeing. Lastly when the respondents were asked whether their company uses corporate sponsorship as promotional and advertisement strategy, 35.1% agreed to a moderate extent and 1.8% totally disagreeing.

Beers *et al.*, (2014) supports the findings of this study by stating that supplier collaboration contributes to incremental innovation that improves a firm's productivity. Here, it enables the company improve product quality, make the company production plans be guided by customer demand and within the required timelines.

Supply chain maturity

The respondents were asked to indicate the extent supply chain maturity affect distribution service performance of soft drinks manufacturing firms in Kenya. From table 2 majority of the respondents agreed that supply chain maturity affect firms distribution service performance manufacturing firms because a high level of supply chain maturity play an important role in making the distribution successful. This is illustrated 58% agreeing to a large extent, 50% agreeing to moderate extent, while less than 2% totally disagreeing, this implies that the company has a promising supply chain maturity. When the opinion of the respondents was sought on whether the company products uptake is higher in the industry, majority of the respondents agreed to a large extent that is 59.6%, 24.6% agreed to a moderate extent, 15.8% agreed to a very large extent while none agreed at all. When respondents were asked whether the company has reliable distribution systems more than 1.0% agreed to smaller extent, 17.5% to a very large extent, 38.6% agreed to a moderate extent, 42.1% agreed to a moderate extent while

no one agreed to smaller extent. When the opinion of the respondents was sought whether the company has sound financial systems, more than 43.0% agreed to a large extent, 3.5% agreed to a smaller extent and no one agreed at all. On whether the company had enough storage facilities, more than 49.0% agreed to a large extent while less than 4% agreed to a smaller extent and none disagreeing. When asked whether the company fulfils its orders on timely basis majority who were 42.1% agreed to a moderate extent, 3.5% agreed to a small extent and none of them disagreeing. On whether the company has competent and qualified staff majority 45.6% agreed to a large extent, 1.8% agreed to a smaller extent with none disagreeing .On whether the company has enough fleet majority of the respondents 43.9% agreed to a moderate extent, 3.5% agreed to smaller extent and disagreeing. On whether the company produces defect free products majority with over 40% agreed to a larger extent, 10.5% agreed to a smaller extent and no one disagreed .Finally, when the opinion of the respondents was sought on whether the company maintains optimum stock levels majority 56.1% agreed to a moderate extent , 7% agreed to a moderate extent and none disagreeing.

The following studies support the findings of this study that supply chain strategy is crucial aspect in distribution performance Schönsleben (2007), Harrison and New, (2002); Christopher, Peck and william, (2006) argued with appropriate strategies in place organisations are able to derive high levels of customer satisfaction. According to Harrison and New (2002), supply chain strategy determines the organisations survival and competitiveness in any market.

Table 2 Frequency and percentages distribution of respondent’s perception on supply chain maturity

Supply chain maturity	Not at all	Small extent	Moderate extent	Large extent	Very large extent
Products uptake higher in the industry	0%	0%	24.6%	59.6%	15.8%
Reliable distribution systems	0%	1.8%	38.6%	42.1%	17.5%
Sound financial position	1.8%	5.3%	42.1%	43.9%	7%
Timely order fulfilments	0%	3.5%	42.1%	40.4%	14%
Enough storage facilities	0%	3.5%	33.3%	49.1%	14%
Competent, enough and qualified staff	0%	1.8%	40.4%	45.6%	12.3%
Enough fleet	0%	3.5%	43.9%	42.1%	10.5%
Meeting production timelines	1.8%	5.3%	50.9%	36.8%	5.3%
Defect free products	0%	10.5%	40.4%	40.4%	8.8%
Maintaining optimum stock levels	0%	7%	56.1%	31.6%	5.3%

Supply chain power

The study asked the respondents to indicate the extent to which supply chain power affect distribution service performance. First, the study sought to know if the company product pricing is within market range majority of the respondents agreed to a larger extent with 56.1%, 29.8% agreeing to a moderate extent and none disagreeing to a smaller extent and at all. On whether the company benchmarks its distribution systems majority 43.9% agreed to a moderate extent, 38.6% agreeing to a larger extent, 3.5% agreeing to smaller extent and none disagreeing. when the opinion of the respondent was sought on whether the company product lines considers customers needs, majority 43.9% agreed to a large extent with 40.4% agreeing to a moderate extent , 14% agreeing to a very large extent ,3.5% agreeing to smaller extent and none disagreeing.

On whether the company products are patented majority of the respondents 45.6% agreed to a moderate extent, 36.8% agreed to large extent, 14% agreed to a very large extent 3.5% agreed to a smaller extent with none disagreeing.

When the opinion of the respondent was sought on whether the company considers health and safety aspects in its manufacturing majority 40.4% agreed to a moderate extent, 31.6% agreed to large extent, 22.8% agreed to a very large extent, 5.3% agreed to a smaller extent while none disagreed. On whether the company recognizes employee training programs majority of the respondent 40.4% agreed to a moderate extent, 40.4% agreed to a large extent, 12.3% agreed to a large extent.7% agreed to a small extent and none disagreed at all. Lastly when the opinion of the respondents was sought on whether other companies use our employees as benchmark, majority 49.1% agreed to a moderate extent, 38.6% agreed to a large extent, 8.8% agreed to a smaller extent, 3.5% agreed to a very large extent and none disagreed.

According to Berry, Towill & Wadsley (2012) supports the findings of this study that supply chain power level has been found to be the a key predictor of distribution performance. This perspective is consistent with (Li & Lin, 2006) who stated that information sharing is critical for the success of any organization’s physical distribution whether shared vertically or horizontally in a supply chain.

Table 3 Frequency and percentages distribution of respondent’s perception on supply chain power

Supply chain power	Not at all	Small extent	Moderate extent	Large extent	Very large extent
Pricing within market rates	0%	0%	29.8%	56.1%	14%
Benchmarking on better distribution systems	0%	3.5%	43.9%	38.6%	14%
Product lines considers customers’ needs	0%	1.8%	40.4%	43.9%	14%
Products have patent rights	0%	3.5%	45.6%	36.8%	14%
Health and safety considerations	0%	5.3%	40.4%	31.6%	22.8%
Compliance with ISO standards	0%	12.3%	38.6%	36.8%	12.3%

of quality						
Employee training and development programs	0%	7%	40.4%	40.4%	12.3%	
Use of our employees as benchmark	0%	8.8%	49.1%	38.6%	3.5%	

Supply chain distance

Respondents were asked to indicate the extent to which supply chain distance affect distribution service performance of manufacturing firms in Kenya. From table 4, majority of the respondents agreed that when supply chain distance issues are well addressed it positively impact the firms distribution service performance. This is illustrated by responses results from the views based on the questions posed .On whether the company embraces ICT in its information sharing with customers 63.2% agreed to a large extent , 21.1% agreed to a very large extent,10.5% to a moderate extent ,3.5% agreed to a smaller extent while 1.8% didn't agree at all. On whether the company distributors avail product closer to the customers 1.8% didn't agree at all,5.3% agreed to a small extent ,45.6% agreed to a smaller extent ,35.1% agreed to a large extent and 12.3% agreeing to a very large extent. when the opinion of the respondents was sought whether the company is strategically located to meet customers need within Nairobi majority of respondents with 45.6% agreeing to a moderate extent, 38.6% agreeing to large extent, 12.3% agreeing to very large extent, 3.5% agreeing to small extent and none totally disagreeing .On whether the company's promotions and advertisement considers moral values when running its promotions majority with 56.1% agreed to a moderate extent,29.8% agreed to large extent, 8.8% agreed to a very large extent, 5.3% agreeing to a small extent while none agreed totally. On whether the company produces a range of products meeting clientele needs 42.1% agreed to a moderate extent,40.4% agreed to a large extent , 14% agreed to a very large extent,3.5% agreed to small extent with no one disagreeing. On whether the company considers cultural diversity in product development majority of the respondents had 50.9% agreed to a moderate extent, 26.3% agreed to a large extent 12.3% agreed to a smaller extent, 10.5% agreed to a very large extent with none disagreeing. On whether the company benchmarks its customer service levels with its competitor's majority of the respondents 42.1% agreed to a large extent, 28.1% agreed to a moderate extent, 17.5% agreed to a smaller extent, 12.3% agreed to a very large extent and none totally disagreeing. On whether our company benchmarks employees skills with its competitors, majority of the respondents comprising of 50.9% agreed to a moderate extent, 26.3% agreed to a large extent, 14% agreed to a smaller extent, 7% agreed to very large extent while 1.8% didn't not agree at all. Lastly when the respondents were asked whether the company usually benchmarks its marketing strategies with competitors, majority 49.1% agreed to a large extent, 26.3% agreed to a moderate extent, 14% agreed to a smaller extent, 10.5% agreed to a large extent with none disagreeing.

Lu *et al.*, (2005). Supports the findings of this study that those organisations that manage distance well between its customers whether geographical, culture or organizational distance are likely to have improved physical distribution service levels

Nachum & Zaheer, (2005) also supports this study by emphasizing organization to embrace the use of ICT to bridge geographical distance among its supply chain partners for easy and faster information sharing.

Table 4 Frequency and percentages distribution of respondent's perception on supply chain distance

Supply chain distance	Not at all	Small extent	Moderate extent	Large extent	Very large extent
Embracing ICT in information sharing with customers	1.8%	3.5%	10.5%	63.2%	21.1%
Distributors to avail products closer to customers	1.8%	5.3%	45.6%	35.1%	12.3%
Our company is Strategically location to serve customers within Nairobi	0%	3.5%	45.6%	38.6%	12.3%
Advertisements and promotions consider moral values of different cultures	0%	5.3%	56.1%	29.8%	8.8%
Range of products meeting needs of clientele	0%	3.5%	42.1%	40.4%	14%
Cultural diversity in product development	0%	12.3%	50.9%	26.3%	10.5%
Benchmarking customer service with competitors	0%	17.5%	28.1%	42.1%	12.3%
Benchmarking employee skills with competitors	1.8%	14%	50.9%	26.3%	7%
Benchmarking marketing strategies with competitors	0%	14%	26.3%	49.1%	10.5%

Distribution service performance

Respondents were asked the extent to which the company has realized business values on their distribution service performance as a result of supply chain strategy, supply chain maturity, supply chain power and supply chain distance. From the findings in the Table 5 below its evident that the firms have realized a wide range of benefits. Among the listed include increased on time

deliveries, increased brand loyalty and provision of quality products. This is because the majority of the respondents (56.1%) agreed to a large extent that the company realized on time deliveries and they were satisfied with the company distribution service performance. Over (50.0%) of the respondents agreed to a moderate extent that the company had its brands being widely recognized and most preferable. Lastly majority of the respondents were of the view that is over 45.0% of the respondents agreed to a large that the company future growth prospect was a reality.

Among the listed include benefits included; on time deliveries, increased brand loyalty, cost saving, quality products, increased customer retention, growth prospects, inventory availability, increased market share and finally improved information sharing levels.

Table 5 Frequency and percentages distribution of respondent’s perception on distribution service

Distribution Performance	Service	Not at all	Small extent	Moderate extent	Large extent	Very large extent
On time deliveries		1.8%	0%	12.3%	56.1%	29.8%
Increased brand loyalty		0%	0%	57.9%	33.3%	8.8%
Cost saving		3.5%	8.8%	45.6%	33.3%	8.8%
Quality products		0%	7%	28.1%	52.6%	12.3%
Increased customer retention		0%	5.3%	49.1%	36.8%	8.8%
Growth prospects		0%	3.5%	40.4%	45.6%	10.5%
Inventory availability		0%	0%	49.1%	43.9%	7%
Increased market share		0%	8.8%	43.9%	38.6%	8.8%
Improved information sharing levels		0%	8.8%	43.9%	31.6%	15.8%

Inferential analysis

Inferential statistics infer from the sample to the population. They determine probability of characteristics of population based on the characteristics of the sample. Inferential statistics helps in assessing strength of the relationship between the independent variables and the dependent variables.

Correlations of the study variables

Table 6 illustrates the correlation matrix among the independent variables. Correlation is often used to explore the relationship among a group of variables (Pallant, 2010), in turn helping in testing for Multicollinearity. If the correlation values are not close to 1 or -1, this is an indication that the factors are sufficiently different measures of separate variables (Farndale, Hope-Hailey & Kelliher, 2010). It is also an indication that the variables are not multicollinear. Absence of Multicollinearity allows the study to utilize all the independent variables.

Table 6: Pearson Correlation between Distribution Service Performance and Independent variables

			Distribution Service Performance	Supply chain Strategy	Supply chain maturity	Supply chain power	Supply chain distance
Distribution Service Performance		Pearson Correlation	1				
		Sig. (2-tailed)					
		N	239				
Supply chain Strategy	chain	Pearson Correlation	.419**	1			
		Sig. (2-tailed)	0.000				
		N	239	239			
Supply chain maturity	chain	Pearson Correlation	.674**	.433**	1		
		Sig. (2-tailed)	0.000	0.000			
		N	239	239	239		
Supply chain power	chain	Pearson Correlation	.536**	.624**	.518**	1	
		Sig. (2-tailed)	0.000	0.000	0.000		
		N	239	239	239	239	
Supply chain distance	chain	Pearson Correlation	.535**	.369**	.344**	.372**	1
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	
		N	239	239	239	239	239

Correlation is significant at the 0.01 level (1-tailed).

Table 6 indicates that supply chain maturity has the strongest positive influence on distribution service performance as attributed by the correlation coefficient of 0.674 and a p-value of 0.00. In addition, supply chain power, supply chain distance and supply chain strategy are positively correlated to distribution service performance with Pearson correlation values of 0.536, 0.535 and 0.419 respectively and p-values of 0.000 respectively. This correlation matrix implies that the independent variables: supply chain strategy, supply chain maturity, supply chain power and supply chain distance are crucial determinants of distribution service performance. This is in agreement with the literature review where Brennan *et al.*, (2013) emphasizes that focus on supply chain strategy, supply chain maturity, supply chain power and supply chain distance is positively correlated with distribution service. All the independent variables are positively related since their p-values are less than 0.05.

Regression Analysis Results

A multiple linear regression analysis was done to examine the relationship of the independent variables with the dependent variable. The R^2 is the coefficient of determination. This value explains how distribution service performance varied with supply chain strategy, supply chain maturity, supply chain power and supply chain distance. The model summary table shows that four predictors can explain 58.6% of change distribution service performance namely supply chain strategy, supply chain maturity, supply chain power and supply chain distance an implication that the remaining 41.4% of the variation in distribution service performance could be accounted for by other factors not involved in this study. This shows that the variables are very significant therefore need to be considered in any effort to boost distribution service performance of soft drinks in manufacturing firms in Kenya.

Table 7: Model Summary

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Anal ysis of
0.766	0.586	0.579	0.27894	of

variance (ANOVA) was done to establish the fitness of the model used. The ANOVA table shows that the F-ratio ($F=82.834$, $p=.000$) was statistically significant. This means that the model used was appropriate and the relationship of the variables shown could not have occurred by chance.

Table 8: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	25.78	4	6.445	82.834	0.000
Residual	18.206	234	0.078		
Total	43.986	238			

a. Dependent Variable: Distribution service performance

b. Predictors: (Constant), Supply chain strategy, Supply chain maturity, Supply chain power, supply chain distance

The estimated coefficients (β s) show the contribution of each independent variable to the change in the dependent variable. The coefficients table results show supply chain strategy ($\beta=.406$, $p=.043$) positively and significantly affected distribution service performance of manufacturing firms. The results also show that supply chain maturity ($\beta=.570$, $p=.000$) positively and significantly affected distribution service performance of manufacturing firms. Supply chain power ($\beta=.162$, $p=.001$) and supply chain distance ($\beta=.303$, $p=.000$) also were found to be positively and significantly affecting distribution service performance.

Table 9: Coefficients of determination

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	-0.257	0.213		-1.209	0.228
Supply chain Strategy	0.046	0.022	0.088	2.032	0.043
Supply chain maturity	0.57	0.063	0.461	9.07	0.000
Supply chain power	0.162	0.049	0.169	3.328	0.001
Supply chain distance	0.303	0.046	0.305	6.61	0.000

a. Dependent Variable: Distribution service performance

From the multiple regression results in table 9, the equation.

The regression model is as below.

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

$Y = -0.257 + 0.046x_1 + 0.570x_2 + 0.162x_3 + 0.303x_4 + \varepsilon$.where:

x_1 = Supply chain strategy

x_2 = Supply chain maturity

x_3 = Supply chain power

x_4 = Supply chain distance

ε = error term

α = constant $\beta_1, \beta_2, \beta_3$ and β_4

β_1 = Beta coefficients

β = coefficient

According to the regression equation established, holding all independent factors a constant then distribution service performance will be -0.257 from the regression equation, taking all other independent variables at zero, a unit increase in supply chain strategy will lead to a 0.046 increment in distribution service performance. A unit increase in supply chain maturity will lead to a 0.570 increment in distribution service performance. A unit increase in supply chain power will lead to a 0.162 increment in distribution service performance and a unit increase in supply chain distance will lead to a 0.303 increment in distribution service performance. This insinuates that supply chain maturity contribute more to the distribution performance followed by supply chain distance.

At 5% level of significance and 95% level of confidence, supply chain strategy had a 0.043 level of significance; supply chain maturity showed a 0.000 level of significant, supply chain power showed a 0.001 level of significant and supply chain distance had a 0.000 level of significant. Hence, the most significant factors are supply chain maturity and supply chain distance.

SUMMARY OF FINDINGS

Supply chain strategy on distribution service performance

The study evaluated the influence of supply chain strategy on distribution service performance of manufacturing firms in Kenya. First the study sought to determine the extent to which new product development affect distribution service performance and according to the findings of the study majority of the respondents agreed that it affects distribution service performance. The study also showed that majority of the respondents agreed that production planning and scheduling affect distribution service performance because they believe that if the company was willing to adapt proper production and scheduling measures that favour the customers then the distribution service performance levels will be enhanced. Majority of the respondent also agreed that promotions and advertisements also affect distribution service performance.

These results have revealed that supply chain strategy positively and significantly affect distribution performance of soft drinks manufacturing firms in Kenya.

Supply chain maturity on distribution service performance

The study showed the influence of supply chain maturity on distribution service performance on manufacturing firms in Kenya. First the study sought to determine the extent to which predictability affect distribution service performance and according to the findings of the study majority of the respondents agreed that it affects distribution service performance. The study also showed that majority of the respondents agreed that capability affect distribution service performance because they believe that if the company has the ability of ensuring the customers are fully satisfied with the products and services of the company. Majority of the respondent also agreed that efficiency and effectiveness also affect distribution service performance. These results have revealed that supply chain maturity positively and significantly affect distribution service performance of manufacturing firms in Kenya

Supply chain power on distribution service performance

The study also evaluated the influence of supply chain power on distribution performance on manufacturing firms in Kenya. First the study sought to determine the extent to which information power affect distribution performance and according to the findings of the study majority of the respondents agreed that it affects distribution performance, this is because their values and objectives are important in maintaining distribution performance. The study also showed that majority of the respondents agreed that information power affect distribution performance because they believe that it would be important to consistently keep their customers fully informed on any market development for the sake of enhancing distribution performance. Majority of the respondent also agreed that expert power also affect distribution performance.

These results have revealed that supply chain power positively and significantly affect distribution performance of manufacturing firms in Kenya

Supply chain distance on distribution service performance

The study established that supply chain distance between soft drinks manufacturing firms in Kenya and their suppliers have been achieved to great extent. This is because these firms strive to bridge the supply chain distance by working closely with their suppliers by communicating accurately and sharing credible information concerning; delivery schedules, price, supply disruptions and their inventory policies. According to the findings majority of the respondent agreed that supply chain distance affect distribution performance.

These results have also revealed that supply chain distance positively and significantly affect distribution performance of soft drinks manufacturing firms in Kenya

CONCLUSIONS

Following the results of the study, it is worthwhile to conclude that there is positive relationship between supply chain strategy, supply chain maturity, supply chain power and supply chain distance and distribution performance of soft drinks manufacturing firms in Kenya. Through supply chain strategy, supply chain maturity, supply chain power and supply chain distance, soft drinks manufacturing firms has continued to be at the heart of Kenya's economic success story. The study also establishes that supply chain maturity has the strongest positive influence on distribution performance of soft drinks manufacturing firms in Kenya. The study also establishes that supply chain strategy was rated the lowest among the research variables meaning that the soft drinks manufacturing firms are yet to fully adapt the best strategies that can enhance their competitiveness.

Recommendations

The study recommends that management of NBL to take into account the variables considered since the findings shows that there is significant and relationship between the predictors (supply chain strategy, supply chain maturity, supply chain power and supply chain distance) and distribution performance of soft drinks manufacturing firms in Kenya.

Since majority of the respondents agreed that supply chain strategy, supply chain maturity, supply chain power and supply chain distance leads to positive and significant distribution performance, all manufacturing firms in Kenya should be encouraged to put these factors into consideration since it they will greatly help them attain degree of competitiveness apart from bettering its distribution service levels.

Areas for further research

This study was not exhaustive meaning as it was only limited to supply chain strategy, supply chain maturity , supply chain power and supply chain distance as factors that affect distribution performance of soft drinks manufacturing firms in Kenya. It is also limited to NBL and specifically within Nairobi County. It is therefore recommended that another study be replicated in other manufacturing firms in the entire country. This is because distribution performance is a

rich research field and is still evolving. The analysis was limited to the information disclosed by the respondents. The regression model summary shows that the variables considered do not explain 100% variation in the dependent variables meaning that the study had left out other important variables which should be considered in future studies.

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