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SUPPLY CHAIN SYNERGY: EXAMINING THE NEXUS BETWEEN SUPPLIER RELATIONSHIP MANAGEMENT AND PERFORMANCE IN KENYAN FOOD MANUFACTURING

Benjamin K
Department of Procurement and Logistics, School of Business and Entrepreneurship; Jomo Kenyatta University of Agriculture and Technology

Abstract
Effective supplier relationship management (SRM) has been identified as a critical factor for improving the performance of firms in the supply chain. Poor relationship management can lead to high acquisition costs, long lead times, lower quality materials, poor reputation, low sales, low market share, and low profitability. This study investigates the influence of SRM on the performance of food and beverage manufacturing firms in Kenya. Specifically, the study examines the impact of supplier segmentation, supplier collaboration, information flow, and supplier development on organizational performance. A cross-sectional survey design was used, incorporating both qualitative and quantitative approaches. The target population consisted of officers working in procurement, warehousing, and logistics departments in 63 food and beverage organizations in Kiambu County. A total of 189 officers were sampled using census and purposive sampling techniques, and data was collected through questionnaires. The study found that supplier segmentation, information flow, supplier collaboration, and supplier development have a positive influence on the performance of food and beverage manufacturing firms in Kiambu County. Correlation analysis showed that these factors were positively and significantly correlated with organizational performance. The study also found that management in the food and beverage sector in Kiambu County embraces these elements of SRM.The study concludes that developing effective strategies for managing supplier relationships can significantly improve the performance of food and beverage manufacturing firms. This study's findings have practical implications for managers in the sector, highlighting the importance of effective supplier relationship management in achieving a competitive edge.

Keywords: Supplier relationship management, Food and beverage manufacturing firms, Supplier segmentation, Supplier collaboration, Information flow, Supplier development, Organizational performance, Kenya.

INTRODUCTION

Supplier relationships have become one of the main areas of interest in strategic SCM (Awasthi & Kannan, 2016). “The focus has moved from transactional and short-term relationships to collaborative and long-term relationships, where mutual intention is to increase flexibility and create added value through cooperation. Therefore, there has been a growing need to continuously monitor the company's position in a supply network, recognize the interactive nature of buyer-supplier relationships, and understand how to influence the atmosphere of the relationship (Sundquist, Gadde, &Hulthén, 2018). Therefore, purchasing companies have had to define their relationships with suppliers and make full use of the company's relationship skills to get the most out of their supplier base.

Many researchers have widely criticized the literature on the relationship between buyers and suppliers. According to A'an, Kuzey, Acar &A'kgáz (2016), three different research topics were identified in the articles on buyer-supplier relationships: (i) 'characterization and resulting benefits of buyersupplier relationships, (ii) establishment and development of buyer-supplier relationships and (iii) buyersupplier relationship management'. Awasthi & Kannan (2016) listed the points of view and commitments of provider relationship considers. As per him, the methodology can be partitioned into conduct and business colleges of thought. The school of social (or humanist) thinking sees business-business connections on similar premise as close to home connections dependent on trust, comprehension, and collaboration. Monetary viewpoint shows that business relations depend on the financial force of the market (Mbiko, Mbara & Swanepoel, 2017).

Bocconcelli, Murmura and Pagano (2018) presented an overview of studies on relational skills as an emerging topic in the areas of strategic management, supply management and international business. Essentially, the existence and growth of a company depends on several external and internal factors, such as highly segmented geographic markets, aggressive competition and a shorter lifecycle. Associations with a drawn-out development viewpoint ought to have the option to oversee outer and inward connections dependent on the qualities and culture on which they are based. These organizations ought to think about building beneficial associations with partners to make added an incentive for clients, increment benefits, improve creation productivity and increment piece of the pie (Kotler, Dingea, &Pfoertsch, 2016).

Short-term objectives, on the other hand, generally include higher productivity, reduced cycle time and reduced stocks (Mbiko et al., 2017). These relationships encourage participants to voluntarily change basic business practices to reduce duplication and waste, while improving performance, efficiency and efficiency. Poor relationship management have led to undesirable performance in the SC, hampered by extremely high acquisition costs, long lead times, lower materials, poor reputation, low sales, low market share and low profitability (Mbiko et al., 2017)".

According to the World Bank (2013), production from manufacturing sectors in Nigeria declined, resulting in a decline in GDP from 9.8% in 2009 to 9.6% in 2013. Acquisition costs expressed as a percentage of the total cost ranges between 50-80% for manufacturing companies that assemble and o the physical distribution of the assembled goods. The relationship with suppliers and the impact on the SCcan be significant, from integration and implementation to the benefits and challenges that procurement faces today. One thing is certain: the relationship with suppliers will have an impact on the future economy (Harland, Telgen, Callender, Grimm, &Patrucco, 2019). In addition to sustainability, the strategic partnership is at the top of the corporate agenda of many global organizations and is well-thought-out one of the few procurement issues that can make a turnaround (Harland et al., 2019).

In today's competitive and dynamic marketplace, customers are putting pressure compelling organizations to improve relationships with their partners hence improved customer service leading to achieving competitive edge. (Alhawari, Alryalat&Hunaiti, 2016). Contemporary supply chains are multitiered geographically dispersed with increasingly complex supply chains and extended lead times. Between Africa and other continents. In this case, the final products are manufactured in different factories and purchased worldwide through complex networks in different countries (Yadav & Sharma, 2016). This globalization of production activities increases the total time of the production cycle, which essentially leads to the SC and therefore allows the SC to respond promptly to customer demand (Staritz, 2011).

A study conducted by Makena (2014) on the impact of SCmanagement practices on the organization's performance found that 'there was a positive impact on the organization's performance'.

The study variables under study were 'uptime, cost, responsiveness, customer service, and profitability or margins. However, it was found that some respondents were not familiar with some practices such as customer relationship management (CRM) or SRM and therefore lacked values (Yadav, 2013). It was therefore clear that HACO Limited Industries' organizational performance had improved with the implementation of these practices compared to the previous implementation, so that the customeroriented approach to SCM could benefit an organization. Today, the choice of a supplier depends not only on the price of raw materials, but also on the "cost of time" to meet the needs of customers (Mohanty & Gahan, 2015).

This means that the delivery process is demanding and has become more complex for the buyer and must be attributed not only to profitability, but also to the responsiveness of the incoming material flow. Possible ways to shorten or bridge this time interval are to shorten logistical steam time with tools such as SC mapping and bottleneck management (Law, et. al., 2011). At the same time, the sales order cycle could be narrower and increase demand visibility in the SC. Companies around the world have used inventory management to close the time gap. This inventory accumulates using a forecast to predict customer demand before actual demand arises (Gachago&Iyala, 2016). However, the accuracy of predictions is evasive and never perfect, regardless of the advanced prediction system used. Due to the technology and forecast errors used, there will always be too much or too little stock available, which will affect SC performance.

Strategic priorities should take into account other key alliance partners that add value to consumer and or purchaser (Kotler, Dingea, &Pfoertsch, 2016). Strategic and operational plans should be persistently traded and composed. As opposed to urging organizations to precisely report their data, certainty building measures energize the trading of all potential types of data that empower SC individuals to settle on better and facilitated choices (Mbiko*et al*., 2017). Therefore, this study intended to "Determine the Influence Supplier of Relationship management on the performance of Food and Beverage manufacturing firms in Kenya".

Literature review

Theoretical review

Agency theory

According to Wilhelm & Sydow, the agency theory (2018) was created by Eisenhardt in 1989. Agency theory shows the association between business managers and agents. The theory is primarily used to determine questions among specialists and chiefs, where specialists should meet the organization's objectives and objectives of expanding the organization's productivity and investor esteem. The hypothesis manages the contentions that emerge when providers don't meet the targets and goals of the organization in the connections of offering types of assistance and merchandise of low quality, low amount, conveyance of products at the ideal time and expanded working expenses of the company. These issues lead to a contention among SC employees and providers, which diminishes the organization's trust in providers (Fleishar, 2011).

The theory is relevant to the study, where it helps the company improve a good relationship with suppliers to ensure that suppliers meet the company's requirements and wishes through supplier development strategies, thus increasing the performance of contracts. According to Cheshmberah (2020), supplier development is a long-term collaboration between a purchasing company and its suppliers to improve technical, high-quality, and delivery and supplier costs and promote continuous improvement. The Chartered Institute of Purchasing and Supply (CIPS) (2013) characterizes provider advancement as the way toward working with explicit providers each in turn to improve their presentation (and abilities) to help buying association. Provider advancement exercises are the main endeavors that oblige organizations not exclusively to acquire upper hands,

yet in addition to create providers for long haul associations and relationship improvement (Salimian, Rashidirad, & Soltani, 2017).

Relationship marketing theory

The focus is on long-term relationships and added value. According to Sheth &Parvatiyar (1995), the emergence of the relationship marketing perspective has been marked by a paradigm shift in relationships, because it is not only interested in the classical parameters of economic exchange, but also takes into account non-economic characteristics, especially trust and commitment. Veloutsu, Saren &Tzokas (2002) study relationship promoting as a way of thinking to realign purchasers and providers through a business system that unites them in a helpful and agreeable manner and guarantees synergistic, dependable and commonly advantageous connections. Relationship promoting hypothesis is especially relevant to purchaser provider settings, as it centers on "close long haul intuitive associations with, specifically, providers of rivalry, struggle and discretionary autonomy to common collaboration and shared reliance (Stavros, Pope, & Winzar, 2008).

Collaboration with suppliers and customers is the fourth pillar on the road to building a SC excellence delivery strategy (Slone, 2004). Coordinated effort with providers implies working with leaders at the provider level to distinguish enhancements that can be quantifiable and positive for the two organizations. An illustration of cooperating with merchants may be updating an item that is a custom maker ally for your association. Fernandes, & Pacheco (2010) says that preparing a business world with rapidly changing markets and customer needs, strategically rethinking manufacturing and SC strategies has become the standard practice for businesses to succeed. The margins of manufacturers and suppliers are reduced, as the traditional opponent of the manufacturer receives "only the best price" from suppliers (Shalle, Guyo &Amuhaya, 2014). This methodology makes momentary offices and doesn't actually improve the serious situation of one or the other party. High ware unpredictability keeps on prompting a freeze in market interest and expands tension on makers and providers. Without a mutual benefit maker provider proportion, costs and creation stay troublesome (Agango, &Achuora, 2018).

Social Exchange Theory (SET)

Ekeh (1974), postulates that social exchange refers to the process of exchanges that takes place between two parties or more. Ekeh (1974), further implies that connections among people are encouraged through a money saving advantage investigation and assessment of existing other options. SET is acquired from different teaches like financial matters, humanism, and brain science. As per SET expenses are essential for social trades in social life and prizes are likewise important for social trades and they additionally make positive worth (Ratemo, 2011). According to (Ratemo, 2011) inter-personal relationships best yield personalized satisfaction for the parties involved. SET likewise hypothesizes that personal circumstance is fairly alluring and it very well may be utilized to better connections. Social trades are pretty much equivalent to financial trades.

Suppliers in an association can have various qualities and include various dangers. It is along these lines important to separate providers into gatherings and to create comparative buying procedures dependent on this portrayal (Gelderman and Weele 2005). Supplier grouping practice is one of SRM's most important sub-protection measures and is called supplier segmentation. Supplier segmentation can be defined as "a process in which suppliers are divided into different groups with diverse behavior that require different types of intercompany relational structures to achieve stock exchange value" (Day, Magnan and al. 2010). Supplier segmentation is a relatively mature topic and criticism comes from the information literature that describes developments in this area (Turnbull 1990, Carter and Narasimhan 1996, Gelderman and Weele 2005, Rezaei and Ortt 2012). Albeit the theme is full grown, the strategies for provider division are as yet dependent upon a few reactions, which are generally connected to the nonexistence of normalization in the choice of factors for the

gathering's providers or the absence of thought of social interdependencies (Gelderman and Weele 2005, Rezaei and Ortt 2012).

Systems theory

Systems theory brings together several components of a complex SC (i.e. human beings, capital, information, materials and financial resources, etc.) to form a subsystem that is therefore part of a larger SC or network system. The theory argues that for a holistic theory of frameworks it ought to be utilized to comprehend the inner and outside factors that shape an association's presentation. The business climate is getting dubious, purchaser and provider frameworks are more firmly associated than any time in recent memory, working as a solitary unit with sub-conductors. This is more predictable with relationship showcasing as inseparable from an organization viewpoint on provider-based connections (Gummesson, 2000).

The information elements encompass overlying communiqué and infrastructures relating to decision making. According to Enterprise Research Centre (LERC) information flow in a contemporary SC is a key ingredient of SC management (Lambert et al., 1998). Sigh and Mitchell, (1996) demonstrated the importance of information flow in the SC that is best managed in three tiers; in the pre transactional element, transactional element and post transaction element of the buying process. Data trade is fundamental since it empowers coordination of different SC measures. Material stream on a SC is fixed on precise data trades among SC participants and as such firms can react to showcase elements suitably as long as the correct data is shared. SC setup impacts the measure of data that can be partaken in a SC. Data sharing empowers streamlining of SCs and improved firm execution. Bowersox, (2000) alludes that for purposes of having an optimum SC performance, information on demand forecasts and promotional information should be shared across the supply chain.

Empirical review

Supplier segmentation

Rezaei, Wang, &Tavasszy (2015) present a method similar to the one where Kraljic 1983 categorizes the purchase according to its strategic importance and management difficulty. According to these dimensions the purchases or types of products are differentiated and the segments described are the same as those presented in Kraljic 1983. The next phase aims to differentiate supplier relationships by the strength of relationship and the relative supplier attractiveness. In short, this is a form of supplier performance rating combined with an assessment of the current SC relationships. Based on the identified positions of supplier relationships, the manufacturer may decide to strengthen the relationship, try to improve the supplier attractiveness or relationship strength, or reduce the resources allocated to the supplier.

Rezaei and Ortt (2012) suggest that segmentation should follow a natural progression where supplier selection is first performed followed by the segmentation procedure based on the dimensions: willingness to form and maintain a relationship with the buyer, and the supplier's performance capability. After segmentation, SRM strategies are defined to fit the criteria. After operating according to the defined relationship structure, the buyer may choose to develop supplier capabilities. Regular evaluation of the benefit provided by the relationship can help the buyer to determine if a supplier should be replaced or possibly re-segmented. Finally, the authors demonstrate the importance of considering the full range of business functions when segmenting suppliers. The segmentation of suppliers should be considered not only as it affects purchasing but also the impacts on departments such as production, finance, logistics, etc. Different functions at the suppliers can be segmented differently according to the dimensions of willingness and capability, and therefore individual efforts may be made to strengthen relationships specific to each function.

Supplier collaboration

Whitehead, Zacharia & Prater (2019) looked to identify boundary conditions around collaboration and performance by introducing moderating variables with collaboration and mediating variables between collaboration and performance. The authors hypothesized that the moderating variables of SC partner insight and interdependence between knowledge and process of participants would positively enhance the level of collaboration among the SC partners. Empirical analysis of survey responses from SC professionals supported these hypotheses. Additionally, the authors hypothesized that collaboration would lead to favorable operational and relational outcomes which would then impact business performance. Results supported collaboration's relationship with operational and relational outcomes and operational outcomes impact on business performance. The findings reveal that while collaboration has been shown to have a direct relationship with performance, some mediators can be present in the collaboration / performance link.

Pulles, Schiele, Veldman &Hüttinger (2016) further examined the idea of relational mediators between SC collaboration and performance in an attempt to understand if successful collaborative relationships pay for the additional expense incurred to make them work. Using respondents generated from various mailing lists, the authors separated out buyers and suppliers to investigate how collaborative activities influence trust and commitment and then these mediating variables' relationship with satisfaction and performance. While certain results were different between the buyer and supplier samples, the general consensus from the two compared samples was that developing trust and commitment was desirable. Actions that buyer or suppliers could take to improve trust and commitment can result in greater benefits from the collaborative relationship (Nyaga et al., 2010). The authors point out that the relational aspects of successful collaborations can have a long-term financial impact on firms.

Information flow

Okiria, Mwirumubi, &Mpaata (2017), observed that despite the Republic of Uganda's obligation to improve access to medical supplies, the achievement of access to the same remains a distant dream and that such bottlenecks limiting the realization of this goal is not well documented. The structural challenges limiting access to medical supplies have not been identified systematically. This is according to a study conducted on an area that have high prevalence of Malaria. Some of the challenges affecting medical supplies are attributed to poor logistics such as poor demand planning and inaccurate demand forecasts, poor procurement tactics and strategies

Jan, Lubbe, Seabelo, & Klopper (2015) established that ICT had a moderating effect on banks performance and profitability in specific. This was consistent with the findings of Kozak (2005) that established that there was optimism between ICT, productivity and cost reduction. DiMaggio et. al. (2004) reviewed the effects supplier development technology on performance of pharmaceutical firms. The study used a simultaneous approach to multiple linear regression using all the variables to predict dependent variables. The study used the National Longitudinal Study of 1988 produced by the National Center for Educational Statistics. There was shown to be a 3-5% gain firms whose performance was improved. Li, Jin, Lei, Pan, & Zou, (2015) prepared a study that suggested that rapid implementation of technology in shipping and manufacturing needs to be accompanied by proper integration, technical support, parental support, and training. Just the purchasing of equipment and the resulting implementation will not by itself improve education. There needs to be a full integration framework and environment for the technology to be successful.

Supplier development

Kivite (2015) established that a procuring entity will engage in SD initiatives so as to improve performance. The study further suggested that there is need for procuring entities to foster relationships with suppliers who they have long term relationships with. With an aim of exchanging

information and having a joint problem-solving initiative. Nonetheless, the study failed to show the effects of buyersupplier relationships on the performance of the buyer. Kivite (2015) established "the effects of SC management practices on performance of telecommunication industry in Kenya and found out that SCM practices have a positive effect on firm performance. Nonetheless, this study was sector specific and hence it cannot be inferred to other sectors.

Simeka& Were (2016) established the factors that influence SD in public institutions and contended that SD is one of the ways through which firms revolutionize their efficiency. Wachiuri, Waiganjo and Oballah (2015), recommended that buying enterprises and that there should be an enhancement of communication channels between buyers and suppliers for purposes of effective evaluation of feedback every now and then. This allows suppliers to continually improve on areas that they are exhibiting weaknesses. Also, Kosgei and Gitau (2016), contended that alcohol and beverage companies were embracing collaborative relationships in bid to improve their SC performance. Mwirigi (2011) contended that SC relationships significantly contribute to profits and growth.

Performance of food and beverages manufacturing firms

Kosgei & Gitau (2016) established concluded that firms in the alcohol beverage industry are significantly embracing collaborative relationships with their suppliers in an endavour to improve on their

SC performance. Mwirigi (2011) found out that SC relationships play vital role in the growth of SMEs They contribute to the firm growth and return on investment in numerous ways. Further the study indicated that a strong sustainable relationship between an enterprise and its customers on one hand, and its suppliers on the other hand have positive effect on the speed of growth in transactions and profitability. The study concluded that there is need for the process of creation of SC relationships to be approached in a more structured way to enhance its role in the growth of SMEs. Tangus, Oyugi, Rambo & Rono (2015) and discovered that the absence of trust inhibits measurably the chance of successful SC performance. A lack of trust among SC partners often results in inefficient and ineffective performance as the transaction costs (verification, inspections and certifications of their trading partners) mount. Although the literature often mentioned a relationship between trust and commitment, there was a lack of empirical testing of such relationship in the supply context. The study attempted to fill the gap between the theoretical argument and empirical testing. Results using a comprehensive survey of SC practitioners indicated that a firm's trust in its SC partner is highly associated with both sides' specific asset investments (positively) and behavioral uncertainty (negatively).

Research gaps

Several studies have been carried out the effect of supplier relationships management. A case in point; Waraporn, (2012), examined the role of buyer-supplier commitment in supplier performance improvement, Makena (2014), studied effect of SC management practices on the organization performance, Wachiuri (2015), investigated role of supplier development on organizational performance of manufacturing industries in Kenya. Therefore, it is eminent from the different studies done locally; supplier relationships management aspect have been concentrated on the on-developed countries without focusing on the developing countries.

Research methodology

Research design

The study adopted a cross sectional survey design. A cross sectional survey design that combined both qualitative and quantitative components of research.

Target population

The targeted population was Food and Beverage manufacturing Firms since KNBS, (2018) identified that majority of the highly manufacturing sector in the economy is Food and Beverage

manufacturing firms due the fluctuating prices amounting to high operational costs. The target population of this was therefore Procurement Officers, Logistics Officers and Warehousing of 63 Food and Beverage manufacturing firms in Kiambu County.

Sampling frame

The sampling frame of the study consisted of 63 Food and Beverage companies in Kiambu County. The respondents were Procurement Officers, Logistics Officers and Warehousing Officers.

Sample size and sampling technique

Census and Purposive Sampling were used in this study. Census allowed the selection of the companies from the many Food and Beverage companies, Purposive sampling was used since the study was only focusing on Procurement, Logistics and Warehousing Officers. It was considered a fair way to select a sample from a larger population since every member of the population had an equal chance of getting selected (Mugenda & Mugenda, 2003).

Kombo and Tromp (2009) defined a sample as a collection of units chosen from the universe to represent it. It is the sub set of population that is selected for a study which is representative of that population (Nalzaro, 2012). A sample was needed because a study that is insufficiently precise, lacks the power to reject a false null hypothesis and is a waste of time and money. For this study the strata were Purchasing, Warehousing and Logistics Officers derived from 63 Food and Beverage companies, 3 Questionnaires were issued per company.

Table 1.

Sample size.

Department	No of Firms	No of Respondents	Total Respondents
1 Purchasing	63	1	63
2 Logistics	63	1	63
3 Warehousing	63	1	63
Total			189

Research instrument

The study used primary data. The primary sources included questionnaires, comprising of both structured and unstructured questions, which were issued to the Procurement Officers, Warehousing and Logistics Officers of Food and Beverage manufacturing firms within Kiambu County. The questionnaires contained both open and close-ended questions. The close-ended questions provided more structured responses to facilitate tangible recommendations.

Data collection procedure

An introduction letter was obtained from the university. A permit was sought from manufacturing firms with the goal of getting permission to collect data. Once the permit was granted, the questionnaires were self-administered to the respective respondents.

Pilot testing

A pilot test was conducted using questionnaires on 19 respondents working for food and beverage manufacturing firms which were located within in Nairobi County. The employees were selected through random sampling. Pilot testing was necessary to find out whether the respondents found the items on the questionnaire to be clear, precise and comprehensive enough thus enhancing reliability.

Reliability of the research instrument

For this study, the internal consistency was verified using Cronbach's alpha statistic. This statistic showed the mean association between all the things that make up the scale. According to Taber

(2018) Cronbach's alpha refers to an internal consistency measure which shows how closely related a set of items are as a group. Cronbach's Alpha Coefficient value of 0.70 indicates reliability.

Data analysis

After collecting the data, the researcher pre-processed it eliminated unwanted and unusable data which interfered with the analysis, subsequently, coding of quantifiable as well as quantitative data was done and fed into statistical packages for Social Scientists SPSS (Version 24). Descriptive statistics were first generated for quantitative data while for qualitative data, computer aided content analysis was done where common themes were assigned a code and entered in SPSS to generate descriptive statistics inform of mean and standard deviation graphs and frequency tables. Content analysis is highly suitable in unobtrusive and interview data which is not analysable until the information transmitted has been systematically condensed and rendered comparable (Abbott & McKinney, 2013). For this study, Linear multiple linear regression analysis was used to find out percentage of change on dependent variable influenced by independent variables and the equation was:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \square$

Where: Y = Performance of Food and Beverage manufacturing firms in Kenya.

β_0=constant (co efficient of intercept)

X1= supplier segmentation

X2= information flow

X3 = supplier collaboration X4 =supplier development

$\beta_1$to β_4= Regression coefficient of four (4) variables $\square$= error term

Discussion of findings

Reliability results

A pilot study was conducted in Nairobi City County to validate the study instrument, with 19 participants sampled, whilst also varying levels of reliability are considered necessary. Depending on the scale's design and intent, a Cronbach Alpha of greater than 0.7 indicates that the tools are reliable (Cooper & Schindler, 2008). The pilot study's aggregated reliability statistics were as follows: Table 2.

Reliability findings.

Variable	Number of Items	Cronbach Alpha	Decision
Performance	14	.950	Accepted
Supplier Segmentation	7	.841	Accepted
Information Flow	7	.903	Accepted
Supplier Collaboration	7	.906	Accepted
Supplier Development	7	.949	Accepted

Descriptive analysis findings

Supplier segmentation

The study of supplier segmentation was shown using mean averages and standard deviations in the investigation. Participants were asked to rate how much they agreed with a statement about the influences of supplier segmentation on the performance of food and beverage manufacturing firms. 5point Likert scale statements were created, and the results are shown in table 3 The findings showed that majority of the respondents disagreed with the assertion that we effectively use our organizational time through supplier segmentation ($\bar{x}$ = 2.5454, SD= .75567). For the statement on we have established different levels of engagement with our suppliers through supplier

segmentation, most of the respondents disagreed ($\bar{x}$ = 2.3455, SD= .58430). The majority of participants held the view that supplier segmentation enables our firm to have differentiated approach in dealing with various suppliers ($\bar{x}$ = 3.4181, SD= .53371). In addition, majority of the respondents strongly agreed with the statement that we segment our supply base based on the supply risk exposure ($\bar{x}$ = 3.5636, SD= .63138). Further, the majority of participants held the view that our firm segments its suppliers based on the criticality of items they supply ($\bar{x}$ = 3.6363, SD= .55656). Finally, majority of the respondents agreed with the assertion that we have reduced on organizational spend by segmenting our supply base ($\bar{x}$ = 3.9272, SD= .50385).

Using a 5-point scale Likert mean of more than ($\bar{x}$ = 3.4) in four out of six statements, it is clear that a major section of the respondents agreed with the most of the assertions on supplier segmentation. The findings of the study show that supplier segmentation has a positive influence on the performance of food and beverages manufacturing firms. These findings mirror those of Lajimi and Majidi (2021), who established that segmenting the suppliers is critical for improving the company's operational and functional capabilities in managing supply, as well as creating value and synergy with suppliers; consequently, playing a critical role in enhancing the efficacy in addition to performance of supply chains. Table 3.

Supplier segmentation descriptive statistics.

Statements on Supplier Segmentation	Mean	Std. Deviation
We effectively use our organizational time through supplier segmentation	2.5454	.75567
We have established different levels of engagement with our suppliers through supplier segmentation	2.3455	.58430
Supplier Segmentation enables our firm to have differentiated approach in dealing with various suppliers	3.4181	.53371
We segment our supply base based on the supply risk exposure	3.5636	.63138
Our firm segments its suppliers based on the criticality of items they supply	3.6363	.55656
We have reduced on organizational spend by segmenting our supply base	3.9272	.50385

Information flow

The research aimed to assess the influence of information flow on the performance of manufacturing companies in Kiambu County. The descriptive findings in table 4 illustrated that most of the respondents agreed with the statement that information flow has reduced customer complaints ($\bar{x}$ = 3.4272, SD= .96329). In addition, the majority of participants held the view that inventory management practices are seamless in our firm ($\bar{x}$ = 3.6364, SD= .54309). Moreover, most of the respondents agreed with the statement that we share forecasted demand data in real time with our suppliers ($\bar{x}$ = 3.6643, SD= .46997). Besides, many of the respondents agreed with the statement that we make better pricing decisions and are able to increase our market share ($\bar{x}$ = 3.6336, SD= .46997). Further, most of the respondents agreed with the statement that decision making is strategic and better executed in our firm ($\bar{x}$ = 3.5366, SD= .58889). Lastly, the majority of participants held the view that our firm utilizes electronic data interchange to enhance information flow ($\bar{x}$ = 3.8363, SD= .46202).

Using a five-point scale Likert mean more than ($\bar{x}$ = 3.4) it is clear that a major section of the respondents agreed with the all the statements on information flow. The findings of the study show that information flow has a positive influence on the performance of food and beverages

manufacturing firms. These findings mirror those of Durugbo, Tiwari and Alcock (2013) who revealed that modeling flow of information for organizations is a complex and challenging task that helps researchers and managers effectively articulate how to: organize, integrate and coordinate procedures, eradicate obsolete flow of information and processes, minimize information duplication, and manage intra-and inter-firm information sharing to improve performance of firms.

Table 4.

Informationflow descriptive statistics.

Statements on Information Flow	Mean	Std. Deviation
Information flow has reduced customer complaints	3.4272	.96329
Inventory management practices are seamless in our firm	3.6364	.54309
We share forecasted demand data in real time with our suppliers	3.6643	.46997
We make better pricing decisions and are able to increase our market share	3.6336	.55656
Decision making is strategic and better executed in our firm	3.5366	.58889
Our firm utilizes electronic data interchange to enhance information flow	3.8363	.46202

Supplier collaboration

The study sought to establish the influence of supplier collaboration on performance of food and beverages manufacturing firms in Kiambu County. The descriptive findings in table 5 illustrated that most of the respondents disagreed with the statement that our firm has improved its warehousing activities through supplier collaboration ($\bar{x}$ = 2.2727, SD= .32515). Plus, many respondents agreed with the statement that our firm has had minimal stockouts due to collaborating with suppliers in inventory management ($\bar{x}$ = 3.9099, SD= .53308). In addition, the majority of participants disagreed with the argument that supply chain transactions have been delivered at the right time, cost and as per the contract through collaborative execution ($\bar{x}$ = 2.4000, SD= .65546). Moreover, most of the respondents agreed with the statement that we have established strong inter-firm relationships through collaborative communication with suppliers ($\bar{x}$ = 3.6722, SD= .54618). Further, many of the respondents agreed with the statement that supplier collaboration has led to innovation due to sharing of ideas and joint problem solving ($\bar{x}$ = 3.8363, SD= .37335). Finally, the majority of participants held the view that our firm has developed high quality products through supplier collaboration ($\bar{x}$ = 3.9818, SD= .35957).

Using a five-point scale Likert mean more than ($\bar{x}$ = 3.4) in four out of six statements, it is clear that a major section of the respondents agreed with the all the assertions on supplier collaboration. The findings of the study show that supplier collaboration has a positive influence on the performance of food and beverages manufacturing firms. These findings mirror those of Patrucco, Moretto, Luzzini and Glas (2020), who revealed that vendor collaboration practices drive the commitment of suppliers, which in turn enhances companies' innovation and performance.

Table 5.

Supplier collaboration descriptive statistics.

Statements on Supplier Collaboration	Mean	Std. Deviation
Our firm has improved its warehousing activities through supplier collaboration.	2.2727	.32515

Our firm has had minimal stockouts due to collaborating with suppliers in inventory management.	3.9099	.53308
Supply Chain transactions have been delivered at the right time, cost and as per the contract through collaborative execution.	2.4000	.65546
We have established strong inter-firm relationships through collaborative communication with suppliers.	3.6722	.54618
Supplier collaboration has led to innovation due to sharing of ideas and joint problem solving.	3.8363	.37335
Our firm has developed high quality products through supplier collaboration.	3.9818	.35957

Supplier development

The study sought to determine the influence of supplier development on performance of food and beverages manufacturing firms in Kiambu County. The descriptive findings in table 6 illustrated that most of the respondents disagreed with the statement that through onsite assistance order fulfilment cycle time has reduced ($\bar{x}$ = 2.1818, SD= .54741). In addition, many of the respondents disagreed with the statement that our firm established new products with the help of our suppliers ($\bar{x}$ = 2.2000, SD= .55777). Besides, the majority of participants disagreed with the argument that our vendors/suppliers have reduced lead times for replenishment of our orders ($\bar{x}$ = 2.2909, SD= .65751). Further, many of the respondents agreed with the statement that we have improved product performance through onsite assistance ($\bar{x}$ = 3.6545, SD= .51704). Moreover, most of the respondents agreed with the statement that our firm has achieved competitive advantage through supplier development ($\bar{x}$ = 3.9009, SD= .34815). Finally, the majority of participants held the view that our buyer supported training has improved the quality of products ($\bar{x}$ = 4.0000, SD= .54433).

Using a five-point scale Likert mean more than ($\bar{x}$ = 3.4) in three out of six statements, it is clear that a major section of the respondents agreed with the all the assertions on supplier development. The findings of the study show that supplier development has a positive influence on the performance of food and beverages manufacturing firms. These findings mirror those of Sillanpää, Shahzad and Sillanpää (2015), who revealed that initiatives of developing suppliers therefore provide a systematic approach to developing buyer-supplier long term relationships in order to enhance performance of companies. Further, the buyer creates supplier development programs aimed at boosting and upgrading supplier technical competency in areas such as quality, production procedures, and management best practices in order to boost the firm's efficiency (Aboutorab, Saberi, Asadabadi, Hussain & Chang, 2018). Table 6.

Supplier development descriptive statistics.

Statements on Supplier Development	Mean	Std. Deviation
Through onsite assistance order fulfilment cycle time has reduced.	2.1818	.54741
Our firm established new products with the help of our suppliers.	2.2000	.55777
Our vendors/suppliers have reduced lead times for replenishment of our orders.	2.2909	.65751
We have improved product performance through onsite assistance.	3.6545	.51704
Our firm has achieved competitive advantage through supplier development.	3.9009	.34815
Our buyer supported training has improved the quality of products.	4.0000	.54433

Performance of Food and Beverages Manufacturing Firms

The study sought to determine the contribution of measures of performance in the perspective of profitability, customer satisfaction and market share of firms which is achieved as a result of managing supplier relationships. The descriptive findings in table 7 illustrated that most of the respondents agreed with the statement that profitability has been enhanced by controlling operating expenses ($\bar{x}$ = 3.5272, SD= .57266). In addition, many of the respondents agreed with the statement that our firm has achieved growth due to continuous learning ($\bar{x}$ = 3.7454, SD= .51704). Besides, the majority of participants held the view that increased market share has increased organizational profitability ($\bar{x}$ = 3.8363, SD= .53622). Moreover, most of the respondents agreed with the statement that our firm's cash flow improved due to improved financial decisions ($\bar{x}$ = 4.1818, SD= .53371). Further, many of the respondents agreed with the statement that the response time to complaints has improved as a result of collaboration with our customers ($\bar{x}$ = 3.4909, SD= .73718). Also, the majority of participants held the view that our ability to share information with our customers has increased the quality of our products and services ($\bar{x}$ = 3.7227, SD= .67917). Plus, many of the respondents agreed with the statement that customer retention has increased as a result of excellent customer service ($\bar{x}$ = 3.9818, SD= .35957). Additionally, most of the respondents agreed with the statements that product differentiation for our customers has improved as a result of sharing information with our suppliers ($\bar{x}$ = 3.4223, SD= .60413). Similarly, the statement on our strategic partnership with suppliers has given us a competitive edge was widely held ($\bar{x}$ = 3.6545, SD= .69968). Finally, the majority of participants held the view that higher sales volumes have resulted from our collaboration with our customers ($\bar{x}$ = 3.7773, SD= .55958).

Using a five-point scale Likert mean more than ($\bar{x}$ = 3.4) it is clear that a major section of the respondents agreed with the all the statements on performance of food and beverages manufacturing firms in Kenya. Thus, the study revealed that profitability, customer satisfaction and market share had a positive influence on performance of food and beverages manufacturing firms. These findings mirror those of Larasati and Purwanto (2022), who established that organizations with high profit margins are considered more competitive than firms with low profit margins. According to Gichuru, Iravo and Arani (2015), increased market share and customer retention are more important for a firm's growth. Suchánek, Richter and Králová (2014), go on to say that good customer service leads to adequate customer satisfaction, which leads to increased sales.

Table 7.

Performance Descriptive Statistics.

Statements	Mean	Std. Deviation
Profitability has been enhanced by controlling operating expenses.	3.5272	.57266
Our firm has achieved growth due to continuous learning.	3.7454	.51704
Increased market share has increased organizational profitability.	3.8363	.53622
Our firm's cash flow improved due to improved financial decisions.	4.1818	.53371
The response time to complaints has improved as a result of collaboration with our customers.	3.4909	.73718
Our ability to share information with our customers has increased the quality of our products and services.	3.7227	.67917
Customer retention has increased as a result of excellent customer service.	3.9818	.35957

Product differentiation for our customers has improved as a result of sharing information with our suppliers.	3.4223	.60413
Our strategic partnership with suppliers has given us a competitive edge.	3.6545	.69968
Higher sales volumes have resulted from our collaboration with our customers.	3.7773	.55958

Inferential analysis findings

Correlation analysis

The study discovered a positive correlation between both the set of independent [predictor] variables and the dependent [predicted] variable ($r > 0.2$, $p < .001$ in all cases). The strength of the relationship between the independent variables and the dependent variable was large. Supplier segmentation ($r = .552$, large), information flow ($r = .538$, large), supplier collaboration ($r = .783$, large), and supplier development ($r = .580$, large). The findings obtained for supplier segmentation are in line with those of Kurgat (2021), who established that there was a positive correlation between supplier segmentation and firm performance. In addition, the findings obtained for information flow are in line with those of Kelvin & Charles (2021) who revealed that there was a positive correlation between information flow and performance of firms. Further, the findings obtained for supplier collaboration are in line with those of Kurgat (2021), who established that there was a positive correlation between supplier collaboration and firm performance. Finally, the findings obtained for supplier development are in line with those of Derakhshan, Ong, and Marthandan (2019), who revealed that there was a positive correlation between supplier development and performance of firms.

Table 8.

Correlation analysis of study variables.

Variables		Supplier Segmentation	Information Flow	Supplier Collaboration	Supplier Development	Performance
Supplier Segmentation	Pearson Correlation	1	.699**	.757**	.754**	.552**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	143	143	143	143	143
Information Flow	Pearson Correlation	.699**	1	.804**	.395**	.538**
	Sig. (2-tailed)	.000		.000	.003	.000
	N	143	143	143	143	143
Supplier Collaboration	Pearson Correlation	.757**	.804**	1	.629**	.783**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	143	143	143	143	143
Supplier Development	Pearson Correlation	.754**	.395**	.629**	1	.580**

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	Sig. (2-tailed)	.000	.003	.000		.000
	N	143	143	143	143	143
Performance	Pearson Correlation	.552**	.538**	.783**	.580**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	143	143	143	143	143

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

Regression analysis findings

The results in table 9 present the model summary used of the regression model in expounding the study phenomena. Supplier development, information flow, supplier collaboration and supplier development were found to be suitable variables in influencing the performance of food and beverages manufacturing firms in Kenya. This is affirmed by the Adjusted R Square of 62.6%. This means that supplier development, information flow, supplier segmentation and supplier collaboration explain 62.6% of the variations in the dependent variable which is performance of food and beverages manufacturing firms in Kenya. The findings further indicate that the model is used to link the relationship of the variables was suitable.

Table 9.

Model summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.808[a]	.654	.626	.16286

Predictors: (Constant), Supplier Development, Information Flow, Supplier Segmentation, Supplier Collaboration.

Analysis of variance findings

The findings in table 10 show the analysis of variance in the study. The findings show that the overall model was statistically significant as reinforced by a p value of .000 which was less than the critical p value of 0.05. In addition, the findings showed that the independent variables are key predictors of performance in food and beverages manufacturing firms. This was affirmed by an F statistic of 23.589 and the stated p value of .000 which was less than the conventional probability of 0.05 significance level. Table 10.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.503	4	.626	23.589	.000[b]
	Residual	1.326	138	.027		
	Total	3.829	142			

Dependent Variable: Performance

Predictors: (Constant), Supplier Development, Information Flow, Supplier Segmentation, Supplier Collaboration.

Regression coefficients

The findings from table 11 showed that supplier segmentation had a positive and significant influence on performance of food and beverages manufacturing firms (r = .206). The findings also demonstrated that information flow had a positive and significant influence on performance of food and beverages manufacturing firms (r = .141). The findings further recognized that supplier

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collaboration had a positive and significant influence on performance of (r = .919). Finally, supplier development was revealed to have a positive and significant influence on performance of food and beverages manufacturing firms (r = .213). Therefore, the overall regression findings showed that there was a positive and significant relationship between supplier relationship management and the performance of food and beverages manufacturing firms Kenya. Consequently, an increase in the supplier relationship management facets would lead to a corresponding increase in the performance of Kenyan food and beverages manufacturing firms.

Table 11.

Regression coefficients[a].

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	.380	.401	
	Supplier Segmentation	.244	.201	.206
	Information Flow	.109	.125	.141
	Supplier Collaboration	.088	.202	.919
	Supplier Development	.186	.125	.213

Dependent Variable: Performance

To this end, the optimal model was;

Y=□0+□1 X1+□2X2+□3X3+□4X4+ε

Performance of Food and Beverages Manufacturing Firms = 0.380 + 0.244X1 + 0.186X2 + 0.109X3 + 0.088X4

Where; Y= Performance of Food and Beverages Manufacturing Firms. β0=constant

βi is the coefficient for Xi (i = 1, 2,3,4)

X1 = Supplier Segmentation

X2 = Supplier Development

X3 = Information Flow

X4 = Supplier collaboration

□1 □2 □3 □4 = Regression coefficients ε = error term

Conclusions and recommendations

Conclusions

The study's overarching goal was to investigate the influence of supplier relationship management on the performance of Kenyan food and beverage manufacturing firms. The research concluded that supplier segmentation had a significant positive impact on firm performance. The research found a strong relationship between supplier segmentation and performance of food and beverage manufacturers, so it is worth concluding that supplier segmentation is embraced by company management and influences the performance of food and beverage manufacturing firms in Kiambu County.

The study concluded that information flow influenced the performance of food and beverage manufacturing firms in Kiambu County. This is explained by the Pearson product moment correlation coefficient, which revealed that the influence was significant and positive. As a result,

information flow aided food and beverage manufacturers in improving their understanding of customer requirements, inventory visibility, and shipment planning. Furthermore, the study concluded that information access, information exchange, and records management are all integral parts of information flow and, as such, have an impact on the performance of food and beverage manufacturers in Kiambu County.

The study, on the other hand, concluded that supplier collaboration had a significant positive influence on the performance of food and beverage manufacturing firms. It was discovered that there was a strong relationship between supplier collaboration and the performance of food and beverage manufacturers; thus, the study concluded that supplier collaboration influenced the performance of food and beverage manufacturers in Kiambu County. Furthermore, the study concluded that Kiambu County food and beverage manufacturers frequently establish supplier collaboration through partnerships and early supplier involvement. According to the study findings, Kiambu food and beverage manufacturers had adopted supplier collaboration for effective performance. As a result, the study concluded that joint product development, development forecasting, and joint alliances are essential components of supplier collaboration and, as such, influence the performance of Kiambu County's food and beverage manufacturing firms.

To end with, the study concluded that supplier development had a significant positive impact on the performance of food and beverage manufacturing firms in Kiambu County. The research concluded that supplier development influenced the performance of food and beverage manufacturing firms in Kiambu County because there was a strong relationship between supplier development and firm performance. Furthermore, the study concluded that food and beverage manufacturers in Kenya regularly engage in supplier development with their suppliers. Similarly, the study determined that Kenyan food and beverage manufacturing firms had adopted supplier development for effective performance. As a result, the study concludes that buyer-supported training, supplier evaluation, and onsite assistance are essential components of supplier development and, as such, influence the performance of Kiambu County's food and beverage manufacturing firms.

Recommendations

To improve performance, food and beverage manufacturing firms should identify, select, and implement appropriate supplier segmentation approaches, according to the study. Managers in particular should train their employees in the matrix, geographic, and pyramid approaches to supplier segmentation. Vendor segmentation reduces the number of strategies that a company must employ by creating a manageable number of supplier segments. This will assist food and beverage manufacturers in maintaining and improving their market position, resulting in improved performance.

Furthermore, the study recommends that food and beverage manufacturers improve their flow of information in order to meet the expectations of their customers. Principally, managers should encourage their partners and personnel to involve with vendors in order to stay ahead of competitors in markets due to improved understanding of customer requirements. Similarly, the study suggests that firms improve their information flow in order to achieve better inventory visibility and shipment planning.

According to the study, food and beverage manufacturing companies should improve their supplier collaboration. As a result, managers in food and beverage manufacturing companies should devise resource-sharing strategies. The enhancement of resource sharing plans will continuously boost their partnerships with various supply chain partners in order to improve supply chain operations and, ultimately, increase customer satisfaction. Similarly, this study recommends that firms take part in crossborder collaborative efforts as soon as possible in order to keep up with their renowned international contemporaries.

Furthermore, it is postulated that food and beverage manufacturing companies focus on improving their supplier development programs. As a result, the companies should increase the visibility of their supplier base and the responsiveness of their suppliers. This will assist the firms in reducing stock outs and improving product quality by ensuring a streamlined production flow, which really is directly related to the companies' organizational performance. The study also recommends that managers in food and beverage manufacturing firms develop strategies for continuous appraisal of supplier diversity, which will improve supplier performance and thus firm performance.

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