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Abstract

Kenya Airways PLC being an international airline is currently facing massive competition in both the local and the international routes. The supply chain section within the company handles large volumes of goods purchases including purchases from overseas suppliers as well as those local suppliers. Adopting an effective and efficient supply chain is of essence to the company during these hard times. It's therefore important to continuously carry out supply chain performance measurement as well as identify the challenges involved. The study establishes the influence of e-procurement practices on supply chain performance at Kenya airways. The paper employed a desk study review methodology. Past studies on e-procurement were critically and thoughtfully studied and the results related to the airline industry. A critical review of empirical literature is conducted to identify main thematic concepts of the paper. From empirical studies, it was established that e-procurement practices are fundamental to the performance of supply chain management. The adoption of e-procurement practices is vital due to that fact that procurement is one of the most critical functions of the supply chain. It is imperative for any firm to ensure that efficiencies are built within the procurement process to ensure competitive advantage and profitability. Likewise, Kenya Airways may attempt to modernize their procurement services by integrating e-procurement in the supply chain systems. The recommendations of the study focus the subject of the study which is the Kenya Airways. The study recommends that Kenya Airways should pay attention in developing e-procurement platform to enhance supply chain performance. E-procurement practices have very strong influence on supply chain performance. E-order processing, information sharing and E- supplier appraisal strongly

influence supply chain performance. The airline firm should embrace the e-procurement practices to enhance the firms' supply chain performance which consequently lead to profit maximization.

Key words: *e-procurement practices, supply chain performance & Kenya Airways.*

INTRODUCTION

The success of a business entity is dependent on its supply chain management. Effective supply chain management is critical to the survival of an organization (Njenga, 2018). The vital business function in supply chain includes sourcing materials and parts, assembling, storage, making orders, tracking and distributing products (Brandon-Jones & Carey, 2011). A supply chain performance metrics system majorly entails quality, delivery time, delivery performance, resource utilization, inventory levels, cost and flexibility (Quesada, González, Mueller & Mueller, 2010). Supply chain performance also result from firms' efficiency. efficiency can be enhanced and not limited to; flow of product, delivery performance, order fulfillment lead time, supply chain responsiveness, production flexibility, inventory cost, better discounts among others which result to improved quality, cost reduction and shorter lead time thus there is entire improvement in the supply chain. Efficient supply chain management is directly related to the performance of an organization. Enhancing supply chain performance is thus very critical in ensuring the sustain growth of a company (Wu & Chien, 2016).

In the airline industry, supply chain management is very critical. Simchi levi *et al* (2000) notes that the primary goal of an airline supply chain is to get the right material to the right place at the right time. It also has the duty of managing the parts procurement and supply chain function as efficiently as possible. Beamon (1999) adds that in today's highly competitive airline industry efficiency in supply chain operations is very important. Airlines procurement and supply chain services breaks down into parts trading, distribution, surplus remarketing, initial provisioning and sourcing, inventory leasing, repair management, warehouse and logistics. Because of the importance of these business activities in the airline industry, the mode of procurement matters most (Rezaei, Fahim & Tavasszy, 2014).

There is need to move from traditional mode of procurement to e-procurement services. Effective supply chains are crucial for a firm to remain competitive in today's market (Namusonge, 2017). This effectiveness is driven by striving for proper synchronization and coordination of all activities across the entire supply-chain network, ranging from end-customers to suppliers (Batenburg, 2007). As a result, once-relegated functions such as procurement, a primary determinant for the organization's relationship with suppliers, become important (Quesada, González, Mueller & Mueller, 2010).

E-Procurement is involves integration of information and communication technologies to carry out individual or all stages of the procurement process which include sourcing, negotiation, ordering, receipt and post procurement review which leads to significant

reduction in both cost and time (Nyagah, Kaimuri Hellen & Patrick Mwangi, 2015). E-procurement actually automates the procurement and purchasing of a company by integrating procurement services through relevant IT systems. E-procurement software can manage many purchasing related tasks automatically including order placement, catalog management, payment reporting and transaction so more time and focus can be dedicated to other activities to be more responsive to the market. E-procurement allows efficiency hence shorter lead time. The benefits of e-procurement such as: better coordination with suppliers, quicker transaction times, higher flexibility, better supplier integration, and lower costs. It is argued that by utilizing new procurement technologies, firms can increase the efficiency of their entire procurement process and, thereby, can achieve higher firm performance. Different forms of e-procurement include e-sourcing, e-tendering, e-informing, e-reverse auctions, e-MRO and web-based enterprise resource planning.

Globally, e-procurement practices in supply chain management are very important. In Brazil Edquist, Vonortas, Zabala-Iturriagagoitia and Edler (2015) indicates that real saving can be achieved through E-procurement. In India, Salkute and manager (2012) established that e-procurement adoption in India is influenced by cost benefits. Transparency International (2006) noted that e-procurement facilitated information flow between the procuring entities and the supplying firms in Brazil. In other countries like Chile, Mexico, Peru and Venezuela, e-procurement is must apply in every step of procurement process. In Philippine e-procurement is used for transactional and information exchange during procurement since e-procurement is not fully developed. Aman and Kasimin (2011) noted that in Malaysia, e-procurement enhanced use of open e-procurement competitive tender to curb corruption which is estimated to have reduced by 5.9% compared to earlier figures 3.7% when paper work was used.

In Kenya, e-procurement is at however at infancy stage. However, the country is revamping public procurement by instituting a number of reforms aimed at enhancing efficiency in the procurement process. Major reforms include the introduction of e-procurement processes. According to Mauti (2013) Kenya has adopted e-procurement with the following e-procurement practices: online advertisement of tenders, receiving online submission of proposals for the tenders and short listing suppliers online. Supply performance is vital to the growth of Kenyan economy. The airline industry in Kenya has been trying to meet efficient and effectiveness in supplying customers with good terms of price, service standards, innovation in inflight products and services offered. B2B e-Business has become the focus of the airline industry leading to the growth of e-Marketplaces. The airline participants are embracing the potentiality of joint-procurement possibilities and possible measures in creating consortia-led e-marketplaces as mediators for aggregating demand and to facilitate transactions. Barasa, (2014) argue that e-Marketplaces have the potential to positively impact company and supply chain performance, thus altering industry structure.

The supply chain performance of the Kenya Airways Limited has been on the decline. Core businesses operations at the Kenya airways are related to procurement and supply chain management. The biggest airline company in the country also lost ground in

international ratings on punctuality. In 2016, Kenya Airway punctuality index was 66.69 per cent on time performance (OTP) representing a drastic drop from 74.11 per cent in 2015. Delivery time is a critical aspect of procurement and supply chain management. This perennial decline in supply performance calls for more scrutiny on the operations of the airline. The need for improved procurement services by employing e-procurement is therefore important.

Statement of the Problem

Kenya Airways PLC being an international airline is currently facing massive competition in both the local and the international routes. The supply chain section within the company handles large volumes of goods purchases including purchases from overseas suppliers as well as those local suppliers. Adopting an effective and efficient supply chain is of essence to the company during these hard times. It's therefore important to continuously carry out supply chain performance measurement as well as identify the challenges involved. However, the supply chain performance of the Kenya Airways Limited has been on the decline. Core businesses operations at the Kenya airways are related to procurement and supply chain management. The biggest airline company in the country also lost ground in international ratings on punctuality. In 2016, Kenya Airways punctuality index was 66.69 per cent on time performance (OTP) representing a drastic drop from 74.11 per cent in 2015. Delivery time is a critical aspect of procurement and supply chain management.

Statistics from the Kenya Airways annual financial reports, show that in the financial year ending 2015 Kenya Airways accumulated losses of Ksh. 25.7 billion which is a further slump from the 2014 losses which amounted to Kshs.3.4 Billion (Kenya Airways, 2015). The financial performance woes began in the financial year 2012 when the profit declined by 46.7% from previous year's profit (Wahome, 2012). This was followed by a loss of Ksh. 7.8 Billion in 2013. This perennial decline in supply performance calls for more scrutiny on the operations of the airline. The loss could be as a result of decline in turn over or increase in cost of operations. This study focuses on the cost of operations, specifically on the supply chain by assessing the integration of lean procurement methodologies. Nonetheless, traditional procurement process is full of loopholes that encourage procurement malpractices including fraud and irregular ordering. The need for improved procurement services by employing e-procurement is therefore important. E-Procurement improves speed as well integration of suppliers' relationships through transparency in procurement process.

Objective of the Study

To establish the Influence of e-procurement practices on supply chain performance the case study of Kenya airways.

THEORETICAL BACKGROUND

Resource Based Theory

The Resource-Based View was postulated by Wernerfelt in 1984. The way an entity manages its resources determines performance. Adequate resources can be a source of competitive advantage (Morheney & Pandian, 1992). Resources can be financial or human resources. Resources are important in setting pace and improving ways of doing business (Kraaijenbrink, Spender & Groen, 2010). It involves the prudent and efficient use of the available resources to achieve organizational goals and objectives. Company resources include financial and human resources (Kor & Mahoney, 2004). A company that is able to allocate and use their resources efficiently is able to perform well and create value when they implement strategies by exploiting their internal resources and capabilities. The analysis of an organizations internal strengths and weaknesses is critical in supply chain management.

Investing in e-procurement require sufficient resources. The theory is applicable to this research as it advocates for efficient use of scarce resources in integrating e-procurement services to the supply chain management of the airline industry under the study. The management of Kenya Airways needs to be able to identify the key resources and drivers of e-procurement systems in their organizations.

Institutional Theory

Institutional theory emphasizes the importance of institutional environment in shaping organizational structure and actions. As such, Scott (2005) identifies three pillars of institutions, which include: regulatory, normative and cultural cognitive. The regulatory pillar emphasizes the use of rules, laws and sanctions as enforcement mechanism with a view of ensuring compliance. As the basis of compliance; normative pillar defines the norms and things that should be done; values (preferred or desirable) that should be adhered to; and social responsibilities. Finally, cultural-cognitive pillar rests on common beliefs, symbols and perceptions that together bolster shared understanding (Scott, 2005). Studies reveal that state corporations are much more vulnerable to institutional forces than private sector corporations. As such, institutional theory has become a prominent lens through which organizational processes are interpreted and understood (Makau, 2014). This is more pronounced in public procurement especially during open tendering process; which requires government law and policy to be adhered to (Obanda, 2010).

With the adoption of e-procurement by Kenya Airways, it is imperative to have the state interest at heart when conducting e-procurement activities. These activities include: specification development, tender advert, bid transmission and response submission; tender opening, bid evaluation, contract award and agreement signing; order preparation, order approval, order transmission and acceptance (McConnell, 2009). Thus, this theory is preferred since it focuses on the deeper and more resilient aspects of social structure which is important in public procurement. As such, this theory is relevant in this study since it reveals the importance of institutional environment and actions that are impacting

on the role of e-procurement adoption on procurement performance among state corporations in Kenya.

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) postulated by Davis (1989) states that the use acceptance of technology is influenced by the benefits to be achieved and ease of use (Surendran, 2012). In TAM framework perceived usefulness and perceived ease predicts the adoption of technology. The ease of use and perceived usefulness are the very significant factors of actual system use. TAM suggests that the intention to accept technology is influenced by attitude, usefulness and ease of use (Venkatesh, Thong & Xu, 2012). The perceived usefulness and perceived ease of use would affect the behavior of using new technologies.

E-procurement adoption entails changes that include reengineering the existing system within the organization that will ultimately impact on the way tasks are conducted (Kaliannan *et al*, 2008). Major procurement operations carried out within a state corporation that can be greatly changed as a result of e-procurement adoption include the ordering process which involves tasks like: order preparation, order approval and order transmission to the supplier. As such, the perception of management and suppliers on the usefulness and ease of use of e-procurement system is very critical in realizing full benefits of e-procurement adoption.

Transaction Cost Theory (TCT)

This theory is anchored on the premise that the relationship between human and environmental factors is the reason why transaction costs increase in the economic system (hart, 2006). The interdependence of factors contributing to transaction costs can contribute to their increase or decrease. Thus, effort to reduce transaction costs should not aim at reducing the effect of a single factor but the effects of the interdependence between factors (Ghoshal, 2008). As such, in the procurement of goods and services for Kenya Airways, transactional cost can be reduced by automating procurement processes.

During tender evaluation and award stages in an open tendering in state corporations, financial evaluation is normally carried out to make a decision on the winning bidder. As such, the analysis of the amount quoted by various bidders in terms of cost and overheads is normally conducted in order to determine the actual price chargeable that can be negotiated. Since one of the major objectives of e-procurement adoption is to enhance cost reduction by eliminating transaction cost, TCT is very important in enhancing supply chain performance at Kenya Airways.

Agency Theory

Agency relationship as defined by Jensen and Meckling (1976), is a contract where one or more persons delegate work to another person to do the work on their behalf. The agent is required to execute tasks that are within the principal agent relationship considering actions that have consequences for both the principal and the agent. They further argued that these consequences can have both negative and positive impact for each of the actor. Desires and goals of principal and agent are two problems that can arise and it's difficult for principal to verify what the agent is doing. According to this theory, there should be contract and monitoring of work to eliminate opportunism from suppliers though this may not be sufficient to cope with the problem since consultants are more informed on the problem area than the procuring entity. In relation to agency theory, procurement has two parts with different goals. By implementing e-procurement, there is a high possibility to minimize agency costs associated with procurement services in the airline industry.

EMPIRICAL LITERATURE

Chirchir, Ngeno and Chepkwony (2016) conducted a study on relationship between e-procurement adoption and supply chain management practices in tea firms. The research design adopted during the study was explanatory. E-procurement adoption positively influence supply chain integration practices. However, the study was limited to tea firms. We cannot generalize findings to an airway firm. In another study by Quesada, González, Mueller and Mueller (2010) to investigate the impact of electronic procurement technologies on procurement practices and procurement performance it was established that electronic procurement technologies electronic procurement technologies usage positively affects managers' perceptions on public procurement. The study did not explicitly establish the effects brought by e-procurement on supply chain performance.

While assessing the effect of e-procurement on efficient procurement in public hospitals Matunga, Nyanamba and Okibo (2013) established that Kisii Level 5 hospital uses e-tendering, e-quotations and e-sourcing as the main e-procurement applications. The study established that public hospitals have embraced some aspects of e-procurement applications. Of importance is the fact that there were e-tendering, e-quotations and e-sourcing already in place at the hospitals. However, public hospitals have not incorporated e-MRO, e-reverse auctioning and web-based enterprise resource planning. However, the study was limited to tea firms. We cannot generalize findings to an airway firm. The business context is different. In another study to examine the role of e-procurement strategy on the performance of state Corporations in Kenya Shale (2015) it was revealed that customer service level strategy, procurement cost reduction strategy, inventory optimizations strategy, buyer/supplier collaboration strategy and audits and compliance strategy significantly affect performance of state corporations. The study did not measure the effects of e-procurement practices on supply chain performance.

Using descriptive research design methodology to examine the influence of e-procurement on supply chain performance in dairy industry in Kenya with respect to New KCC Nyagah, Kaimuri Hellen and Patrick Mwanga (2015) the study established that there is a positive correlation between e-procurement measured as ERP, e-order processing, information sharing and e-supplier appraisal and supply chain performance. However the context of the study is different from current study. We cannot generalize the findings of the influence of e-procurement on supply chain performance in dairy industry to the airways industry. In another study on the effect of e-procurement value to supply chain performance Wu and Chien (2016) showed that participant motive, system integration, and value-added services have a positive effect on e-Procurement Value and further affect the supply chain performance.

Wagner, Huber, Sweeney and Smyth (2005) did a study on e-procurement in the aviation industry and established that B2B and e-marketplaces have an influence on the performance of airline industry. However, the current study expands the scope by including other aspects of e-procurement. In another study to examine the influence of e-procurement on organizational performance of manufacturing firms, Kituzi (2016) indicated that there is a significant positive relationship between the components of e-procurement namely; data transmission, buyer/supplier collaboration, systems management and billing management of the e- procurement process with the organizational performance of manufacturing firms. However, the study context of the study is different from current study. The aspects of e-procurement practices in the manufacturing sector are different from the airline sector.

Conceptual Framework

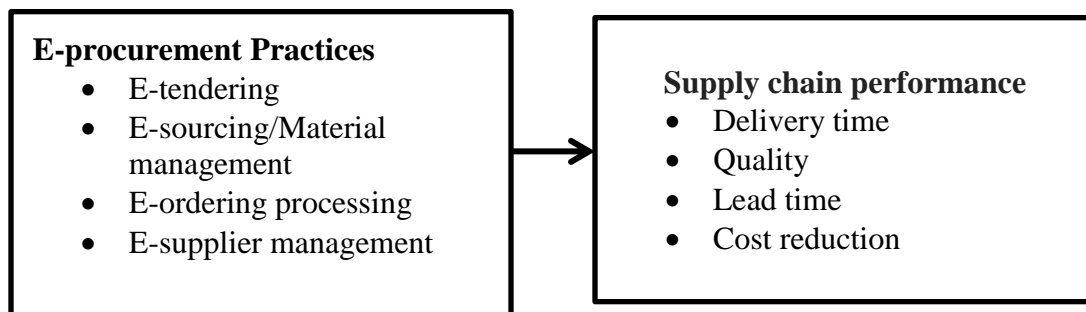


Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

The study established the influence of e-procurement practices on supply chain performance at Kenya airways. The paper employed a desk study review methodology. Past studies on e-procurement practices are critically and thoughtfully studied and the results related to the airline industry. A critical review of empirical literature was conducted to identify main thematic concepts of the paper.

RESULTS AND DISCUSSION

From empirical studies it was established that e-procurement is fundamental to the performance of supply chain management. The adoption of e-procurement is vital due to the fact that procurement is one of the most critical functions of the supply chain. It is imperative for any firm to ensure that efficiencies are built within the procurement process to ensure competitive advantage and profitability. Likewise, Kenya Airways may attempt to modernize their procurement services by integrating e-procurement in the supply chain systems.

It has been also noted that e-procurement has a positive and significant effects on supply chain performance. Practitioners currently interested in adopting e-procurement can see the positive impact it has on supply chain, which in turn, presents a positively significant effects on firm performance. Firms which have implemented e-procurement are achieving massive benefits that include improved delivery time, effective inventory management and cost reductions. Firms with e-procurement services have realized improved supply chain performance as compared to firms which have not adopted. The adoption of e-procurement services will positively affect the outcomes of the procurement function.

Supply chain management is highly correlated with supply chain practices and e-procurement applications. Firm management should support the implementation of e-procurement applications as well as the practices since they seem to have a positive impact on supply chain performance. It was also noted that e-procurement technologies have been used by several firms in reducing procurement costs, efficient management of inventory to the desired levels. These benefits have allowed firms to utilize the e-procurement technologies to transform the procurement process. The e-procurement technologies have the potential of improving efficiencies within the procurement process through the transforming of the traditional processes. Accordingly, e-procurement enables companies to decentralize operational procurement processes and centralize strategic procurement processes as a result of the higher supply chain transparency provided by e-procurement systems.

E-procurement services including e-order processing, information sharing and e-supplier appraisal positively influences supply chain performance to a great extent. Business entities should pay close attention to e-procurement for supply chain performance has to improve. E-order processing, information sharing and E-supplier appraisal, are important determinant of supply chain performance. E-procurement has substantially streamlined the procurement and coordination processes aligning various e-procurement solutions along the procurement process and the need for integrated system architectures. According to Devaraj et al. (2012), e-procurement services have enabled firms enhance their flexibility by allowing them to respond efficiently to the dynamic customer requirements, intense global competition and ever changing technological advancements. The implementation of e-procurement technologies allows delivery schedules to be digitalized and to share extensive information with suppliers, which results to improved flexibility and better control of the products supplied. Smart (2009) argues that e-

procurement tools are designed to automate the buying cycle, optimizing spend, improves processes and workflow, and has the potential of strengthening collaboration and integration within the supply chain.

Basing on the study by Mahalik (2012), e-procurement improves operational processes and allows management to make better decisions and better manage its operations. E-procurement technologies allow the firms to streamline their procurement process resulting in time saving. The ability to save time through decrease manual intervention in the procurement process improved the turnaround time resulting in speedy deliveries. The adoption of e-procurement technologies improves internal operations by ensuring that customer orders are processed and delivered timeously. E-procurement technologies foster automation resulting in more orders being processed with less time. The data has reflected that what took organisations hours to process, as a result of e-procurement automation orders could be concluded within minutes. This has a huge impact on the productivity of a firm and its capacity to handle high volume orders in less time.

It was also noted that the electronic transmission of procurement information improves the accuracy of data resulting in an improved decision making process. Access to accurate data ensures that firms' management are able to react quickly to the customer demand improving customer relations. The integration of the supplier's and customer's systems as a result of e-procurement adoption has the potential of solidifying the relationship resulting in a willingness to take greater risks when it comes to changing existing business practices. The adoption of e-procurement technologies improves accuracy of information, decision making and customer relations. By implementing e-procurement services firms are able to redirect their resources to strategic functions where value can be added. E-procurement encourages internal sales personnel to focus more on increasing sale than capturing orders.

E-tendering is gaining popularity in supply chain management. E-tendering facilitates fast accessibility to market structures, coordination between suppliers and customer-supplier relationships. In the airline sector e-tendering is important especially for the commercial flights. The ability of a firm to penetrate into the market is not difficult as a result of low cost and little time needed in accessing the market and thus this enables that firm to make more strides. This is supported by a study done by Rebecca (2007) who reveals that to pursue the understanding of current business-to business e-procurement practices by describing the success factors influencing e-procurement implementation.

E-procurement facilitates secure and low cost procurement transactions. E-invoicing has a great significance in the firms operation. The ability to reduce payment time and greater security of data has enhanced the use e-invoicing technology. E-invoicing is minimizing procurement transaction and related costs. With no cost cutting in the supply chain and procurement, there would be a lot of stress encountered by the firm. There would be more time taken to transact without e-invoicing since the checking of qualifications would require manual work. Additionally, there would be congestion during the procurement process and thus making it hard for the institution to operate. This finding is in support of the study conducted by Stabell and Fjeldstad (1998) which states that both value and cost

are postulated as driven mainly by network characteristics. It was also noted that e-procurement has enhanced the usage of e-payment and improved the use of supply chain management.

CONCLUSIONS

It was found that technology growth has led to the improvement of procurement services. The effective exploitation of e-marketplaces has the potential to enhance the value proposition of the airline industry. The study concludes that e-marketplace is potential e-procurement service to the growth of supply chain management.

Empirical results indicate that there is a significant positive relationship between e-procurement and organizational performance. The study concludes the use of e-procurement technologies is aimed at realizing faster and more efficient operational procurement processes hence reducing procurement costs and thereby enhancing firm performance.

It was also noted that firms may have limited influence on the direction that suppliers take on the adoption of e-procurement technologies. Major benefits exist for the firms and suppliers in the adoption of e-procurement technologies that could result in operations being more streamlined. The study therefore concludes that e-procurement adoption results in improved productivity, better costs controls and an efficient and effective supply chain process.

E-procurement practices offer the benefits of greater transparency, wider geographical reach and lesser time of transaction and better pricing. It involves the use of electronic technologies to automate and streamline the procurement processes of an organization, improving efficiency and transparency, and thereby reducing the cost. E-Procurement ensures punctual delivery of goods, quick response time, and prompt confirmation of orders in order to improve performance efficiency. E-Procurement can result in a significant change and improvement in the number of areas, including internal and external communications, business transactions, management of supply chains and alliances, as well as contract management. The study concludes that e-procurement has a direct effect on supply chain performance.

To conclude e-procurement services has immense benefits to a firm. The benefits include reducing purchase costs, increasing the accuracy and efficiency of operation and information access. In addition, it allows the industry to reply quickly to the market and improves the industry's competitiveness and competitive advantage. This is only possible with the support of senior management, end-user buy-in and allocation of financial resources.

RECOMMENDATIONS

The recommendations of the study focus the subject of the study which is the Kenya Airways. The study recommends that Kenya Airways should pay attention in developing e-procurement platform to enhance supply chain performance. E-procurement has a very strong influence on supply chain performance. E-order processing, information sharing and E- supplier appraisal strongly influence supply chain performance. The airline firm should embrace the e-procurement practices to enhance the firms' supply chain performance which consequently lead to profit maximization. The Kenya Airways need to incorporate all the e-procurement components into the system. This will enable them to improve the overall organizational performance of their firms. The airline firm needs to find out ways of encouraging employees to make use of e-procurement systems. If employees are encouraged to use the e-procurement, adoption of the same will greatly improve.

The study recommends that Kenya Airways Corporation should have a good e-procurement software system as it would help them greatly reduce the time and effort required to complete purchasing transactions by eliminating traditional paper chain of requisitions, approvals, receiving and payment reconciliation. The goal of the e-procurement in the institution should be to enhance the quality of public service delivery in the firm and to provide timely, transparent and accurate financial and accounting information across the various departments.

The study recommends that the firm should embrace e-procurement practices by implementing ERP so as to improve supply chain performance. Further, the study recommends that the company should implement e-procurement systems that enhance better supply chain performance through improved order processing. This is by ensuring customer satisfaction, reduction in lead times and waste reduction. In order to achieve this company should ensure use of electronic order processing, implementation of a system that enhances waste reduction, implementation of a system that enhance timely placement of order and also use of a system that will allow faster order processing.

For the airline industry to benefit from the adoption of e-procurement technologies the firm must be able to move towards the same direction. There should be sufficient support from the management to reap the benefits associated with e-procurement practices. The airline industry should advocate the adoption of e-procurement technologies by communicating the benefits to its staff in terms of internal operational processes. The adoption of e-procurement technologies by the whole industry will result in a more productive and efficient industry. An industry with an efficient and productive supply chain process will be profitable.

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