

**SUPPLY CHAIN INTEGRATION AND SUPPLY CHAIN
PERFORMANCE OF FAST FOOD CHAIN RESTAURANTS IN
NAIROBI COUNTY**

BY

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DECLARATION

I declare that the work contained in this research project is my original work and it has not previously in its entirety or part submitted for a degree in any other university.

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DEDICATION

This research proposal is dedicated first to the memory of my late father. My dear and loving mom, my boy Caleb, Uncle Rufus and all my dearest friends and family who stood by me in every way possible. I remain humbled. May God bless you all!

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ABBREVIATIONS AND ACRONYMS

FBS	-	United States Federal Bureau of Statistics
GDP	-	Gross Domestic Product
KNBS	-	Kenya National Bureau of Statistics
KTDA	-	Kenya Tea Development Agency
MEST	-	The Ministry of Education Science and Technology
NRAK	-	National Restaurant Association of Kenya
NT	-	Networking Theory
RMS	-	Relationship Management Skill
SCI	-	Supply Chain Integration
SCM	-	Supply Chain Management
SCP	-	Supply Chain Performance
VIT	-	Virtual Integration Theory
WSCWK	-	Water and Sanitation Companies of Western Ken

ABSTRACT

The study objectives were to establish the extent of supply chain integration and its impact on supply chain performance in fast-food chain restaurants in Nairobi County. To determine the effect of supply chain integration on the supply chain performance of fast-food chain restaurants in Nairobi County and to establish challenges faced in the implementation of supply chain integration by fast-food chain restaurants in Nairobi County. The analysis was done using descriptive statistics such as frequency distribution, tables, mean and standard deviations. Correlation and regression analysis were used to establish the relationship between supply chain integration and supply chain performance. The study concluded that fast-food chain restaurants in Nairobi County had implemented both supplier integration and internal integration to a very large extent while customer integration has been implemented to a large extent. The study further concluded that fast-food chain restaurants in Nairobi County face challenges sometimes when implementing supply chain integration. The most faced challenges are that the organization response to changes in the business process when implementing integration; bureaucracy in the organizational structure restricts supply chain integration in our firm and integrating partners are reluctant to share costs. The study also concluded that there is a strong positive and statistically significant relationship between supply chain integration and supply chain performance among fast-food chain restaurant with supply chain integration influencing 46.4% of the total variance in supply chain performance of fast-food chain restaurant in Nairobi County. The study recommended that the management of fast-food chain restaurant within Nairobi County should initiate rapid supply chain integration efforts with the aim of making the organization highly responsive to changes in the business process. The most faced limitation was that it was gathering information. It was challenging to get the questionnaires filled by the fast-food chain restaurant within Nairobi County. Managers of Restaurant claimed their information was proprietary. The researcher had to prove to them that the information was solely sought for academic purpose and not for business competition. The scope of the study was on the effect of supply chain integration on the supply chain performance of fast-food chain restaurants in Nairobi County. The findings in this study cannot be adequately generalized to other firms such as manufacturing firms and other non-fast food service firms. Therefore, there is need to establish how supply chain integration influences the performance of other firms.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The dynamics in business practice from the last two decades have led academics in procurement and supply chain management, strategic management and logistics management to attempt exploring how inter-firm relationships influence value creation (Palmatier, 2008). The expansion in this field of knowledge has created a new functional business practice, thus leading to a conglomeration of relationship that has widened the market for business diversity. One of such business diversity is the expanding market for fast-food firms both globally and locally. The innovations of taste, customer service, and fast employment opportunity are among the essential attributes of this sector.

To adequately respond to customer preference for the best meals at affordable charges, the fast food chain restaurants as an industry has added supply chain management practices to their business process menu. In so many ways, this industry is characterized by ironies. That is, consumers, desired quality food for low prices, while the firm must acquire fresh product daily irrespective of recurrent changes in the supply market. The cost of operations and service to customer come together. Selection of daily menu depends on supplier delivery of needed inputs in time. The day-to-day activities of the fast food restaurants require thorough sourcing to meet customer demand. As management seeks reliable, consistent and fast replenishment, customers, on the other hand, want faster delivery of orders. Therefore, customer demand and the pressure from the suppliers of raw materials overwhelm restaurants from both directions; it is only logical that the supply chain serves as the processing platform to leverage the flexibility and sustain shared gains.

Evidence from studies by (Vargo and Lusch, 2004) shows the relationship development pattern between supplier partners often facilitate the creation of values through leveraging all the significant resources that each firm delivers. By creating a functional connection in the supply chain, a business can generate the value chain that supports the firm to stay competitive and enhance her supply chain performance.

Meanwhile, in the early nineties, the space for competition increased exponentially in developing economies by the removal of market barriers and trade restrictions. As a result, rapid internationalization and expansion of fast food franchises to new markets in Asia and Africa began. This increase in chains of restaurants in Africa has led to massive success in job creation and capital gains (Christian and Gereffi, 2010). According to (A.O Shoyemi,2014) in his study on consumer's perception of international fast food restaurants in Nigeria, an international brand perception has a strong influence on consumer buying decisions in new markets in third world countries which leads to improvement in a firm performance.

Finally, the current trend of competition for direct or indirect sourcing by businesses in the global market has led local businesses to augment their activities by collaborating its supply chain system to realize efficient procurement, production, and service delivery to its customers. The prerequisites for success, in this case, require enhancing integration, for the parallel flow of material and information between other companies. The most effective and efficient supply chains entail business integration processes beyond logistics and purchasing (Bahanranchi, 2009). Porter (1998), also suggests the that the links between value chains of the firm and the supplier provide opportunities for improvement such that

an effective supply chain management creates economic benefits in the short term as a foundation for a long-term competitive advantage.

1.1.1 Supply Chain Integration

Several scholars have opted to define SCI based on the scope of studies they have carried out. Zhao et al.(2010) describe SCI as the extent any organization chooses to collaborate strategically with its partners to manage the inflow and outflow with itself and across the organization for efficiencies in sharing decision for production, cash and materials as the objective for customer satisfaction.

This assumption of SCI allows for managers to integrate the process of production and inflows through the entire supply chain. In this context, integration outlines the scope by which the operations of the supplier, customer, and other supply chain participants integrate. By doing this, the entire supply chain link information generated or anticipated through demand and demand forecasts conditions. To describe the integration processes, (Stevens, Giménez, and Ventura (2005), suggests that each firm begins integrating internally by considering (coordination of procurement and supply, production and distribution), before incorporating its supply chain partners. From a similar study, Scott and Westbrook (1991) suggested three stages in achieving an integrated supply chain. They include the mapping stage; where lead times and inventory level are analyzed. Next the positioning stage, where the firm identifies opportunities for collaboration with other of members of the chain and lastly selecting the stage to begin advancing actions to improve the competitiveness of each member incorporated in the supply chains.

Froehlich and Westbrook (2001) also identified two relevant forms of integration by manufacturing organization. They are the forward flow of physical delivery between

supplier and the movement of information through IT systems from client to vendors. The contemporary supply relationship of firms as discussed by (Stevens, G., 1989) mentions the integration of supply chain considers three dimensions. They are; supplier, internal and customer integration.

1.1.2 Supply Chain Performance

Contemporary performance measurement dictates that the supply chain demonstrate the capacity to meet end to end customer need by making products available and further enhancing timely delivery that is responsive between each partnering firms (Ndambuki, 2013). Efficiency and effectiveness are an essential indicator for evaluating firm SCP (Beamon, 1999). Lee, Kwon, and Severance (2007) described two indicators for measurement. They exist as cost control and consistent performance. These two concepts consist of indicators that measure operational activities such as manufacturing and storage costs and increasing asset turnover costs. The performance consistency index analyzes the rates of order fulfillment, safety stocks, inventory obsolesces, and warranty claims.

The SCP of a firm analysis the efficiency and effectiveness of cost, quality, delivery and customer service level of the supply chain (Wong and Wong, 2008). Similarly, (Chopra et al., 2007) suggests responsiveness in a supply chain must be seen as a quick and fast level of service delivery. To enhanced, improved performance outcome between supply chains, organizations should develop an effective and efficient supply chain as a competitive advantage strategy (Barratt, 2010). A competitive edge is any function which makes a firm unique in business processes and operations, thus by integrating supplier, logistics and warehousing, a firm can achieve a network of improved performance (Morgan, 2013).

Hence, meeting diverse customer needs is necessary for developing a multidimensional strategy for efficient service delivery. The specific performance goals of each segment in the supply chain are entirely different regardless of similarity in performance measurement (Atkinson, 2013). Fitzgerald et al. (2011) developed modifications for the performance measurement matrix that include the component results and determinants that attempt to overcome challenges in the supply chain performance.

1.1.3 Fast Food Restaurants in Nairobi County

Globally, Fast Food Service Industry is arguably amongst the fastest growing industries. The emerging global markets have accounted for rapid expansion of new business innovations. Evolving markets in Asia and Africa are among particular places accounting for the increase in middle class and changes in household consumer behaviors. Similarly, the emergence of the fast food industry in Nairobi continue to expand due to growing middle class and the developing tourism industry. Recent investment worth millions of dollars by global and local restaurant chains such as KFC, Java Houses, Subway, Teriyaki, Coldstone Creamery, Domino's Pizza, Steers and Café Deli, among others has expanded their chain of restaurants in Nairobi County. According to National Restaurant Association of Kenya (NRAK) forecast of 2016, fast food chain service is rapidly growing within the Restaurants and Service Industry. It has captured 47.8 percent of income spent from the household. The same report points out the increasing trend in eating out habits by Kenyan families and urban workers in Nairobi.

The Kenya National Bureau of Statistics (KNBS) 2016 reports of an increase in investment in the accommodation and food services industry between 2015 and 2016 due to high-profile global summits held in Nairobi. The sector is accounting for 0.8 percent GDP in

2016. Total employment in this area accounted for 74.7 percent as job creation recovered due to growth in Kenya's economy and increased in the expansion of more fast food restaurants chains and other local joints. Applying a combination of unique brand marketing, hygienic processing services, various global delicacies and promotion of local delicacies in their menu, these restaurants command substantial market shares as compared to their competitors. In addition to brand marketing, a combination of quick services, packaging, online ordering and mobile delivery services to customers have increased these restaurants market to a broader customer base in Nairobi county and its immediate bordering counties.

1.2 Research Problem

Contemporary Supply Chains have proven to be much more complicated. They are often similar as they show concomitant movements of material, cash, and information amongst two or more organizations. Supply Chain integration is more relevant to organizations since the introduction of long-term cooperation and coordination between organizations. Globalization in supply chain relationship is leading ultimately to the improvement of companies (Manatsa and McLaren, 2008). Supply chain integration can mitigate deficiencies associated with decentralization of control and reduce the "bullwhip effect" of firms (Chen, Drezner, Ryan, and Simchi-Levi, 2000). Despite benefits from supply chain integration, many companies often seem hesitant to collaborate with supply chain partners owing to challenges such as risks from imbalanced distribution, cost overheads, and the sharing of crucial decision with collaborating suppliers. SCI is not limited in its scope to particular firms. Emerging companies are reportedly considering this concept across the business world. The Fast Food Restaurant franchises in the world are one of the many considering this idea as well.

According to the KNBS 2016 reports, fast food chain restaurants in Nairobi County have increased in the last 10-year period due to rise in household income, modern lifestyle and Nairobi being home to a community large expatriates in the United Nations offices and diplomatic missions. More besides, the sector has also accounted for a significant growth of 4.1 percent over the last two years. This rise in growth leads firms towards rigid marketing to attract and maintain a commanding market share of Nairobi's 3.8 M resident. Despite the overall performance of the fast food industry, it is still vulnerable to internal and external macroeconomic shocks often erupting from the supply side. The KNBS 2016 reports also asserts there is an increase in quality and service of accommodations and food service sectors in the Kenyan economy that have led to growth in job creation, massive food item importation and purchase of local food crops.

Various studies carried out in SCI have shown the effect of integrating the SCM from one firm to another and how each dimension of integration impacts on the performance. From a global perspective, Flynn, Huo, and Zhao (2010) studied three-dimensional inquiry of SCI (supplier, internal and customer integration). Their findings indicated each dimension was related to operational and business performance. Hosseini, Azizi, and Sheiki (2012) studied SCI on the competitive capability of the food industry and found SCI takes a direct positive influence on the competitive capacity of an organization. Aduka and Aryertey (2015) also studied SCI and performance of Hospitality Institutions, where their findings suggested that each dimension of SCM integration have a substantial effect on the performance of hotels in Ghana.

Locally, (Awino, 2011) observed that deliberations on measuring the SCP of organizations are often excluded in most studies. The SCP of a company can be among one of the several

factors determining its overall performance. In their study on assessing factors that affect the SCP of public institutions in Kenya. Mwirigi, N.D & Were, S., (2014) in their study established that strategic supplier partnerships, information sharing, HR training, and development have an impact on a firm in a positive way. Finally, Katua (2014) studied the impact of SCI on SCP in the manufacturing industries of Kenya. He found that these manufacturing industries performances improve due to enhancing supply chain approaches. The approaches are; sharing information, the participation of suppliers and organization coordination.

From the foregoing studies, evidence suggests that research conducted in the integration of supply chain relationships and performance have primarily concentrated on the general performance of large-scale industries in manufacturing in Kenya. The SCI of Fast-Food Chain Restaurants in Nairobi is yet to be studied. This research sought to explore the relationship between SCI on SCP of fast-food restaurants in Nairobi. The research questions are; what is the extent of SCI in fast-food restaurants in Nairobi County and what is the effect of SCI on the SCP of fast-food restaurants in Nairobi County?

1.3 Research Objective

The research objectives are;

- i. To establish the extent of supply chain integration in fast-food chain restaurants in Nairobi County.
- ii. To determine the effect of supply chain integration on the supply chain performance of fast-food chain restaurants in Nairobi County
- iii. To establish challenges faced in the implementation of supply chain integration by fast-food chain restaurants in Nairobi County

1.4 Value of the Study

This study aspires to add value to the business sector by increasing knowledge in the supply chain field. The study shall focus in the area of supply chain integration to Fast-Food Chain Restaurants and other fast-food joints and kiosks in Nairobi County. The Fast food Business establishments shall access specific knowledge gathered in this study to pursue their organizational goals and objectives by creating inter-firm collaboration and supplier partnerships, market leadership styles, efficient management and to improved creativity and efficiency in operations in the fast food sector.

Secondly, the knowledge provided by this study will assist other firms in the market whose core business practice is not in the fast food service business. Such business and their likes can benchmark their activities by applying SCI practices for successful operations by adopting partnership with other firms or suppliers.

Finally, the study will provide quality information and empirical references for researchers in the area of the fast food service sector of Kenya and the policy recommendations generated from the study will be added to the existing body of knowledge in academia.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section analysis past studies pertinent to the study problem. The chapter explores the theories that are advanced in the study problem. This chapter also looks into the theoretical pieces of literature as developed by modern researchers.

2.2 Theoretical Literature Review

The following theories guide the study; Network Theory and Virtual Integration Theory. The theories are discussed below.

2.2.1 Network Theory

This study used Network Theory, a leading theory in SCM. It was introduced during the seventies and eighties developing from a single focused relationship between two entities to increased strategic alliances between companies. Harland (1996), states network theory as a precise type of philosophy of relationship that includes a set of specific persons, objects or events. Likewise, (Thorelli, 1986) posits network refers to a group of organizations seeking to create a long-term relationship. However, networking is often complicated as (Chiang and Pai, 2012) further noted the SC network is complex and its model depends on specific contents in a relationship among the network members. This lead to multiple relationships methods between different counterparts throughout the supply chain.

The primary underlying assumption of the theory is how central positions of firms in a system can lead to cost-effective benefit. Therefore, businesses should adopt information sharing within their partnerships to help plan demand forecasts by simplifying resource allocation and establish some long-term strategic alliances for vital input commodities. According to (Miles and Snow, 2007), the advent of multiple firms in a network unlocked

a renewed strategy for decision-making, as numerous organizations became much stronger than their competitors by linking with various specialists in an integrated supply chain.

Likewise, Hearnshaw and Wilson (2011) described selected approaches of theories in network structures outside Logistics and SCM known as strategic industrial and social networks as a set of nodes in the supply chain. These nodes can be modeled in a network that represents autonomous business units exercising sovereign choices. The linkages represent relationship exchanges and contact representation by a set of connections that links companies together to create products or services. Some critical connection types are the presence of mutual contracts that involve flowing of materials, information, and finance (Hearnshaw and Wilson,2011)

Network theory is descriptive in its application in SCM in drawing up the significant activities, the key players, and required resources in a supply chain. It focuses on the development of stable and trust-based relationship for the short and long-term between the supply chain members.They are supplier relationships, 3PL, and management roles in supply networks (Gunasekaran, Lai & Cheng,2008). Network theory has a decisive impact on Logistics and Supply Chain Management. Dynamic Networking in SCM forms small and medium clusters of businesses and large corporations between markets. It focuses on information sharing at intermediary levels in the entrepreneurial economic environment. Since adopting networking approach, companies like Maersk Lines, Lufthansa has built strategic alliances which have increased their market shares.

Finally, the study considers network theory as the principal theoretical guidepost.The theory supports supply chain integration by creating increased practical understanding

between potential business partners and the relationships they construct for improved performance in their supply chains.

2.2.2 Virtual Integration Theory

Virtual Integration theory denotes the swap of ownership with partnership by incorporating a group of suppliers for fitted supply chain relationship by applying information technology (IT). Several distinct business models benefit from virtual integration as an advantage for a secure and organized supply chain (Magretta, 1998). Supply Chain as a subsystem in a business structure often possesses distinctive properties that enhance effective autonomous responses to minimize disturbances. Therefore, the supply chain system was less sensitive to fluctuations emanating from the environment. The application of vertical integration is a fundamental example of replacing external arrangements for controlling input and uncertainty in demand forecasting in the supply chain. Virtual integration stitch together vital supply partners to a business and treat them as if they are a part or are inside the company (Dell, 1998).

However, virtual integration theory offers a similar view on systemic collaboration which combines to reduce cost and transaction risk in partnerships (Teece, 1992 and Volberda, 1997). Virtual Integration theory can also support a firm to achieve an increase or a limited internal, external or control mechanisms in the environment and its suppliers. There is sustainable achievement gained as a result of collaborative operation execution, and collaborative process planning and oversight. IT enhances the vertical coordination and supervision among partners in the supply chain (Morash and Clinton, 1998).

Finally, the theory can facilitate understandings into what extent IT systems expedite complex tasks amongst supply chains partners. By executing collaborative operations such

as purchasing, production, logistics operations and joint decision-making, trading partners can achieve greater interfirm collaboration and improved feedback monitoring mechanisms (Bensaou et al. 1996 and Chatfield and Yelton, 2000). Hence, each firm develops more exceptional ability to manage demand volatility and information sharing with its supply partners (Mason-Jones and Towil, 1998).

2.3 Supply Chain Integration

In 2010, a study of senior business executives in the US and Europe indicated that supply chain integration is a contemporary model for relationship management skills (RMS) between firms. This perception collaborates to shape a robust integration with both the business functions and the supplier partner (Monczka et al., 2009). The three dimensions of integration discussed below are supplier integration, internal integration, and customer integration.

2.3.1 Supplier Integration

The external dimension of integration is regarded as the strategic drivers to facilitate the longstanding effectiveness of the entire supply chain (Cao and Zhang, 2011). Linkages with the supplier aim at harmonizing upward and downward movement of information and materials end to end of the supply chain. It is a fundamental issue that affects the supply chain management of organizations (Danese et al. 2013). Supplier integration defines the way a buying firm and its supplier shares or applies operations and strategic financial knowledge to produce joint profits (Narasimhan et al. 2010). The integration of an organization business with its supply partner is the outcome of a strategic collaboration. Furthermore, it is based on the product and ongoing joint relationship that improved the level of trust, long-term commitment, longer contract term, managing contacts and disputes, strengthening risks and reward sharings (Vickery, Jayaram, Droge, and

Calantone, 2003). Familiar sides must work together to improve product quality and reducing costs hence leading to the distribution of benefits. In this case, dependable agreements are usually initiated by large firms with its smaller counterparts as supplier partner (Stroeken, 2000).

Collaboration with suppliers can be benefiting to a firm as it develops innovation to achieve higher output. Such information is often combining with technological enhancement systems that allow adequate interactions between delivery and production schedules for operations. The desire for effectiveness requires gathering information on the competence of every supplier and ability before selection for partnership. It includes creating communication, influencing supplier expertise, fulfilling mutual goals among many issues. In this case, the collaborating firm may seek to reduce any changes in product design, prevention of interruptions and increased chances of parallel processing (Droge et al. (2004). On the other hand, a supplier may choose to integrate its products or services to ensure it is a valuable contributor to the value chain processes. In so doing, information sharing, alignments, product development are few amongst the essential mutual areas intended for consideration. Finally, supplier integration gives the company the ability to participate in the highly competitive environment of several similar product or service that customers select.

2.3.2 Internal Integration

The Internal integration (II) advance the precondition for achieving external integration by an organization. To achieve the efficiency of external integration internal integration must be adopted and successfully applied. Internal integration discusses the practice of an organization combining and improving internal resources, information for generating

knowledge. The department functions to achieve the organization goals through knowledge sharing by going beyond its boundaries. (Koufteros et al. 2010; Zhao et al. 2011). Contemporary management practice allows an organization to adapt systematic interaction between departments aided by information systems(IS) for optimum productivity. Internal integration often affects supplier and customer integration as it serves as a foundation for incorporation. With information sharing, a firm can speedily gather, interpret and apply external data by enhancing its internal integration system. Researchers have reported that sharing knowledge and creating value via integrating internal activities has shown progressive on external associations, thus yielding an economical performance (Allred et al. 2011).

A close investigation of several current studies on internal integration dictates two first findings. The first findings show that value and knowledge sharing via internal integration assist firms support to suppliers and customers. The company must develop its internal capability (Verona, 1999) to describe them as internal communications, integrating strategies, on the job training, business process integration and organization re-engineering through departmental teamwork. The outcome leads to a robust spawn partnership with external partners. Next, internal integration also has a direct and indirect impact on operations (the internal supply chain) or financial performance. Allred et al. (2011) provide like outcomes displaying association through different roles within an entity supports improvement in productivity, customer satisfaction, timeliness and financial performance.

2.3.3 Customer Integration

Customer integration denotes the practice of an organization to identify, interpret and utilize the needs of customers to produce merchandises to surge customer fulfillment

(Koufteros et al. 2010; Zhao et al.2011). From the organization point, customer integration (CI) is an enabler for a reasonable extension of a business process and the overall performance in margins. The ability of a firm to identify customers and their needs is a crucial strategy to remain competitive. Since a potential customer must critically assess and evaluate characteristics of a product, the marketing section of an organization must seek to establish the magnitude in its commitment by distributing ideal products to their customers in precise locations, at best price and specific amounts. Lau et al. (2010) describe a customer as one who offers their perceptions and judgments to the firm, while the company in return information on the production schedule, inventory status, and sales forecast. Furthermore, critical concepts like customer relationship management (CRM), partnership in product movement (forecasting demand and refill), and sharing distribution systems are amongst the most practical concepts applied in collaboration with customers (Singh and Power 2009).

By establishing customer relationships, a firm can exchange vital information along the supply chain.They include; formal systems to increase customer taste and preferences, awareness of customer requirements and specifications, measuring of customers' satisfaction and feedbacks, improvements and handling complaints and problem solving (Singh and Power 2009). As a result, the supply chain cost is (lower in manufacturing and inventory, lower in shipment errors, fewer customer complaints, fewer back orders thus achieving faster customer response time.

2.4 Empirical Literature Review

Several studies have been advanced on various aspects of SCI and Performance in many types of industries. Flynn et al. (2010) in their study on the impact of supply chain integration on performance explored the link between the dimensions of SCI including

operations and business performance from a contingency and configuration perspective. They use regression analysis to determine the dimension of SCI, cluster analysis to develop patterns of SCI and ANOVA to measure the three-dimensional correlation between SCI patterns and SCP. Their findings from both contingency and configuration indicated that SCI was related to the business operations and performance. The gap in their study reported that they only studied supply chain within the cultural context of China.

Danese and Romano (2011) studied the impact of customer integration on efficiency and the moderation role of supplier integration. They studied how the feasibility of integrating customer regards to the associated costs when changes in planning for clients requests. They used a stratified method of sampling and correlation analysis of 200 firms around the world. The findings of their study suggested that it cannot be only necessary that customer integration only improve efficiency. It also denotes that supplier integration moderates the link between customer integration and effectiveness. The study gap showed they only focused on mechanical firms, transport, and electronic industries.

Gimenez et al. (2012) in their study on supply chain integration and performance, they emphasized on the small and medium-size manufacturing sector in Spain and the Netherlands. Using stratified sampling to analyze firms in Netherland and Spain, their findings suggested that due to complexity in the supply chain, the firm encourage integration. The SCI shall influence honesty and trust between partners. Their study gap considered that there is a need for improved studies to understand how the interrelationships amid the levels of SCI.

Cheruiyot, K.P (2013) in his study on the impact of the integrated supply chain on the performance of Kenya Tea Development Agency (KTDA), sought to investigate the impact

of integrated supply chains. Applying descriptive survey design to 199 employees drawn from 65 KTDA managed firms in Kenya where primary data collected from semi-structured questionnaires. Significant findings of SCI in KTDA (i.e., for the supplier, customer, and internal activities) have a positive influence on SCP on purchasing raw materials, cost of transportation, cost of distribution, cost of inventory. The gap in study disclosed that perception of adopting SCI and SCP in the operations of management structures of both the private and public tea manufacturing agencies had not been investigated.

Rono and Nganga (2014) in their research in Influence of SCI on Organization Performance in Water Sanitation Companies in Western Kenya (WSCWK), sought to determine the level of control of SCI on organization performance of WSCWK. By applying a descriptive research design in there, a sample of 36 respondents conducted via self-administered questionnaires. A significant finding from this study suggests that WSCWK should coordinate their supply chain operations and enhance user customer integration, by information sharing. This study gap revealed they only focused only on service delivery firms in the private sector.

Finally, Kibera and Orwa (2016) studied Implementation of Integrated Supply Chain in Manufacturing Firms in Kenya using a case study of BIDCO Oil Refinery. The study objective was to assess the implementation of supply chain integration at BIDCO oil refinery. They used a descriptive study design to collect quantitative and qualitative data and applied regression analysis to interpret data from administered questionnaires to single respondents; their findings suggest that SCI help improves a firms' capability such that it provides a systematized way to keep up with processes. Their study gap suggested they

could not identify additional systems and factors that affect supply chain integration for improved performance in the long run.

2.5 Challenges in Implementation of Supply Chain Integration

The contemporary changes shaping organizations business models remains significant to their performance such that individual firms do not any longer compete instead their supply chains do (Lambert et al. 1998). The competition within their network for ultimate success depends on each firm initiating complex business relationships (Drucker, 1998). Information sharing with the organization during SCI remains a challenge between functional areas of the organization (sourcing, manufacturing, and distribution) (Kumar et al.,2011).

As a result, (Lambert et al. 1998) advanced three challenging interrelated elements of SCM which are the business supply chain process, the network structure and the internal components of management. These elements set the basis for determining the firm primary supply associates and how it reap successful implementation. However, there remain several challenges to implementing integration at the various levels. Complexity exists in identifying major supply partners, which partner to select, what level of collaboration to consider and technology systems to facilitate the linkages.

Similarly, (Khumar, Mishra, and Singh, 2011) advanced institutional challenges inhibiting implementation of integration in manufacturing industries. The challenges are managerial, organizational and financial. Top management must determine which members are critical to the company success and prioritize their valuable partnerships. The business executives' SCI strategy design seldom cut across the collaborating partners. Additionally, the implementing process seldom extends beyond traditional production process design.

Managers often doubt the alignments and linkages inside and across the organization, or they only have no confidence in implementation (Marsh and Flanagan, 2000). Investing in innovations and new organization cultures that facilitate integration are often questioned by senior executives. Furthermore, increase in inquiries extend to extra-organizational links with customers and suppliers. Curry and Moore (2006) identified similar challenges ranging from managerial to system operations and the gaps in coordination of sharing information.

Finally, (Bures 2003) explained that challenges in organizations are due to the structure of the organization approach or desire to incorporate SCI processes. Often bureaucracies and strict administrative control also hinder SCI implementation. The usual financial constraints within the organization questions additional costs such as changes in the central infrastructures required training for the current or supplementary workforce. There is also need to design new structures for facilitating information sharing between partnering firms. Remodeling the procurement process, the product distribution channels, innovations in customer service and reverse logistics remains the challenges to consider (Motwani et al. 2000).

2.6 Summary of Empirical Literature Review

Results from contemporary studies in supply integration and supply chain performance remain scanty of the fast food restaurant services. The summary of reviews in literature show studies in manufacturing sectors.

Author	Research Title	Objectives	Methodology	Major Finding	Gap in Study
Flynn et al. (2010)	The Impact of Supply Chain integration on Performance	To examine the relationship between the three dimensions of SCI	They use regression analysis to determine the size and ANOVA to measure relationship	Their findings from both contingency and configuration indicated that SCI was related to both operational and business performance	Gap their study reported that they only studied supply chain in the cultural context of China.
Danese and Romano (2011)	Performance Measurement System and Down Stream Integration	To the feasibility of integrating customer	Using stratified sampling of sampling 200 firms around the world using regression and correlation analysis	The findings of their study suggested that it not be necessarily that customer integration improves efficiency. Supplier integration also moderates the relationship between customer integration and efficiency	The study gap showed they only focused on mechanical firms, transport, and electronic industries.
Gimenez et al. (2012)	supply chain integration and performance	their study focused on the SC of Small and Medium-size industries in Spain and the Netherlands	They use stratified sampling to analyze firms in Netherland and Spain	findings suggested that due to complexity in the SC, the firm encourage integration or desire to partner with other firms	Their study gap considered that there is a need for improved studies to understand how the interrelationship between companies SC can develop

Cheruiyot, K.P (2013)	The Impact of Integrated Supply Chain on Performance of Kenya Tea Development Agency (KTDA)	To investigate the impact of integrated supply chains on KTDA.	Applying descriptive survey design to 199 employees drawn from 65 KTDA managed firms in Kenya. They used data from semi-structured questionnaires	Key findings of SCI in KTDA (i.e., for supplier, customer, and internal activities) have positive influence on SCP (i.e., Raw material purchasing cost, transport cost, distribution cost, asset turnover and inventory holding cost	The gap in study disclosed that perception of adopting SCI and SCP in the operational middle and senior management of public and private tea manufacturing agency was not investigated.
Rono and Nganga (2014)	Influence of SCI on Organization Performance in Water Sanitation Companies in Western Kenya (WSCWK)	to determine the level of influence of SCI on organization performance of WSCWK	A descriptive research design, a sample of 36 respondents conducted via self-administered questionnaires	Significant finding from this study suggests that WSCWK should coordinate their supply chain operations and enhance user customer integration, by information sharing	This study gap revealed they only focused only on service delivery firms in the private sector.
Kibera and Orwa (2016)	Implementation of Integrated Supply Chain in Manufacturing Firms in Kenya: A Case of BIDCO Oil Refinery	The study objective was to assess the implementation of supply chain integration at BIDCO oil refinery	They used a descriptive study design to collect quantitative and qualitative data	, their findings suggest that SCI help improves a firms' capability such that it provides a systematized way to keep up with processes.	Their study gap suggested they could not identify additional systems and factors that affect supply chain integration for improved performance in the long run.

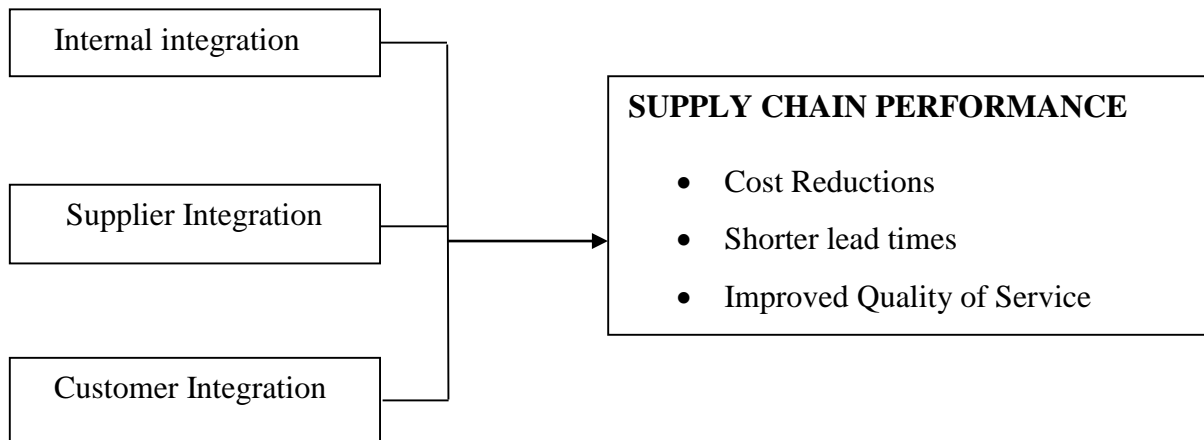
2.7 Conceptual Framework

The independent variables in this study are; supplier integration, internal integration, and customer integration; while the dependent variable is supply chain performance.

Independent variable

Dependent variable

Supply chain integration



Source: Author (2017)

Null Hypothesis, Ho: There is no relationship between Supply Chain Integration and Supply Chain Performance of Fast-Food Chain Restaurants in Nairobi County.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the approach of presentation and the approaches applied in this study. It gives the study plan, the research design, data collection techniques and presentation methods. It concludes with tables to analyze and interpret the data to generate the findings of the study.

3.2 Research Design

The researcher used cross-sectional survey approach. The design is based on the collection of data from a population, or a representative subset of the population (Kothari, 2011). This research design described all characters existing in the target population, and to determine the cause-and-effect relationships by extrapolating the different variables from possible findings.

3.3 Population of the Study

The population in this study are all fast food chain restaurants in Nairobi County. The total numbers of fast food chain restaurants were 85 according to the Kenyan Restaurant online ordering firm, eatout.co.ke. A census was conducted since the population is not too large.

3.4 Data Collection

The study relied on primary and secondary data for use which was quantitative. A questionnaire was designed to gather data on all variables in the study: supply chain integration and supply chain performance. The questionnaire (Appendix I) is divided into four sections. Section A includes general information; section B contains information for study objective one; Section C provides information for study objective two, while Section D contains information for study objective three. Respondents in the study included all supply chain managers and operations managers of all fast food restaurants in Nairobi

County. This is because they possess the required information. The researcher used “drop and pick later” method to administer the questionnaire.

3.5 Data Analysis

To analyze SCI and SCP of fast food chain restaurants in Nairobi County, filled out questionnaires were modified for generality, using SPSS for entry, coding, and analysis. The researcher used descriptive statistics to analyze general information collected in Section A. In Section B; the data collected for objective two was analyzed using descriptive statistics. Section C used correlation and regression analysis to analyze the data gathered for objective three. Finally, Section D used descriptive analysis to analyze data collected for objective three of the study.

Hence, Let

Y = Supply Chain Performance

X_1 = Internal integration

X_2 = Supplier Integration

X_3 = Customer Integration

And,

$Y = f(X_1, X_2, X_3)$

By assumption of the linear relationship,

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$

Where Y defines the dependent variable and X_1 to X_3 are the independent variables while alpha, α represents the realization of ethical procurement that is independent of the above factors- internal integration, supplier integration and customer integration as denoted by (X_1 to X_3) respectively, while e represents the error term of estimates. The betas, β_1 to β_3 are the slopes for each factor which indicates the unit changes in Y for every unit change in X_1 to X_3 respectively.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter discusses the findings of the data analysis. The objectives of the study were to establish the extent of supply chain integration among fast-food chain restaurants in Nairobi County; and to determine the effect of supply chain integration on the supply chain performance of fast-food chain restaurants in Nairobi County and to establish challenges faced in the implementation of supply chain integration by fast-food chain restaurants in Nairobi County. The analysis was done using descriptive statistics such as frequency distribution, tables, mean and standard deviations. Correlation and regression analysis were used to establish the relationship between supply chain integration and supply chain performance.

The chapter is sub-divided into various subsections. These include response rate, reliability analysis, general information, descriptive analysis, correlation analysis, regression analysis and discussion of findings. In the descriptive analysis, the chapter discusses the extent to which fast-food chain restaurants in Nairobi County have implemented internal integration, supplier Integration, and customer integration. Under regression analysis, the model summary is presented, followed by analysis of variance and coefficients of determination.

4.2 Response Rate

The researcher administered 85 questionnaires to fast-food chain restaurants in Nairobi County. A total of 71 questionnaires were filled and returned. This constituted 83.53% response which the researcher considered an adequate representation of the target population. This was informed by the suggestion of 80% response rate by Edwards, Clarke, and Kwan (2002). The response rate is shown in Table 4.2.

Table 4.2: Response Rate

Response Rate	Frequency	Percentage
Filled and Returned	71	83.53%
Not Filled	14	16.47%
Total	30	100%

Source: Author (2017)

4.3 Reliability Analysis

To establish the internal consistency of the questionnaire, the researcher conducted a reliability analysis using a Cronbach's Alpha coefficient equal to or greater than 0.7 as a threshold for an internally consistent instrument. The results are as shown in Table 4.3.

Table 4.3: Reliability Test

Variable	Cronbach's Alpha	Cronbach's Alpha Standardized Items	N of Items
Supplier Integration	.738	.743	13
Internal Integration	.708	.745	10
Customer Integration	.757	.774	13
Supply Chain Performance	.719	.761	14
Challenges	.783	.792	8
Overall	.796	.833	58

Source: Research Data (2017)

The reliability test recorded an overall Cronbach's Alpha coefficient of 0.796. Supplier integration, internal integration, customer integration, supply chain performance and challenges recorded Cronbach's Alpha coefficients of 0.738, 0.708, 0.757, 0.719 and 0.783 respectively. The variables recorded Alpha coefficients that were higher than 0.7 implies that the questionnaire was internally consistent.

4.4 General Information

This section presents the general information of the respondents. The researcher discusses position held, gender, age and working duration. The findings are presented below.

4.4.1 Position in the Organization

The respondents were asked to indicate the positions they held in their respective fast-food chain restaurants in Nairobi County. The results of the study are as shown in Table 4.4.1.

Table 4.4.1: Position in the Organization

Position	Frequency	Percent
Supply chain officer	37	52.1
Operations Manager	23	32.4
General Manager	11	15.5
Total	71	100.0

Source: Research Findings (2017)

Results from data established that majority (52.1%) of the respondents were Supply Chain Officers followed by Operations Managers at 32.4%. General Managers only accounted for 15.5% of the respondents. By the positions the respondents held, the researcher concluded they were occupying the best position to comprehend the effect of supply chain integration on the supply chain performance of their fast food restaurants.

4.4.2 Gender of Respondents

The researcher was further interested in understanding the gender details of the respondents. The study findings are as shown in Figure 4.4.2.

Table 4.4.2: Gender of Respondents

Gender	Frequency	Percent
Male	46	64.8
Female	25	35.2
Total	71	100.0

Source: Research Findings (2017)

The study established that majority (64.8%) of the respondents were male while 35.2% female. The results indicate that the researcher was not gendered biased during the distribution of the questionnaires. The various top management staff of fast-food chain restaurant consists of both genders.

The study further sought to establish the age bracket of the respondents among the fast-food chain restaurants in Nairobi County. The results of the study are tabulated in Table

4.4.3. Table 4.4.3: Age Bracket

Age Bracket	Frequency	Percent
31-40 years	29	40.8
41-50 years	23	32.4
51-60 years	16	22.5
Less than 30 years	2	2.8
Over 60 years	1	1.4
Total	71	100.0

Source: Research Findings (2017)

The researcher established that most (40.8%) of the respondents were aged between 31-40 years followed by 32.4% of the respondents who were aged between 41-50 years. Those aged between 51-60 years accounted for 22.5% of the respondents. Only 1.4% was over 60 years old. The results show that the respondents were from fast-food chain restaurants were of diverse age brackets.

4.4.4 Working Duration

Further, the study sought to establish the duration the respondents had been serving in their respective third party logistic service providing firms. The results are as illustrated in Table 4.4.4 below.

Table 4.4.4: Working Duration

Working Duration	Frequency	Percent
11-15 years	30	42.3
6-10 years	19	26.8
Less than 5 years	9	12.7
16-20 years	9	12.7
Over 20 years	4	5.6
Total	71	100.0

Source: Research Findings (2017)

The researcher found out that most (42.3%) of the respondents had been working in their respective fast-food chain restaurants for 11-15 years followed by those who had been working for 6-10 years. Only 5.6% of the respondents had a working duration of over 20 years. These findings point to the fact that the respondents had sufficient working experience to understand how supply chain integration affects supply chain performance.

4.5 Supply Chain Integration

The respondents were requested to rate the extent to which fast-food chain restaurants in Nairobi have to implement supply chain integration. The respondents rated the implementation on a Likert scale of 1-5 where: “1- Very Large Extent, 2- Large Extent, 3- Moderate Extent, 4- Small Extent, 5- Very Small Extent.” The recorded scores of the mean averages were deduced using the interpretation scale tabulated in Table 4.5:

Table 4.5: Mean Interpretation Scale

Scale	Interpretation
1.00 - 1.49	Very Large Extent
1.50 - 2.49	Large Extent
2.50 - 3.49	Moderate Extent
3.50 - 4.49	Small Extent
4.50 - 5.00	Very Small Extent

Source: Researcher (2017)

4.5.1 Supplier Integration

The respondents were asked to rate the extent to which their fast-food chain restaurants have implemented supplier integration. The results are shown in Table 4.5.1. Table 4.5.1:

Supplier Integration

Statement	Mean	Std. Deviation
The organization seeks assurance of quality from suppliers	1.14	0.35
Stable procurement through supplier networks is achieved	1.18	0.46
We maintain long-term relationships with our firm and our suppliers	1.23	0.45
The gains resulting from cooperation with suppliers is equally shared	1.23	0.42
Packaging customization with leading suppliers has been achieved	1.25	0.47
Information exchange with suppliers through Information Technology systems is a method commonly used in our firm	1.31	0.47
Production plans with our leading suppliers is shared	1.35	0.56
There exist strategic partnerships between our business and our suppliers	1.37	0.64
There is participation of our vendors in the processes of acquisition and production	1.62	0.74
Quick ordering systems with leading suppliers is established	1.65	0.78
We provide our suppliers with information so that they can improve their quality and responsiveness	1.83	0.86
We consult our suppliers when values of our company are developing	1.83	0.83
Our suppliers participate in the design stage and development of new products	2.03	0.88
Aggregate Mean	1.46	0.61

Source: Research Findings (2017)

The aggregate mean of ($M=1.46$, $SD= 0.61$) indicated that fast-food chain restaurants in Nairobi County had implemented supplier integration to a very large extent. The most rated statements were “The organization seeks assurance of quality from suppliers” with a mean score of ($M=1.14$, $SD= 0.35$) followed by “Stable procurement through supplier networks is achieved” with a mean score of ($M=1.18$, $SD= 0.46$) and lastly, “We maintain long-term relationships with our firm and our suppliers” with a mean score of ($M=1.23$, $SD= 0.45$). These statements were rated to a very large extent. The least rated statements were “We consult our suppliers when values of our company are developing” with a mean score of ($M=1.83$, $SD= 0.83$) and then “Our suppliers participate in the design stage and development of new products” with a mean score of ($M=2.03$, $SD= 0.88$) which indicates they were rated to a large extent.

4.5.2 Internal Integration

Further, the respondents were requested to rate the extent to which their fast-food chain restaurants have implemented internal integration. The results are as shown in Table 4.5.2.

Table 4.5.2: Internal Integration

Statement	Mean	Std. Deviation
Information is shared inside the organization	1.11	0.32
The production department is always aware of the strategic plans of the firm	1.13	0.38
The cooperation with the marketing department is constant and successful	1.17	0.38
There is integration of data in production process	1.17	0.41
Data integration among internal functions is achieved through the use of Information Technology systems	1.21	0.41
Real-time searching of the level of stocks has been implemented	1.25	0.47
Cross-functional integration is very significant for all supply chain initiatives	1.28	0.48
Cross-functional management is extensively used in our firm	1.28	0.48
Integrative inventory management has been implemented	1.34	0.53
Periodic inter-departmental meetings among internal functions are commonly utilized	1.38	0.64
Aggregate Mean	1.23	0.45

Source: Research Findings (2017)

An aggregate mean score of (M=1.23, SD= 0.45) implied that fast-food chain restaurants in Nairobi County had implemented internal integration to a very large extent. Information is shared inside the organization (M=1.11, SD= 0.32); The production department is always aware of the strategic plans of the firm (M=1.13, SD= 0.38); The cooperation with the marketing department is constant and successful (M=1.17, SD= 0.38); There is data integration in production process (M=1.17, SD= 0.41) and Data integration among internal functions is achieved via the use Information Technology systems (M=1.21, SD= 0.41) were the most rated statements indicating that they were implemented to a very large extent. The least rated were Integrative inventory management has been implemented (M=1.34, SD= 0.53) and Periodic inter-departmental meetings among internal functions

are commonly utilized (M=1.38, SD= 0.64). The mean scores indicate that all the statements were rated to a very large extent.

4.5.3 Customer Integration

The respondents were also asked to rate the extent to which their fast-food chain restaurants have implemented customer integration. The results are as shown in Table 4.5.3.

Table 4.5.3: Customer Integration

Statement	Mean	Std. Deviation
The organization is aware of the requirements of its customers	1.04	0.20
There is computerization for customer ordering	1.06	0.23
The organization uses systematic processes for handling complaints	1.06	0.23
Customers are encouraged to provide feedback	1.11	0.32
Customers contribute to the development of the organizational values	1.11	0.36
The company is actively seeking feedback from customers	1.13	0.34
The feedback provided by customers is used to improve customer relations, processes, products, and services	1.15	0.36
Market information is shared with customers	1.35	0.63
Periodic client meetings are commonly utilized	1.73	0.61
Processes and activities of the organization are designed to increase customer satisfaction levels	1.80	1.50
The organization measures customer satisfaction	1.97	0.70
Market information with clients is shared through the use of Information Technology systems	2.32	0.69
There exist misunderstandings between customers and organization about orders	4.31	0.75
Aggregate Mean	1.63	0.53

Source: Research Findings (2017)

Customer Integration has been implemented by fast-food chain restaurants in Nairobi County to a large extent as shown by an aggregate mean of (M=1.63, SD= 0.53). The most

rated statements were that: The organization is aware of the requirements of its customers (M=1.63, SD= 0.53); There is computerization for customer ordering (M=1.63, SD= 0.53); The organization uses systematic processes for handling complaints (M=1.63, SD= 0.53) and that Customers are encouraged to provide feedback (M=1.63, SD= 0.53). This indicates that the statements were rated to a very large extent. The least rated statements were Market information with clients is shared through the use of Information Technology systems (M=1.63, SD= 0.53) and There exist misunderstandings between customers and organization about orders (M=1.63, SD= 0.53).

4.6 Effect of Supply Chain Integration on Supply Chain Performance

In this section, the study sought to establish the extent to which supply chain integration affects the supply chain performance of fast-food chain restaurants in Nairobi County. The mean scores recorded were interpreted as follows: 1-1.49 = Very Large Extent; 1.5-2.49 = Great Extent; 2.5-3.49 = Moderate Extent; 3.5-4.49 = Small Extent; 4.5-5.0 = Very Small Extent. The discussions of findings are as presented in section 4.6.1-4.6.3.

4.6.1 Effect of Supplier Integration on Supply Chain Performance

The respondents were requested to rate the extent to which supplier integration affects the supply chain performance of fast-food chain restaurants in Nairobi County. The study findings are as shown in Table 4.6.1.

Table 4.6.1: Effect of Supplier Integration on Supply Chain Performance

Statement	Mean	Std. Deviation
Supplier integration leads to improved materials quality and variety	1.23	0.42
Supplier Integration improves the procurement process	1.32	0.47
Supplier Integration reduces the total materials costs	1.34	0.48
Supplier Integration reduces the supplier's delivery lead time	1.51	0.63
Aggregate Score	1.35	0.50

Source: Research Data (2017)

The study found out that supplier integration affects supply chain performance to a very large extent with an aggregate mean score of ($M=1.35$, $SD= 0.50$). The study also found out that Supplier integration leads to improved materials quality and variety and that Supplier Integration improves the procurement process to a very large extent as evidenced by mean scores of ($M= 1.23$, $SD= 0.42$) and ($M= 1.32$, $SD= 0.47$) respectively. Further, Supplier Integration reduces the total materials costs to a very large extent and also reduces the supplier's delivery lead time to a very large extent as shown by mean scores of ($M= 1.34$, $SD= 0.48$) and ($M= 1.51$, $SD= 0.63$).

4.6.2 Effect of Internal Integration on Supply Chain Performance

The respondents were requested to rate the extent to which internal integration affects the supply chain performance of fast-food chain restaurants in Nairobi County. The study findings are as shown in Table 4.6.2.

Table 4.6.2: Effect of Internal Integration on Supply Chain Performance

Statement	Mean	Std. Deviation
Internal Integration reduces equipment change over time	1.23	0.45
Internal Integration reduces the average unit manufacturing cost	1.23	0.42
Internal Integration reduces production lead time	1.28	0.45
Internal Integration reduces the levels of inventory	1.34	0.51
Internal Integration increases direct labor productivity	1.62	0.66
Aggregate Score	1.34	0.50

Source: Research Data (2017)

The study established that internal integration affects supply chain performance to a very large extent as shown by an aggregate mean score of (M=1.34, SD= 0.50). Internal Integration reduces equipment change over time and the average unit manufacturing cost to a very large extent as evidenced by men scores of (M=1.23, SD= 0.45) and (M=1.23, SD= 0.42) respectively. Further, internal integration reduces production lead time and levels of inventory to a very large extent as shown by men scores of (M=1.28, SD= 0.45) and (M=1.34, SD= 0.51) respectively. Lastly, the study found out that internal integration increases direct labor productivity to a large extent (M=1.28, SD= 0.45).

4.6.3 Effect of Customer Integration on Supply Chain Performance

The respondents were requested to rate the extent to which customer integration affects the supply chain performance of fast-food chain restaurants in Nairobi County. The findings of the study are presented in Table 4.6.3.

Table 4.6.3: Effect of Customer Integration on Supply Chain Performance

Statement	Mean	Std. Deviation
Customer Integration leads to on-time delivery of goods to customers	1.13	0.34
Customer Integration improves customer service	1.14	0.35
Customer Integration leads to improved product quality and variety	1.65	0.66
Customer Integration increases the speed and numbers of product development	1.70	0.46
Customer Integration leads to customer satisfaction	2.11	1.13
Aggregate Score	1.55	0.59

Source: Research Data (2017)

Customer integration affects supply chain performance to a large extent as shown by an aggregate mean score of (M= 1.55, SD= 0.59). Customer Integration leads to on-time delivery of goods to customers and improves customer service to a very large extent as evidenced by men scores of (M=1.13, SD= 0.34) and (M=1.14, SD= 0.35) respectively.

Further, customer Integration leads to improved product quality and variety, increases the speed and numbers of product development and leads to customer satisfaction to a large extent as shown by mean scores of (M=1.65, SD= 0.66), (M=1.70, SD= 0.46) and (M= 2.11, SD= 1.13) respectively.

4.7 Regression Analysis

The researcher used regression analysis to test the effect of supply chain integration on the supply chain performance of fast-food chain restaurant. Since the variables were measured on a nominal scale, the researcher quantified them were using factor analysis and then saved them as a dummy variable.

4.7.1 Regression Coefficients

The regression coefficients revealed that at 95% confidence level, supply chain integration has a combined positive effect on the supply chain performance among fast-food chain restaurant. The positive effect was reported for the supply chain integration (supplier integration, internal integration, and customer integration).

Table 4.7.1: Regression Coefficients

Source	Coefficients ^a		Standardized Coefficients	Z	p-value
	Unstandardized Coefficients	Std. Error			
(Constant)	1.230	.240		5.124	.000
Supplier Integration	.454	.102	.307	4.451	.000
Internal Integration	.380	.129	.209	2.946	.004
Customer Integration	.305	.117	.105	2.607	.011

a. Dependent Variable: Supply Chain Performance

T-critical value: 1.668

Source: Research Data (2016)

The study established that Supplier Integration ($t= 3.286, p= 0.002$), Internal Integration ($t= 3.214, p= 0.003$) and Customer Integration ($t= 2.567, p= 0.015$), produced statistically significant values for this study with ($t\text{-values} > t\text{-critical value (1.668), } p \leq 0.05$).

The constant value (1.230) shows that if supply chain integration (supplier integration, internal integration, and customer integration) were rated zero, supply chain performance among fast-food chain restaurants would be 1.230. The researcher assumed a zero value for the stochastic error term estimate.

The equation was expressed as:

$$Y = 1.230 + 0.454X_1 + 0.3805X_2 + 0.305X_3$$

Where:

Y – Supply Chain Performance (Dependent variable)

X₁- X₃ – The independent variables

X₁- Supplier Integration

X₂- Internal Integration

X₃- Customer Integration

4.7.2 Model Summary

The regression models show the strength of the relationship between supply chain integration and supply chain performance among fast-food chain restaurant. The results are as tabulated in the model summary table 4.7.2.

Table 4.7.2: Model Summary

Source	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.698 ^a	.487	0.464	.16018

a. Predictors: (Constant), Customer Integration, Supplier Integration, Internal Integration

Source: Research Data (2017)

The study found out that there was a strong relationship ($R= 0.698$) between supply chain integration and supply chain performance among fast-food chain restaurant. The study

also recorded an adjusted R-square value of 0.464. This implies that supply chain integration influences 46.4% of the total variance in supply chain performance of fast-food chain restaurant in Nairobi County. This implies that 53.6 percent of changes in supply chain performance of fast-food chain restaurants in Nairobi County is explained by other factors apart from supply chain integration.

4.7.3 Analysis of Variance

Analysis of Variance (ANOVA) was done to verify the goodness of fit of the regression model.

Table 4.7.3 Analysis of Variance (ANOVA)

Source	ANOVA ^a				
	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.070	3	1.023	7.055	.000 ^b
Residual	9.719	67	.145		
Total	12.789	70			

a. Dependent Variable: Supply Chain Performance

b. Predictors: (Constant), Customer Integration, Supplier Integration, Internal Integration

F-Critical Value = **2.742**

Source: Research Data (2017)

The regression model recorded a significance level of 0.0%. This shows that the model is reliable and has the goodness of fit. It can, therefore, be used to establish the effect of supply chain integration on the supply chain performance fast-food chain restaurant in Nairobi County. The regression model recorded a significance value (p-value) of less than 5% and an F value (7.055) which was greater than the F-Critical Value (2.742).

4.8 Challenges of Supply Chain Integration

In this section, the respondents were asked to rate the extent to which their fast-food chain restaurants in Nairobi County faced challenges when implementing supply chain integration. The mean scores recorded were interpreted as follows: 1-1.49 = Never; 1.5-2.49 = Rarely; 2.5-3.49 = Sometimes; 3.5-4.49 = Very Often; 4.5-5.0 = Always. The results of the study are as shown in Table 4.8.1

Table 4.8.1: Challenges of Supply Chain Integration

Statement	Mean	Std. Deviation
The organization respond to changes in the business process when implementing integration	4.48	0.56
Bureaucracy in the organizational structure restricts supply chain integration in our firm	2.69	0.47
Integrating Partners are reluctant to share costs	2.63	0.83
There are difficulties in maintaining relationship during variations in market	2.41	0.50
Financial constraints pose a challenge to supply chain integration	2.39	0.52
Information Technology complexity hinders integration	2.14	0.35
Integration brings fear of control by partner firm is a problem to supply chain integration in our firm	1.87	0.67
The top management does not support supply chain integration	1.52	0.67
Aggregate Mean	2.52	0.57

Source: Research Data (2017)

The study established that fast-food chain restaurants in Nairobi County sometimes face challenges when implementing supply chain integration. This was evidenced by an aggregate mean of (M=2.52, SD= 0.57). The most faced challenge was that The organization responds to changes in the business process when implementing integration. This challenge recorded mean score of (M=4.48, SD= 0.56) indicating that the challenge

is always faced. Other commonly faced challenges were bureaucracy in the organizational structure restricts supply chain integration in our firm and Integrating partners are reluctant to share costs as evidenced by average scores of (M=2.69, SD= 0.47) and (M=2.63, SD= 2.83) which shows that the challenges are only faced sometimes. The least faced challenge was that the top management does not support supply chain integration. This challenge was rarely faced (M=1.52, SD= 0.67).

4.9 Discussion of Findings

The study established that fast-food chain restaurants in Nairobi County have implemented various supply chain integration practices at various levels in their operations. Fast-food chain restaurants in Nairobi County have implemented both supplier integration and internal integration to a very large extent. Customer Integration has been implemented by the fast-food chain restaurants in Nairobi County to a large extent.

On the challenges faced by fast-food chain restaurants in Nairobi County, the study found out that on average, the challenges are only faced sometimes. The most faced challenge was that the organization responds to changes in the business process when implementing integration. This challenge was always faced. Other commonly faced challenges were Bureaucracy in the organizational structure restricts supply chain integration in our firm and Integrating partners are reluctant to share costs. The least faced challenge was that the top management does not support supply chain integration.

The study findings further established that there was a strong relationship (R= 0.698) between supply chain integration and supply chain performance among fast-food chain restaurant with supply chain integration influencing 46.4% of the total variance in supply

chain performance of fast-food chain restaurant in Nairobi County. This implies that 53.6 percent of changes in supply chain performance of fast-food chain restaurants in Nairobi County is explained by other factors apart from supply chain integration. Further, the study found out that supply chain integration has a combined positive effect on the supply chain performance among fast-food chain restaurant.

The outcomes of this study corroborate the conclusions of previous studies. For instance, Flynn et al. (2010) studied the impact of supply chain integration on operational and business performance and found out that both contingency and configuration indicated that SCI was related to both operational and business performance. Cheruiyot (2013) studied the impact of the integrated supply chain on the performance of Kenya Tea Development Agency (KTDA) and concluded that supply chain integration had a positive influence on supply chain performance. Danese and Romano (2011) studied the impact of customer integration on efficiency and the moderation role of supplier integration and found out that customer integration improves supply chain efficiency and effectiveness.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary, conclusion, and recommendations of the study. The chapter also presents recommendations for practice as well as suggestions for further research. The objective of the study was to determine the effect of supply chain integration on the supply chain performance of fast-food chain restaurant.

5.2 Summary of Findings

The objectives of the study were to establish the extent of supply chain integration among fast-food chain restaurants in Nairobi County; to determine the effect of supply chain integration on the supply chain performance of fast-food chain restaurants in Nairobi County and to establish challenges faced in the implementation of supply chain integration by fast-food chain restaurants in Nairobi County. The analysis was done using descriptive statistics such as frequency distribution, tables, mean and standard deviations. To establish the relationship between supply chain integration and supply chain performance, correlation and regression analysis were used.

The study established that fast-food chain restaurants in Nairobi County have implemented various supply chain integration practices to various levels. Fast-food chain restaurants in Nairobi County have implemented both supplier integration and internal integration to a very large extent. Customer Integration has been implemented by the fast-food chain restaurants in Nairobi County to a large extent.

On the challenges faced by fast-food chain restaurants in Nairobi County, the study found out that on average, the challenges are only faced sometimes. The most faced challenge

was that the organization responds to changes in the business process when implementing integration. This challenge was always faced. Other commonly faced challenges were Bureaucracy in the organizational structure restricts supply chain integration in our firm and Integrating partners are reluctant to share costs. The least faced challenge was that the top management does not support supply chain integration.

The study found out that there was a strong relationship ($R= 0.698$) between supply chain integration and supply chain performance among fast-food chain restaurant with supply chain integration influencing 46.4% of the total variance in supply chain performance of fast-food chain restaurant in Nairobi County. This implies that 53.6 percent of changes in supply chain performance of fast-food chain restaurants in Nairobi County is explained by other factors apart from supply chain integration. Further, the study found out that supply chain integration has a combined positive effect on the supply chain performance among fast-food chain restaurant.

5.3 Conclusion

The study concludes that fast-food chain restaurants in Nairobi County have implemented both supplier integration and internal integration to a very large extent while customer integration has been implemented to a large extent.

The study further concludes that fast-food chain restaurants in Nairobi County face challenges sometimes when implementing supply chain integration. The most faced challenges are that the organization response to changes in the business process when implementing integration; bureaucracy in the organizational structure restricts supply chain integration in our firm and integrating partners are reluctant to share costs.

The study also concludes that there is a strong, positive and statistically significant relationship between supply chain integration and supply chain performance among fast-food chain restaurant with supply chain integration influencing 46.4% of the total variance in supply chain performance of fast-food chain restaurant in Nairobi County.

5.4 Policy Recommendations

The most faced challenges when implementing supply chain integration was slow organization response to changes in the business process. The study, therefore, recommends that the management of fast-food chain restaurant within Nairobi County should initiate rapid supply chain integration efforts with the aim of making the organization highly responsive to changes in the business process.

The study also established that the other highly faced challenges were bureaucracy in the organizational structure that restricts supply chain integration and reluctance by partners to share the costs of implementation. The study recommends that the management of fast-food chain restaurant within Nairobi County should introduce an open-door policy to reduce bureaucracy and also work towards convincing partners on the advantages of supply chain integration to both the fast-food chains and the suppliers.

5.5 Limitations of the Study

It was challenging to get the questionnaires filled by the fast-food chain restaurant within Nairobi County. The researcher discovered these challenges was that owners claimed their information was proprietary. The researcher had to prove to them that the information was solely sought for academic purpose and not for business competition.

Further, as always familiar with primary data, the researcher had no direct control over the accuracy of the information given by the respondents on how supply chain integration affects the supply chain performance of fast-food chain restaurant within Nairobi County.

5.6 Suggestions for Future Studies

The scope of the study was on the effect of supply chain integration on the supply chain performance of fast-food chain restaurants in Nairobi County. These findings imply that the study cannot be adequately generalized to other firms such as manufacturing firms and other non-fast food service firms. Therefore, there is need to establish how supply chain integration influences the performance of other firms.

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Appendix I: Questionnaire

This questionnaire is designed for the sole purpose of collecting data on the relationship between supply chain integration and supply chain performance of fast food restaurants in Nairobi County. The information gathered here was for academic purpose only with a high degree of confidentiality.

Kindly fill out this questionnaire by putting an “X” on the applicable provided space for the appropriate answer.

SECTION A: GENERAL INFORMATION

1. Name of the Organization:.....
2. Address/Location of the organization:.....
3. Year of establishment:.....
4. What is your position in this organization?
 - a) General Manager
 - c) Operations Manager
 - d) Supply chain officer
 - e) Other (specify).....
5. Respondent’s gender: Male () Female ()

6. Respondent’s age bracket:

Less than 30 years	
31-40 years	
41-50 years	
51-60 years	
Over 60 years	

7. How long have you served in the organization?

Less than 5 years	
6-10 years	
11-15 years	
16-20 years	
Over 20 years	

SECTION B: THE EXTENT OF SUPPLY CHAIN INTEGRATION IN YOUR ORGANIZATION

Supplier Integration

Please indicate on following statements, the extent to which your firm has embraced Supply Chain Integration.

The scale below was applicable:

1= to a very large extent 2= to a large extent 3= to a moderate extent 4= to a small extent 5= to a very small extent.

No.	Statement	1	2	3	4	5
1	We maintain long-term relationships with our firm and our suppliers					
2	There exist strategic partnerships between our business and our suppliers					
3	We consult our suppliers when values of our company are developing					
4	The organization seeks assurance of quality from suppliers					
5	We provide our suppliers with information so that they can improve their quality and responsiveness					
6	Information exchange with suppliers through Information Technology systems is a method commonly used in our firm					
7	Our suppliers participate in the design stage and development of new products					
8	Quick ordering systems with leading suppliers is established					
9	Stable procurement through supplier networks is achieved					
10	There is participation of our vendors in the processes of acquisition and production					
11	Production plans with our leading suppliers is shared					
12	Packaging customization with leading suppliers has been achieved					
13	The gains resulting from cooperation with suppliers is equally shared					

Internal Integration

Please indicate on following statements, the extent to which your firm has embraced Supply Chain Integration.

The scale below was applicable: 1= to a very large extent 2= to a large extent 3= to a moderate extent 4= to a small extent 5= to a very small extent.

Customer Integration

No.	Statement	1	2	3	4	5
1	Cross-functional management is extensively used in our firm					
2	Cross-functional integration is very significant for all supply chain initiatives					
3	The cooperation with the marketing department is constant and successful					
4	The production department is always aware of the strategic plans of the firm					
5	Periodic inter-departmental meetings among internal functions are commonly utilized					
6	Information is shared inside the organization					
7	Data integration among internal functions is achieved through the use of Information Technology systems					
8	Integrative inventory management has been implemented					
9	Real-time searching of the level of stocks has been implemented					
10	There is data integration in production process					

Please indicate on following statements, the extent to which your firm has embraced Supply Chain Integration.

The scale below was applicable:

1= to a very large extent 2= to a large extent 3= to a moderate extent 4= to a small extent 5= to a very small extent.

No.	Statement	1	2	3	4	5
1	There is computerization for customer ordering					
2	Market information is shared with customers					
3	Market information with clients is shared through the use of Information Technology systems					
4	Periodic client meetings are commonly utilized					
5	The organization is aware of the requirements of its customers					

6	The organization measures customer satisfaction					
7	Processes and activities of the organization are designed to increase customer satisfaction levels					
8	Customers are encouraged to provide feedback					
9	The company is actively seeking feedback from customers					
10	The feedback provided by customers is used to improve customer relations, processes, products, and services					
11	The organization uses systematic processes for handling complaints					
12	There exist misunderstandings between customers and organization about orders					
13	Customers contribute to the development of the organizational values					

SECTION C: THE EFFECT OF SUPPLY CHAIN INTEGRATION ON FIRM'S SUPPLY CHAIN PERFORMANCE

Supplier Integration

Please indicate on the following statements, the impact of supplier integration on your company's supply chain performance. The scale below was applicable:

1= to a very large extent 2= to a large extent 3= to a moderate extent 4= to a small extent 5= to a very small extent.

No.	Statement	1	2	3	4	5
1	Supplier Integration reduces the total materials costs					
2	Supplier Integration improves the procurement process					
3	Supplier Integration reduces the supplier's delivery lead time					
4	Supplier Integration leads to improved materials quality and variety					

Internal Integration

Please indicate on the following statements, the impact of internal integration on your firm’s reported operational performance. The scale below was applicable:

1= to a very large extent 2= to a large extent 3= to a moderate extent 4= to a small extent 5= to a very small extent.

No.	Statement	1	2	3	4	5
1	Internal Integration reduces the average unit manufacturing cost					
2	Internal Integration reduces production lead time					
3	Internal Integration reduces equipment change over time					
4	Internal Integration reduces the levels of inventory					
5	Internal Integration increases direct labor productivity					

Customer Integration

Please indicate on the following statements, the impact of customer integration on your firm’s reported operational performance. The scale below was applicable:

1= to a very large extent 2= to a large extent 3= to a moderate extent 4= to a small extent 5= to a very small extent.

1	Customer Integration improves customer service					
2	Customer Integration leads to customer satisfaction					
3	Customer Integration leads to improved product quality and variety					
4	Customer Integration increases the speed and numbers of product development					
5	Customer Integration leads to on-time delivery of goods to customers					

SECTION D: CHALLENGES FACED IN IMPLEMENTATION SUPPLY CHAIN INTEGRATION

Please indicate how often you experience supply chain integration constraints in the mentioned areas in your organization.

Use the scale of: 1= Never 2= Rarely 3= Sometimes 4= Very often 5= Always

No.	Statement	1	2	3	4	5
1	Information Technology complexity hinders integration					
2	Financial constraints pose a challenge to supply chain integration					
3	The top management does not support supply chain integration					
4	Integrating Partners are reluctant to share costs					
5	There are difficulties in maintaining relationship during variations in market					
6	The organization respond to changes in the business process when implementing integration					
7	Integration brings fear of control by partner firm is a problem to supply chain integration in our firm					
8	Bureaucracy in the organizational structure restricts supply chain integration in our firm					

9. Other supply chain integration constraints experienced by our business (please specify)

.....

.....

.....

.....