

EFFECT OF SUPPLY CHAIN INTEGRATION ON OPERATIONAL PERFORMANCE AT COUNTY GOVERNMENT OF MARSABIT, KENYA

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Abstract: The objective of the study was to determine the effect of supply chain integration on operational performance at county government of Marsabit. The specific objectives were: to determine the influence of information sharing, customer service, customer orientation and sharing strategic information on the operational performance of Marsabit County. The researcher adopted stratified sampling and simple random sampling techniques in selecting the respondents. The data collection instrument was a self-administered semi-structured questionnaires that was administered through a “drop and pick later” method to the procurement and supply chain managers. The collected data was analyzed using descriptive statistics and for determining the relationship between supply integration and operational performance, a regression analysis was generated. The findings showed that county had put into place systems that link its operations to the constituents and that the adoption of information technology had led to improved participation by the county constituents on development matters. The study revealed that trust and goodwill defines the existence of good customer orientation in the integration process. Further, the study revealed that sharing operational information such as inventory levels, costs and schedules, production and transportation capacities, lead times, and shipments, within the organization has led to improved customer service. In respect to the operational performance, the study found that both information technology and customer service resulted in positive effect on the operational performance while the customer orientation and information sharing had negative relationship with the county operational performance.

Keywords: supply chain integration, sharing strategic information, customer service, customer orientation.

1. INTRODUCTION

Background of the Study:

In today's competitive business environment, a firm's competitive edge is not realised from individual companies in the value chain, but rather from a cluster of organizations that are known as supply chains (Christopher, 2014). This is because in the face of increasingly competition, firms no longer strive to compete at a single-firm level, but rather at a level of inter-firm networks. Collaborative relationships between channel members with an aim of increasing market competitiveness should be one of the key strategies to be adopted and implemented because through the development of cooperative integration among the firms, they are able to achieve unique competitive advantages. Indeed the whole concept of supply chain management (SCM) seeks to improve the competitive performance of a firms by closely integrating the internal functions within a company and effectively linking them with the external operations of suppliers, customers, and other channel members to realise improved performance and this should be a core function of the management team (KIM, 2012).

One of the important supply chain partners to a firm is its customers and because in every transaction there is a customer. The importance of supply chain integration between a firm and its customers is increasing because the association is expected to be long term and the strength of the relationship depends upon the behavior of the members in the supply chain. Developing integration between the firm and its customers, aims at improving specific areas of a firm's performance, leading to savings in quality inspection costs and better integration of design efforts to meet the customer's needs (Mudambi & Schründer, 2006). Customer integration involves the flows of information, service and materials and the flow of information between the customer to supplier and services and materials flowing forward (Frohlich & Westbrook, 2011). The attention and resources committed by the supplier for these activities are for the purpose of helping the customer improve its competitive standing and therefore, there is need to incorporate customers in decisions making process relating to supply chain integration that affect them.

Verlezza (2012) states that the supply chain, its capabilities and limitations, should never by itself dictate to the business. It is by weaving the supply chain into the fabric of the business, that a company can wring the most value from its internal workings to enable on-going external and internal financial performance initiatives. Putting the supply chain at the core of the business allows the right combination of understanding and cost control while optimizing customer service and satisfaction

In the present day globalised business environment, the supply chain integration process spans many continents and countries. For example, Li (2014) assert that among the emerging economies, China has increasingly become the manufacturing centre of the world and as a result, Chinese companies have set shop in various countries and ensuring that their customer needs are realised across the globe as necessitated establishment of effective integration process. However, they point out that as China transforms itself from being a planned economy to a market economy, changing from the use of informal ties within a supply chain does not explain effectively what SCI integration will have on the performance of the firms. In Britain, Mackelprang, Robinson, Bernardes and Webb (2014) stress that British firms have been found to integrates with its supply chain partners as a way to deliver and provide customer value. This is because strategic integration of supply chain elements internally and externally allows groups of firms to act as a single unit which potentially lead to improved efficiencies and performance for all parties.

Statement of the Problem:

The development of a strategic intra-firm and inter-firm collaboration along the supply chain is widely regarded as an important strategy for improving firm performance and the expectations of partners along the supply chain (Maull, Geraldi & Johnston, 2012). Further, when a firm in a supply chain network is faced with increased level of competition, both from upstream or downstream partners, a satisfied customer will act as that fulcrum in which the firm sustainability will be anchored to survive and create new niches in the business line. Therefore, there is need for an establishment of effective integration between the firm and its partners, especially the customer, because without such a good relationship, the firm will be unable to effectively deal with emerging challenges at the strategic, operational, and technological levels (Frohlich, 2012). Close integration between a firm and its partners will enable manufacturers to approach their markets with a requisite knowledge as working with downstream partners gives the manufacturers more comprehensive understanding about their need. Several studies have been carried out to establish the effect of supply chain integration on various facets of organization operations. Chizzo (2008) found that while information sharing as an antecedent of SCI is important, its effect on the performance of a supply chain depends on what information is shared between the partners. This implies that there is need for the integration process to be specifically tailored to specific partners in the supply chain with an aim of forming a synergy with the firm. Achrol (2010) identified commitment, trust, group cohesiveness, and motivation of alliance participants as critical to inter-organization strategic alliances. Hence without a firm foundation of effective inter organizational relationship, any effort to manage the flow of the information or materials across the supply chain is likely to be unsuccessful. However, the studies carried out have not considered the effect of SCI on the operational performance. There are two reasons of why the effect of SCI on the level of operational performance needs to be undertaken. First, operational performance is more intractable than other factors such as financial performance and non-financial measures plays an important role in supply chain management (Dowty & Wallace, 2010). A satisfied customer influences, for example the behavior of internal employees in terms of information sharing, teamwork and risk taking. Operational performance also affects inter-firm behavior in areas such as relationship skills and trust. However, despite the importance of firm operational performance in the present day competitive business environment, most of the studies have been carried out in mature market economies which have significant differences in political, social, and

economic systems compared to emerging economies, like Kenya. Thus the findings of these studies may not be valid when applied in the context of emerging economies. As such, the understanding of the effect of SCI in on operational performance in a government institution becomes important especially in the devolved government units such as the County government.

Objectives of the study:

This study was guided by the following specific objectives:

1. To determine how adoption of information technology influence operational performance at Marsabit County government
2. To establish how customer service influence operational performance at Marsabit County government
3. To determine how customer orientation affect operational performance in Marsabit County government
4. To what extent the effect of sharing strategic information on the level of operational performance at Marsabit county government

2. LITERATURE REVIEW

Theoretical review:

The debates on the adoption of supply chain integration as a source of improvement on organization performance can be addressed in light of three perceptions in literature: transaction cost theory, information processing theory and the resource based theory. Significant progress has been made over the last decade in explaining the integration of the buyer – seller partnership in a supply chain.

Transaction Cost Analysis Theory: Transaction Cost Analysis (TCA) theory was advanced by Williamson (1975) and was later improved in subsequent years. The theory shape arguments for a positive relationship between SCI and firm performance by recognising the role of SCI as a hybrid governance mechanism that helps companies to gain the same advantages of SCI attributes Huo (2012). With respect to SCI, transaction cost theory predicts that firms should fare better if they appropriately adjust their governance mechanisms to the underlying transactions (Williamson, 2008).

Transaction cost economics (TCE) also highlighted some of the integration benefits (Williamson, 1975). Transaction costs are the expenses generated by identifying fair market prices, negotiating and carrying out economic exchange. For example the information integration dimension of supply chain enables coordination of information transfer and collaborative communication in the supply chain while the operational integration refers to the ability of the integration process to facilitated coordinated decisions making in the supply chain. Another form of integration is the relational integration which involves the adoption of a strategic connection between firms in the supply chain vertical integration, thanks to trust and familiarity among supply chain partners, especially in an uncertain environment (Cao, 2010).

Information Processing Theory: The information processing theory (IPT) was developed by Galbraith (1973) and asserts that the ability of an organization to cope with information is an organization's main task and therefore more information has a positive link with performance. This, however, is not a constant effect as an inflection point can be reached at which more information does not lead to better performance. According to Huo (2012) working in close contact and sharing complementary knowledge with partners in the supply network breed unique and distinctive capabilities, which allow companies to achieve a long-term competitive advantage over their competitors.

Resource-Based View :The Resource Based View (RBV) was first advanced by (Wernerfelt, 1984) and posits that firms can be viewed as being made up of collections of resources, some of which can be considered strategic resources. Barney (1991) in further extension of the resource based view assert that firms can be viewed as collections of resources, some of which can be considered strategic resources. It can therefore be considered that these resources are distributed heterogeneously across firms in the supply chain and hence can result in a sustained competitive advantage (Peteraf, 1993). Supply chain scholars have acknowledged that internal/cross-functional and external integration with customers and suppliers can be complex and requires unique capabilities that may be difficult or costly to implement (Barney, 2012; Chen, Daugherty, & Roath, 2009). SCI can be seen as an internal strategic resource that could result in a competitive advantage and improved firm performance.

Supply Chain Integration and Firm Performance:

Business performance consists of market performance that deals with sales and financial performance that deals with profitability of a firm. The financial performance is the important overall estimate of firm performance and has been adopted by most SCI studies (Swink, 2007). Further, Rosenzweig (2008) show that SCI directly influences only the ROA and revenues of new products similar findings were found by Huo (2013) that SI with two dimensions (product and process integration) significantly enhances financial performance. In addition, Yu *et al.* (2013) show that SI has a direct effect on financial performance and that CI only indirectly enhances financial performance via customer satisfaction.

According to the RBV, SCI as a relational resource is a proprietary, valuable and inimitable type of social capital that leads to competitive advantages. For example, a close strategic partnership with suppliers may help suppliers understand and provide proper recommendations and responses to manufacturers' changing requirements. A long-term partnership can consolidate mutual trust and commitment and thereby enhance cooperation and decrease opportunistic behavior, leading to low transaction costs (Zhang & Huo, 2013). Furthermore, a mutual exchange of information and involvement in products, processes and schedules are beneficial for manufacturers to develop their products in a timely fashion while achieving a high level of operational performance, which in turn leads to the accomplishment of financial goals. Moreover, a close process alignment with suppliers also facilitates the smooth and timely delivery of raw materials and components (Cousins and Menguc, 2006), thereby decreasing logistics costs and enhancing business performance.

Past supply chain research has shown how the sharing of order-related information reduces the upstream amplification of errors in forecasting demand signals and reduces the bullwhip effect (Lee, 2010). Therefore integration of technology, people, business and processes is crucial for survival and competitive edge in the current digital age and this is not important only within the organization but also across extended enterprises. Supply chain management is one of the most strategic functions of an organization which can be exploited to gain a sustainable competitive advantage in the marketplace. Research also suggests that there is value to sharing strategic information, such as information on production strategies, financial operations, and marketing, which is above and beyond the order-related information required for transactional exchanges (Zhang & Huo, 2013). The rationale is that the sharing of such information can enable partnering firms to align strategic actions and adapt their plans and resource positions.

The exchange of strategic information with partners is not, however, without risks. For example, a buyer may share information on its inventory positions with its supplier to inform their production schedule and to facilitate vendor-managed inventory. In doing so, the buyer might be subject to higher pricing due to the visibility of its inventory positions that the supplier now has. A buyer sharing its demand information and marketing strategies with its logistics vendor to enable the vendor to plan capacity better and manage peak periods might be subject to less favorable volume discounts by the vendor (Kim 2009). Finally, a vendor may share cost and margin structures with a buyer to measure improvements in the business value that is jointly created in an effort to better coordinate inter-firm activities. In the absence of strict confidentiality agreements, the buyer might disclose such shared information to other vendors in order to secure more competitive bids from them.

3. RESEARCH METHODOLOGY

The study adopts a descriptive research design. A research design denotes the methodology that the study is to take in order to accomplish its intended objectives. The research design is regarded as a blue print, a master plan that specifies the methods, techniques and procedures for collecting and analyzing the needed information or simply a framework or plan of action for the research (Charmaz, 2003).

This is because a descriptive design is concerned with univariate question in which the researcher ask about the size, form distribution and existence of supply chain integration and its effect on operational performance in Marsabit County. It also helps in seeking the individual's real perceptions, behaviour, attitudes and or values to determine in reporting the way the situation is in relation to associated target population.

The unit of observation of the study was 208 members of staff in the county of Marsabit headquarters working in the procurement department. Mugenda and Mugenda (2003) describe target population as the complete set of individual's cores or objects with some common characteristics to which the researcher wants to generalize the results of the studies.

Stratified sampling and simple random sampling techniques was applied in selection of respondents for the study. First, the existing three grading structures for staff at the county was treated as strata upon which the respondents were selected. Secondly, a sample of 20% was drawn from each stratum through simple random sampling subject to at least 5 staff members per cadre. According to Kothari (2008), a representative sample is one which is at least 10% of the population.

The study used primary data which was collected through self-administered semi-structured questionnaires. Primary data according to Kothari (2004) is the data collected a fresh for the first time while secondary data is that data that has already been collected and passed through statistical process. The questionnaires were administered through “drop and pick later” method to the procurement and supply chain managers. The questionnaire was made up of both open and closed ended questions designed to elicit specific responses for qualitative and quantitative analysis respectively. The researcher personally administered the questionnaires. Other methods of data collection include observations and interviews. All these were for purposes of collecting detailed data so as to answer the research questions effectively.

The data collected was analyzed using descriptive statistics (measures of central tendency and measures of variations). Once the data was collected, the questionnaires were edited for accuracy, consistency and completeness. However, before final analysis was performed, data was cleaned up to eliminate discrepancies and thereafter, classified and then tabulated. The responses were then coded into numerical form to facilitate statistical analysis. The descriptive analysis to be adopted involved the use of tables, pie charts, percentages, mean and standard deviations to summarize the respondent answers and answer the four research questions. The study also employed inferential statistics to establish the relationship between the study variables and operational performance.

4. CONCLUSIONS AND RECOMMENDATIONS

Conclusion:

In a competitive and uncertain environment, organizational flexibility and service become important factors for obtaining competitive advantages and realising organizational goals. First, the results showed that adoption of information technology, customer service and sharing of strategic information had positive effect on the operational performance of the county operations. Customer integration was positively related with operational performance with a coefficient of 0.728 and significant level of 0.00, which provided empirical evidence to support the positive role of information technology adoption. The findings suggest that supply chain practices are one of the most strategic functions of an organization and can be exploited to gain a sustainable competitive advantage in the marketplace. Effective supply chain integration results in better performance, good relationship with suppliers and customers. Marsabit county integration with their suppliers and its customers is realized as an important factor in implementing and empowering the overall integration process. Supply chain integration enables proper utilisation of system which leads to better achievements of organisation goals like productivity and customer service. Supply integration assist in building a strong relationship and guarantees staff with courteous, convey trust & confidence to serve the customers.

Operating an integrated supply chain requires continuous information flow between the organization and its partners, which in turn facilitates a seamless service delivery. Therefore county governments need to establish an appropriate supply chain in order to optimize product flows and consequently provide for acceptance of their products to their customers. County governments need to embark on information sharing with their suppliers, so as to undertake products that respond to customer requirement accurately and consequently to yield results in operational performance.

Recommendations:

The study findings show that integration of the constituents (customers) views in the planning of projects phase has enabled the county to come up with project initiatives that are acceptable to majority of the regions in the county. Therefore it is recommended that both the national and county governments put in place appropriate measures of involving all the constituents in public participation and the exercise should not only be a public relation exercise but rather a genuine step towards incorporation of the views of all the stakeholders in the county projects. As a response to the issues observed, it is suggested that information sharing can reduce fluctuations in production time and idle time. Proper sharing of information also helps to reduce the waiting time between processes and improve operational performance.

The research findings show that customer orientation in the supply chain integration process was not adequately practiced by the county. It is therefore recommended that the county government of Marsabit introduces a deliberate step to orient its operations to the needs that are required on the ground to avoid coming up with projects that do not meet the requirements of persons on the ground. The study recommends there is need to enhance information technology adoption because it improves the operational performance and it is recommended that the Marsabit County ought to put in place information technology. The study also recommends need to improve on customer orientation to enhance better relationship between the suppliers, customers and the county staff.

Suggestion for Further Research:

The study centred on the effect of supply chain integration on operational performance at county of Marsabit, Kenya. A further study should be carried out to establish the challenges facing supply chain integration in public institutions and consequently how this effect on their performance in the public sector. The scope of future research lies in understanding and exploring the quantitative relationships among the constructs of the research framework.

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