

# Effect of Lean Supply Chain Management Practices on Organizational Performance in Government Ministries in Kenya: A Case of Children's Department in the MLSSS

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## ABSTRACT

*Lean supply chain management practices is one of the ways of reducing waste in organizations due to benefits that accrue in adoption of these practices. To meet public demands and expectations, there is a need for the public sector to consider adopting lean supply chain management practices to reduce waste and enhance value addition in provision of services to the public. This study was set out to establish the effect of lean supply chain management practices on organizational performance of government ministries in Kenya: a case of the children's department in the Ministry of Labor, Social Security and Services (MLSSS). The study used a descriptive case study to determine the lean supply chain practices adopted in the Children's Department in the MLSSS. The target population for the study was 75 staff members who handle supply chain issue. The study used the entire population as the sample. The study used questionnaire primary source to collect data. The study found out ICT integration and supplier increase organizational performance of government ministries.*

## INTRODUCTION

Today, the need for greater responsiveness to customer needs and more agile product supply throughout the entire network is crucial. A study by Lewis (2000) found that the adoption of lean supply chain management enable firms to tailor their supply chain processes and organizational roles to support lean supply chain principles.

A lean supply chain is a great enabler for any organization that strives to become more lean and efficient. Organizations within a lean supply chain are able to leverage their own lean journey more easily, delivering better customer value by responding more efficiently, quickly, and predictably to customer needs. That, in turn, facilitates the operation of the lean supply chain, creating a virtuous cycle that ultimately translates to superior financial performance for these organizations. Thus organizations striving to become lean would benefit from a systematic approach towards building and managing their supply chain.

Lean supply chain requires organizations to examine their business processes in order to identify areas whereby resources are wasted which can be measured in monetary value. This creates a window to minimize wastage and improve on the way of doing things. A study by Hines, Holweg & Rich (2004) of Belgian service firms found that lean management seeks to create value to the customer perspective other than the producer perspective by redesigning the organization into value streams and adopting practices that add value. Lean supply chain management led to improved organizational performance.

### **Problem Statement**

The business environment keeps on changing therefore organizations should keep changing in order to adopt and cope with this environment. According to Anand and Kodali (2008) reduction of waste is one of the ways that organizations perceive to be appropriate in enhancing organizational performance. Lean supply chain management practices are popular ways of reducing waste in organizations due to benefits that accrue in adoption of these practices for example reduced waste, value creation, and efficiency and reduced costs among others. Aberdeen group (2006) indicates that more than 50 % of organizations that adopt lean supply chain management practices minimize waste and operational costs.

The implementation of lean principles has enabled firms across the globe to be more customer-focused, flexible and profitable. Jones Lang Lasalle in conjunction with the association of operations management (APICS), logistics management magazine conducted a study in the United States in 2008 of the development and adoption of lean principles in supply chain management. They reported that only 14% of companies are 'lean Adopters' in their supply chain effort. 30% of the respondents, a category they termed 'lean movers' are starting to adopt lean supply chain principles. The Non-Adopters are moving into the mid-tier and starting to adopt some, less mature, lean practices.

To meet public demands and expectations, there is a need for the public sector to consider adopting lean supply chain management practices to reduce waste and enhance value addition in provision of services to the public. In accordance to a survey carried out by Macharia (2014), 65% of the respondents noted that wastage and inefficiency were the greatest challenges faced by the public sector in execution of its roles and responsibilities. The Children's department is part of the public sector which is tasked with crucial tasks of addressing child welfare policies and family protection through reforming social security system. To effectively execute these roles adoption of lean supply chain management is useful in enhancing control and participation in resource mobilization for improved livelihoods of vulnerable especially orphans and children.

### **General objective**

The general objective of this research was to establish the effect of lean supply chain management practices on organizational performance of government ministries in Kenya. A Case of the Children's Department in the MLSSS.

### **Specific Objectives**

- i. To determine if ICT integration affect organizational performance in government ministries in Kenya.
- ii. To establish if supplier selection affect organizational performance in government ministries in Kenya.

### **Literature Review**

Information Communication Technology (ICT) integration involves sharing systems with the suppliers. This enables the supplier to understand the demand of the organization and deliver goods and services as per the demand of the organization. Integration entails combining separate parts or elements. Supply chain typically covers a series of activities from the manufacturers to the retail stores defining a business process like vendors, service providers and customers together. The process of integration dimension has been emphasized by a number of authors. Information integration is an important dimension of supply chain. Information is often considered to integrate processes and activities within a process and across, multiple processes (Stewart & Grout, 2001).

In their study, Ilyas, Shankar and Banweet (2008) pointed out that integration was part of the Information Communication Technology that improved access to information sharing among supply chain partners. This minimized communication costs and hence bolstered organizational performance. Melody (2002) studied the impact of information communication technology adoption on performance of manufacturing firms in Australia.

The study used a cross-sectional research design to establish the relationship between variables. The study used a sample of 100 manufacturing firms and the results concluded that there was improved efficiency and cost reduction as a result of adoption of ICT. This significantly improved manufacturing firm's performance.

Mehra and Inman (2000) argue that supply chain integration acts as an essential link in connecting supply chain management functions that contribute to effective coordination of supply chain partners and service providers. This improves efficiency in supply chain management, responsiveness to customer demand and speed in execution of supply chain management roles such as strategic supplier partnerships and joint planning decisions. This enables the organization to minimize operational cost and improve supply chain performance.

Ertugrul and Mehtap (2016) argue supplier selection is the process by which firms identify, evaluate, and contract with suppliers. The supplier selection process deploys a tremendous amount of an organization's financial resources. In return, firms expect significant benefits from contracting with suppliers offering high value.

Ertugrul et al. (2016) further argue that supplier selection along with supplier evaluation and continuous measurement is an important organizational process: purchased products represent between 40% and 60% of end product sales and have a direct impact on the cost and quality of products offered. In addition, even a small cost gained by selecting a good supplier can have great impact on the benefits and contribute effectively to organizational performance.

Chunxia & Wong (2015) argues that supplier selection relies on multiple assessment techniques which include both quantitative and qualitative methods. At the same time, most organization

continues to select suppliers based on experience and intuition selective and unreliable approaches. The most common evaluation criteria used to select suppliers are: financial health, expertise, operational performance metrics, business processes and practices, enabling behaviors or cultural factors and risk factors.

Ertugrul et. al (2016) further suggest that effective suppliers' enables an organization to save costs that might arise out of stock-out, lead time and holding costs. Reliable suppliers form an integral part of supply chain system through ensuring that the firm gets the right goods at the right time. A constant supply of goods and services to customer is established and this results into increased customer satisfaction because customers' are able to get the right goods at the right time. This builds customer confidence and trust leading to increased sales and improved organizational performance.

### **Research Gaps**

Leans supply chain management practices have been implemented widely in the developed countries such as United States of America, United Kingdom, and Japan while in developing countries, lean supply chain practices is still a new concept, its adoption is low, this is because in most parts of Asia and Malaysia the concept is yet to gain popularity. Lean supply chain plays an essential role in enabling firms to minimize waste and enhance efficiency in supply chain management. Lean supply chain management practices aim at integrating the functional areas of an organization by ensuring that the organization and its suppliers have a shared system that enables them to work together. This enables the organization to deliver tailored goods and services that specifically meets customer needs. It also minimizes lean time because goods are procured once an order has been placed (Macharia, 2014).

### **Research Methodology**

The research was carried out using a case study. A case study is an approach to research that focuses on gaining an in-depth understanding of a particular entity or event at a specific time. The target population for this study comprised of 75 employees who are involved in handling supply chain management issues in the Children's department in the MLSSS who were involved either directly or indirectly in supply chain management. This study used the entire population as the sample. Israel (2012) further states that a census eliminates sampling error and provides data on all the individuals in the population. The questionnaire was designed to include both structured and unstructured questions. Data analysis was done using Statistical Package for Social Sciences (SPSS).

### **Research Findings and Discussion**

The study targeted all 75 employees of the Children's department in the MLSSS who were involved either directly or indirectly in supply chain management. A total of 58 self-administered questionnaires were filled out of the expected 75 yielding a response rate of 77%.

## **Information communication technology (ICT) integration**

Descriptive statistics were used to describe the phenomenon under investigation and help the researcher come up with conclusion about the characteristics of data used in order to proceed to inferential statistics. The study sought to determine if ICT integration affect organizational performance in government ministries in Kenya. Respondents were asked to indicate the extent to which their organization use ICT integration as one of lean supply chain management practices. This was on a scale of not at all, very small extent, average, large extent and very large extent. The score very large extent represents very high effect of ICT integration and has been taken to be equivalent to mean score of 4.1 to 5.0 on the likert scale. The scores large extent represents high effect of ICT integration and is equivalent to a mean score of 3.1 to 4.0. The score average represents average effect and taken to be equivalent to mean score of 2.1 to 3.0. Very small extent scores represent low effect of ICT integration and taken to be equivalent to mean score of 1.1 to 2.0. And the score not at all have been taken to be equivalent to mean score of 0.1 to 1.0. A standard deviation of more than one implies a significant difference in respondents.

A result of the analysis is presented below. According to the results of the study, the respondents indicated very high effect of ICT integration with a mean score ranged 4.1 to 5.0, except for the ministry connection to wide suppliers whose mean score was 3.97 (high effect). There were no significant differences in the respondents' responses.

The study determined that ministry shares information with all its supply partners which was rated highly at a mean of 4.67, followed by joint planning decision making which was rated at 4.36. A sizeable number of respondents indicate that ministry collaborates with its suppliers in supply chain planning and was rated at 4.33 and a number of respondents at 3.97 indicated that ministry is connected to a wide suppliers. The findings of this study agree with the study of Mehra and Inman (2000) who argue that supply chain integration acts as an essential link in connecting supply chain management functions that contribute to effective coordination of supply chain partners and service providers. This improves efficiency in supply chain management, responsiveness to customer demand and speed in execution of supply chain management roles such as strategic supplier partnerships and joint planning decisions. This enables the organization to minimize operational cost and improve supply chain performance.

**Mean score for ICT integration**

	N	Mean	Std. Dev.	Rating
The ministry shares information with all its supply chain partners	58	4.67	0.504	Very Large
The ministry uses joint planning decision making	58	4.36	0.722	Very Large
The ministry collaborates with its suppliers in supply chain planning	58	4.33	0.656	Very Large
The ministry is connected to a wide of suppliers	58	3.97	0.911	High
Valid N(list wise)	58			

**Supplier selection**

The study sought to establish if supplier selection affect organizational performance in government ministries in Kenya. Respondents were asked to indicate the criteria which their organization used to select suppliers as one of lean supply chain management practices. This was on a scale of not at all, very small extent, average, large extent and very large extent. The score very large extent represents very high effect of supplier and has been taken to be equivalent to mean score of 4.1 to 5.0 on the likert scale. The scores large extent represents high effect of supplier and is equivalent to a mean score of 3.1 to 4.0. The score average represents average effect and taken to be equivalent to mean score of 2.1 to 3.0. Very small extent scores represent low effect of supplier and taken to be equivalent to mean score of 1.1 to 2.0. And the score not at all have been taken to be equivalent to mean score of 0.1 to 1.0. A standard deviation of more than one implies a significant difference in respondents.

A result of the analysis is presented in table below. The study established that ministry has a team of reliable suppliers which was rated at a high mean of 3.81. Also, it was established that the ministry conducts regular supplier selection which was rated at a mean of 3.79. This is done to incorporate new requirements from the ministry. This is also done as a way of evaluating and improving the process. The findings of this study concur with the findings of Ertugrul et al. (2016) which argue that supplier selection along with supplier evaluation and continuous measurement is an important organizational process. The respondents (3.70) also indicated that ministry collaborates with its supplier. Lastly 3.53 mean of respondents indicated that the ministry involve its suppliers in decision.

From the results it indicates that ministry recognizes the importance of suppliers' involvement in their operations and this finding agree with the study by Chunxia and Wong (2015) suggest that effective suppliers' enables an organization to save costs that might arise out of stock-out, lead time and holding costs. Reliable suppliers form an integral part of supply chain system through ensuring that the firm gets the right goods at the right time.

**Table 4.5: Mean score for supplier selection**

	N	Mean	Std. Dev.	Rating
The ministry has a team of reliable suppliers	58	3.81	0.802	High
The ministry conducts regular supplier selection	58	3.79	0.811	High
The ministry collaborates with its suppliers	58	3.70	0.612	High
The ministry involves its suppliers in decisions	58	3.53	0.763	High
Valid N(list wise)	58			

**CONCLUSIONS AND RECOMMENDATIONS**

**Specific objective 1:** Determine if ICT integration affect organizational performance in government ministries in Kenya.

The study determined that there is very high effect of ICT integration on organizational performance in government ministries. From the finding it was found out that ICT integration enable ministry to shares information with all its supply partners; joint planning in decision making, collaborates with its suppliers in supply chain planning and also assist ministry to connect widely with suppliers. Thus, ICT affect positively organizational performance in government ministries.

**Specific objective 2:** Establish if supplier selection affect organizational performance in government ministries in Kenya.

The study established that the ministry has a team of reliable suppliers which was rated at a highly. Also, it was established that the ministry conducts regular supplier selection; incorporate new requirements from the suppliers; collaborates with its supplier and involve its suppliers in decision. Therefore, it was noted that supplier selection affects positively organizational performance in government ministries in Kenya.



## **Recommendations**

Information communication and technology (ICT) integration is a major component of lean supply chain management which necessitates organizational performance. Although from the findings it was noted that ICT integration has been adopted by the government ministries in Kenya in sharing of information across with partners, in joint decision making and collaboration with suppliers but emphasize should put in using ICT to integrate with major suppliers which was rated very low. Integrating of suppliers with the government ministries would reduce the cost of sourcing new suppliers and would save time in terms of bidding processes, traveling, and relaying information to the suppliers and many other benefits. Therefore, the researcher recommends government ministries and any other organizations to increase uptake of ICT integration as best practices of lean supply chain management.

The researcher recommends that government ministries should involve suppliers' decision making as one of the best practice of lean supply chain management. From the findings it was noted that supplier involvement in decision making was not emphasized by government ministries and yet this is a major component if organizations are to satisfy their customers and improvement of service delivery. Government ministries should not that satisfaction of customers' starts with the source of the product and thus it is important to involve suppliers in decision making.

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